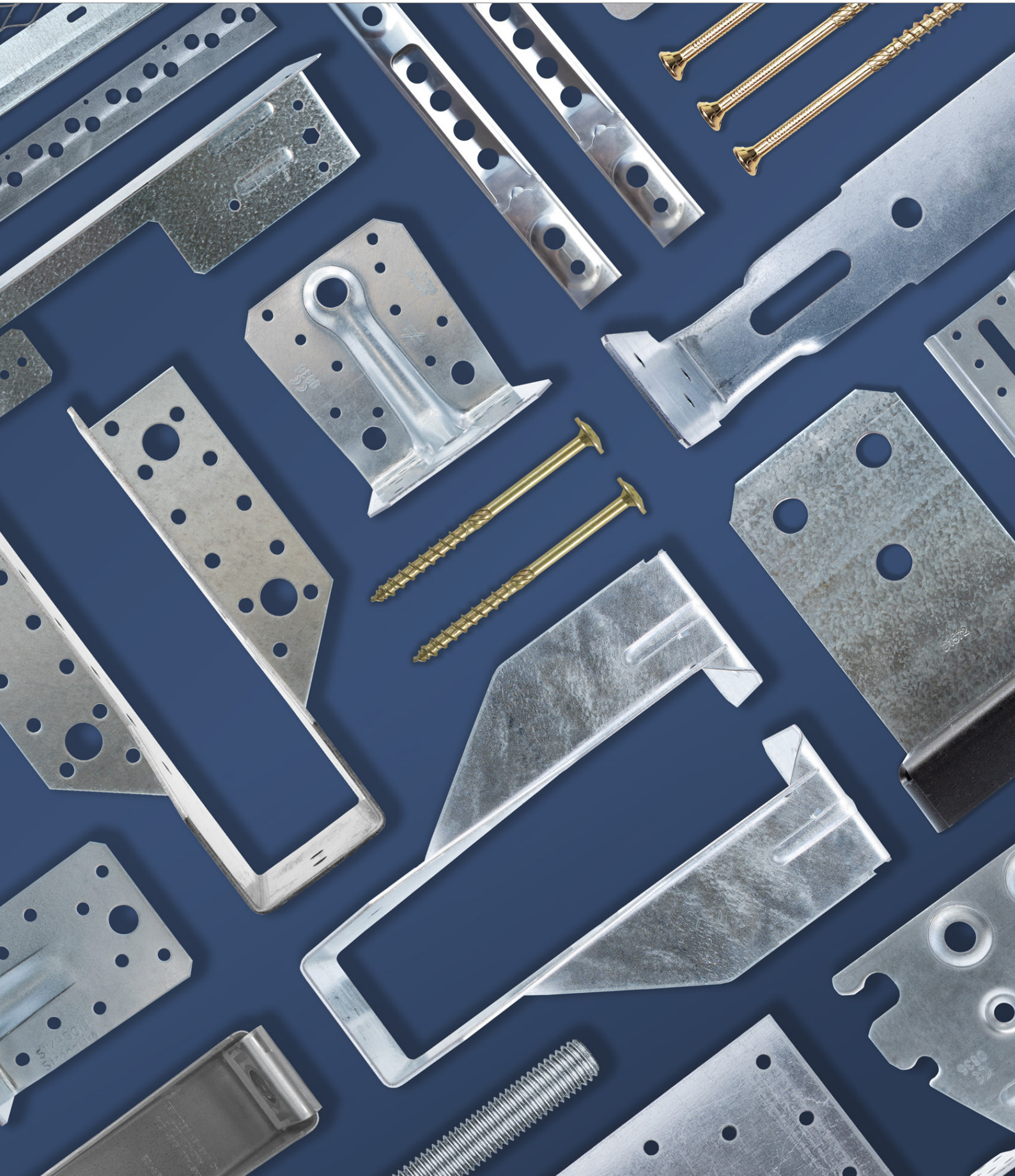
Connectors 2020

for Timber and Masonry Construction

C-C-UK-2020 | +44 (0)1827 255 600 | strongtie.co.uk

SIMPSON Strong-Tie®



Strength Beyond Steel

Our products are engineered to stand the test of time. So are our relationships.

For over 60 years, Simpson Strong-Tie® has focused on creating connectors that perform under the toughest of conditions, helping you build safer, stronger homes and structures. With more than 1,000 product solutions, we're proud to offer the widest connector range in Europe.

While our business and our products may change to meet the needs of our customers, our values are steadfast and continue to guide us in the work we do every day. Total peace of mind, whatever you're building or renovating.

Whether off the shelf, or custom manufactured bespoke orders, the quality and variety of our product lines gives engineers and builders more freedom to design flexibly, while offering reliability and proven performance.

Using top quality steel, and incorporating unique features to save you time and effort, our "No Equal" structural connectors, and other related products, are subjected to rigorous strength and durability testing at our UKAS accredited test lab, and CE marked as appropriate.

We continuously invest in research and product development to produce unique new connectors that meet new market needs and exceed the latest European requirements for construction products.

In addition to free software solutions to help you choose the right connector or fixing, you can count on our UK technical support centre for all of the information you need in order to design with, and properly install, our products.

For product Information, 3D Cad Models, Installation Videos, DoP documentation and much more, visit our website at www.strongtie.co.uk. For the latest updates and industry news, follow us on Twitter @strongtieUK or at facebook.com/strongtieUK.

SIMPSON Strong-Tie®

@strongtieUK

Alphabetical Product Index

Value Engineered
This icon indicates a product that is preferable to similar connectors because of (a) easier installation, (b) higher loads, (c) lower installed cost, or a combination of these features.

In addition to the products listed in this catalogue, we have additional products on our website, strongtie.co.uk.

Alphabetical Product Index

See the Product Nomenclature Guide (F-NOMENCLATR) at strongtie.co.uk for a description of product acronyms.

Subject Index

General Information

Nails & Screws

Structural Screws for Multi-Ply Timber

Masonry Hangers

Timber Hangers for Solid Joists

Connectors for Glulam Timber

Engineered Wood Connectors

Roof Connectors

Timber Frame Connectors

Subject Index

About Simpson Strong-Tie®

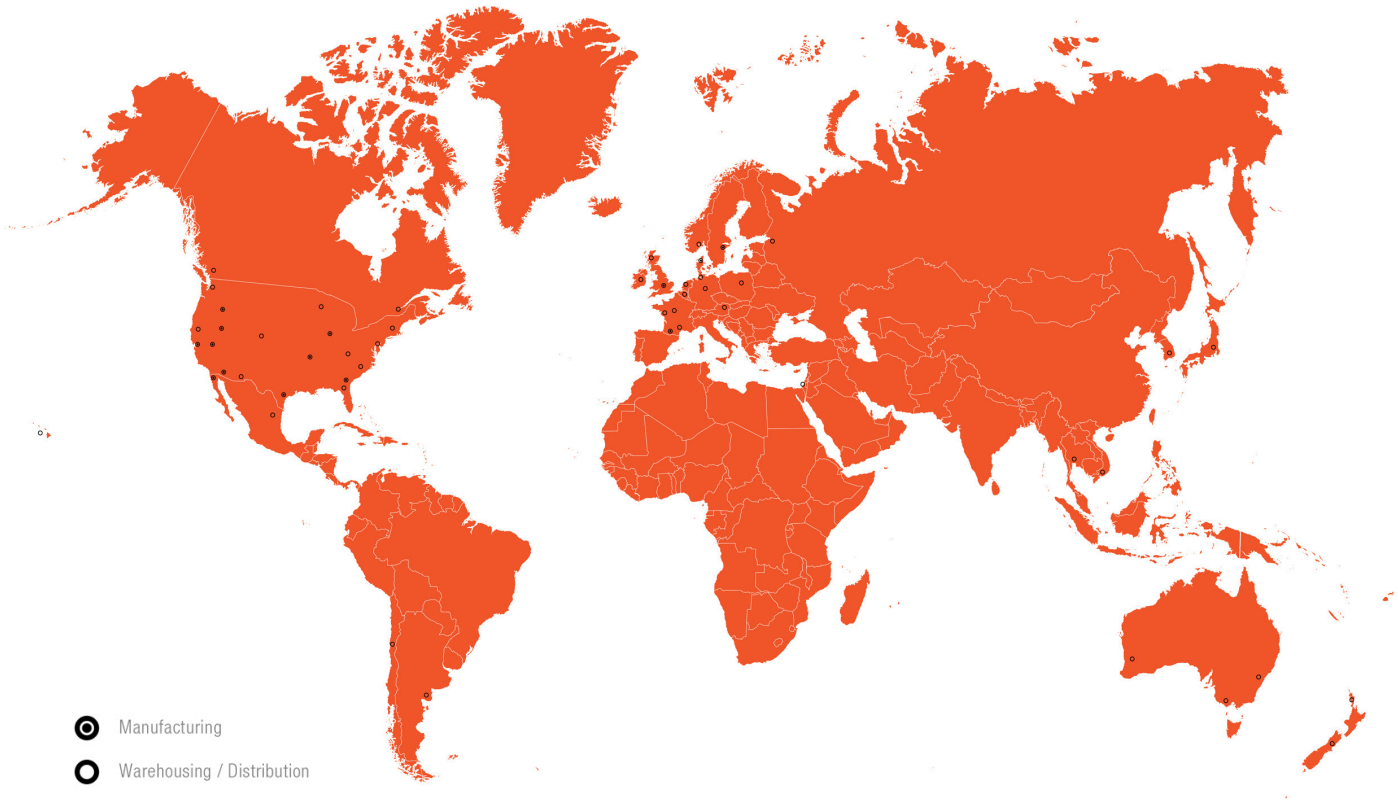
We provide solutions that help people design and build safer, stronger structures.

At Simpson Strong-Tie® we know that not all building design challenges can be overcome with off-the-shelf connectors. We continually work with house builders and designers to develop solutions to meet their ever-changing needs.

In addition to this ongoing range development, our engineering and production teams can also help with those 'one-off' solutions, manufacturing them on demand. Whatever you need, we are the connector manufacturer you can talk to.

Karen Colonias
Chief Executive Officer

Our Global footprint.



Contents

You specify, we manufacture.

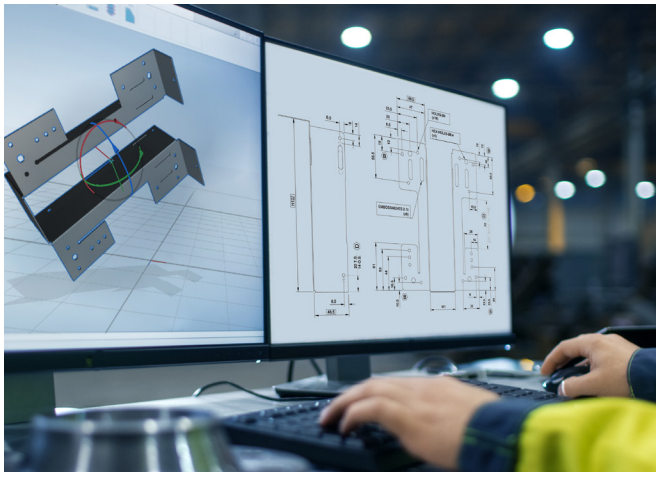
We operate a rapid and comprehensive design and manufacture service for 'one-off' connectors, sometimes with characteristic performance values comparable with our fully tested ranges.

The ≠ connector range.

To us, structural connectors are more than just products, we see each one as representing a specific solution.

Designed and tested to perform in the most effective way possible, we consider every aspect of their use. Ease of installation, performance characteristics and life-span are the fundamental principles that make up our design DNA.

From the foundations up, we have every 'No Equal' solution you need to build safer, stronger structures.



Getting Fast Technical Support.

When you call for engineering technical support, having the following information on hand will help us to serve you promptly and efficiently:

Which Simpson Strong-Tie catalogue are you using? (see cover for reference number)

Which Simpson Strong-Tie product are you using?

What are the carried and supporting member's material and application?

What is the carried member's width and height?

What is the supporting member's width and height?

What is your load requirement?

New Products

GPC Gable Panel Connector

The GPC is a connector that forms part of a system that provides lateral restraint to the gable wall by the roof structure. Available to suit 100mm, 115mm and 140mm masonry walls.

Roof Connectors Page 112

HMBTS High Movement Timber Frame Tie

The HMBTS timber frame type 7 wall tie is designed to connect the masonry outer leaf to a structural timber frame. Designed to accomodate up to 65mm of vertical movement and available in a range of sizes to suit cavities from 50mm to 150mm.

Masonry Connectors & Wall Ties Page 171

PBP60/50 Post Base

Post base PBP60/50 is most commonly use for pergola or porch type construction, but can be used in other situations. It should be used in pairs for square timber sections from 70 to 150 mm. For larger square timber sections (250x250 maximum), the use of 4 post bases per post is recommended.

Post Bases & Column Caps Page 149

AKR Reinforced Angle Bracket

The AKR is made of 4mm thick steel and reinforced around the bend, which significantly increases the rigidity and strength of the bracket.

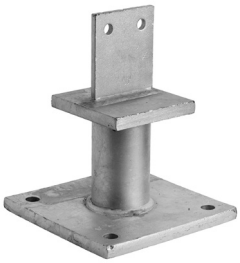
Angle Brackets & Ties Page 134

SPF Purlin Anchor

SPF can be used to connect two timbers that cross over at 90 degrees to each other. They can be used with a number of timber dimensions. The SPF are handed, left and right, and are sold separately.

Timber Connectors Page 140

New Products



PISBMAXI Post Base

The PISBMAXI is a heavy duty post base to suit various sizes of timber and glulam posts. It allows for a compression loading up to 9 tonnes in design value.

Post Bases & Column Caps Page 147

LTS1400E Twisted Strap

Restraint strap with a formed twist for timber to timber and timber to masonry connections. LTS1400E suitable for use in providing lateral / vertical restraint for timber gable panels.

Restraint Straps Page 160

MHA Mini Hanger Adjustable

The MHA is a galvanised hanger available in a range of widths for small timber sections and timber members; such as trimmers and ceiling joists.

Timber Hangers for Solid Joists Page 70

Discontinued Products

Products to be discontinued in 2019

Simpson Strong-Tie® is dedicated to continuously expanding our line of structural connectors with innovative new products that address the changing needs of our customers. As new connectors are introduced that improve upon older designs, it becomes necessary to discontinue the old versions in the name of efficiency and product-line simplicity.

The table on the right lists products that are no longer included in the Connectors for Timber and Masonry Construction catalogue as well as the products recommended to replace them. While technical information for discontinued products will be maintained on our website, Simpson Strong-Tie asks that our customers begin to substitute the replacement products, shown adjacent, in their designs and inventories. If needed, please verify with the designer prior to substituting a replacement product for specified product.

For more information on discontinued products, visit our About Us section on our website and click news and press releases. If you have questions about any of the products shown, please email our techincal support team **uktechnical@strongtie.com**

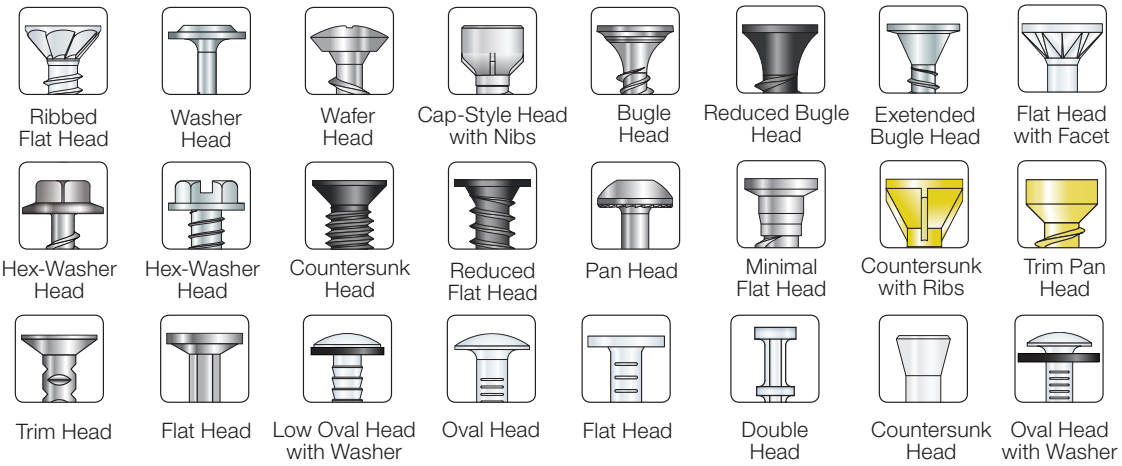
Due to manufacturing changes to I-Joist sizes we have decided to re-evaluate the **SES** End Seal sizes that we offer, see page 60.

Discontinued Products	Replacement Products
H4 High Wind Tie	H2.5A High Wind Tie
MH	MHA
LUP	MHA
LBV	HB/BA
MIT	ITSE/HB
EC50/2C50	EC40/2C50 or EC60/2C50
EC90/3C50	EC100/3C50
EFIXS100C50	EFIXR1053C50
EFIXS120C50	EFIXR1253C50
ABR105-25	ABR105
MIU, HU, HIU, U	SAE
BOAX/BOAXII/ WA Mechnical Anchors	DISCONTINUED
Dowels	DISCONTINUED
Bolts (Incl Nuts & Washers)	DISCONTINUED
VAC Resin & Threaded Stud	DISCONTINUED
WP/CP Arch Formers	DISCONTINUED

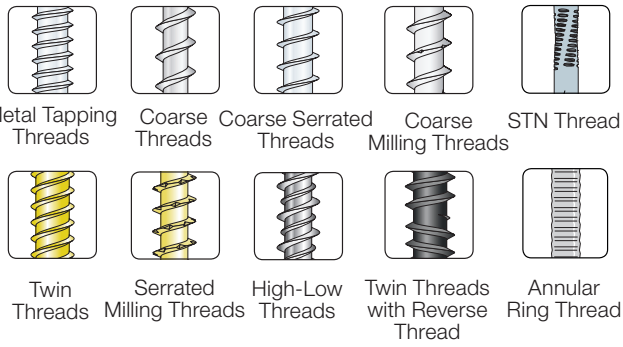
Product Name	NEW Product Name
ABC	EBC

Guide to Icons - Fasteners

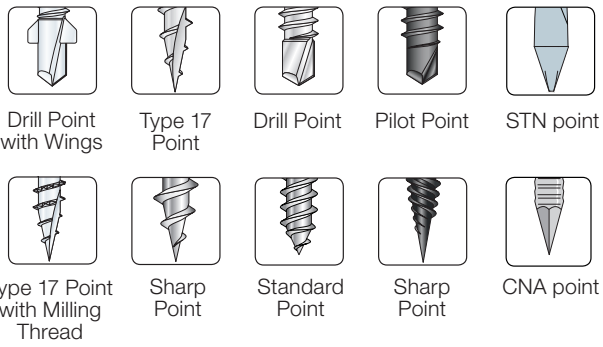
Head Styles



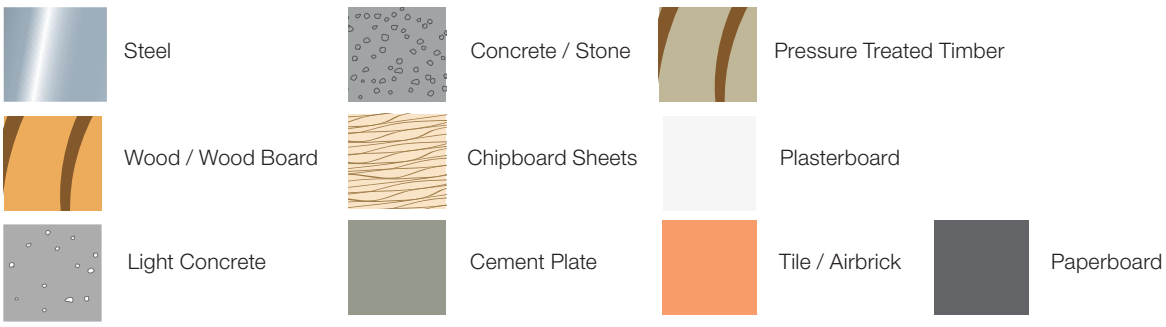
Thread Styles



Point Styles



Materials and Substrates



How To Use This Catalogue

- New Products
  New products are shown with the NEW symbol. There are also many new sizes within existing model series.

SS

Extra Corrosion Protection
The teal arrow icon identifies products that are available with additional corrosion protection (ZMAX®, hot-dip galvanized or double-barrier coating). The SS teal arrow icon identifies products manufactured from stainless steel. Other products may also be available with additional protection; contact Simpson Strong-Tie for options. Stainless products may need to be manufactured upon ordering. See page 16 for information on corrosion, and visit our website strongtie.co.uk/info for more technical information on this topic.

Load Table Explanation

Model No.: This is the Simpson Strong-Tie product name.

Title: in Reference to the dimensions and performance values.

Holes: This shows the hole quantities (and size) present in the connector.

Fasteners: This shows the fastener quantities (and type) required to achieve the loads.

Characteristic Loads: the maximum load that a hanger is designed to provide. There may be multiple design loads acting in different directions (up, down, lateral etc) imposed onto a connector – see the force compass for further explanation.

Product Dimensions & Performance Values

Model No.	Dimensions [mm]				Holes		Fasteners		Characteristic Values [kN]	Safe Working Loads [kN]	
					Flange A	Flange B	Flange A	Flange B			
	A	B	C	t	Ø4.1	Ø4.1	N3.75x30	N3.75x30	$R_{1,k}$	$R_{1,SWL}$ (Long Term)	$R_{1,SWL}$ (Medium Term)
LS30	85	55	55	1.0	3	3	3	3	2.80	1.29	1.60
LS50	124	55	55	1.0	4	4	4	4	4.30	1.73	2.16
LS70	162	55	55	1.0	5	5	5	5	4.40	2.16	2.58

SWL Loads: the maximum load that a hanger is designed to provide, with a safety factor applied to them – please refer to page 14- design method for more information.

Fasteners info: See the nails & screws catalogue for additional fastener information.

Dimensions A, B, C, t: this shows the product dimensions (referenced in the product drawing).

The Force Compass

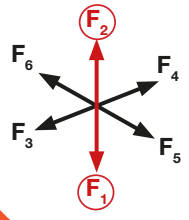
The Force Compass is shown next to all relevant products, to highlight the direction of the forces that act upon that connector.

The capacities are shown as R, where (R) is the Resistance against the Force (F) that can be achieved by the connector. Eg – $R_{1,k} = F_1$

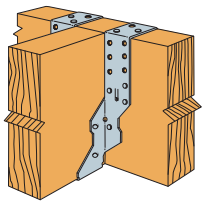
The force directions on the compass will remain consistent, and the forces which are relevant to a particular connector will be highlighted, and circled in RED.

E.g A connector that has both a Download (R_1) and Uplift (R_2) capacity, will be displayed as shown.

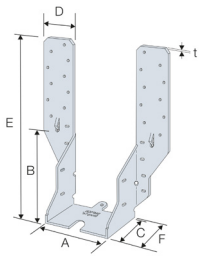
Force Arrow to indicate direction of applied load and resistance offered by connector.



Example.



Product Drawing: Provides a graphic presentation of the product with dimensional information (often cross-referenced to the table



Anchor References

Solid Masonry: This anchor is suitable and approved for use in solid masonry.

Hollow Masonry: This anchor is suitable and approved for use in hollow masonry.

Compression Zone: This anchor is suitable and approved for use in non-cracked (compression zone) concrete.

Eurocode 5: Design Method

Design Methods

The Eurocodes which impact on the Simpson Strong-Tie range of products are:

EN1993 Eurocode 3 Design of Steel Structures
EN1995 Eurocode 5 Design of Timber Structures
EN1996 Eurocode 6 Design of Masonry Structures

Eurocode 5 introduces limit state design principles to structural timber design in the UK for the first time. This requires the designer to use characteristic values for the product capacities.

The characteristic capacities (or resistances) are modified by partial safety factors to arrive at design capacities. These factors generally increase the loads and decrease the capacity.

In timber design the duration of loading also influences the design capacity and a modification factor is applied dependent on the duration. These modification factors are also dependent on the materials being used.

The Simpson Strong-Tie range of products are generally connected to either Solid Timbers or LVL materials, which utilise the modification factors k_{mod} shown in the table below.

Extract From Table 3.1 in BS EN 1995-1-1:2004 + A2:2014 (Eurocode 5)

Load Duration	Permanent	Long Term (Download)	Medium Term	Short Term (Uplift)	Instantaneous
k_{mod}	0.6	0.7	0.8	0.9	1.1

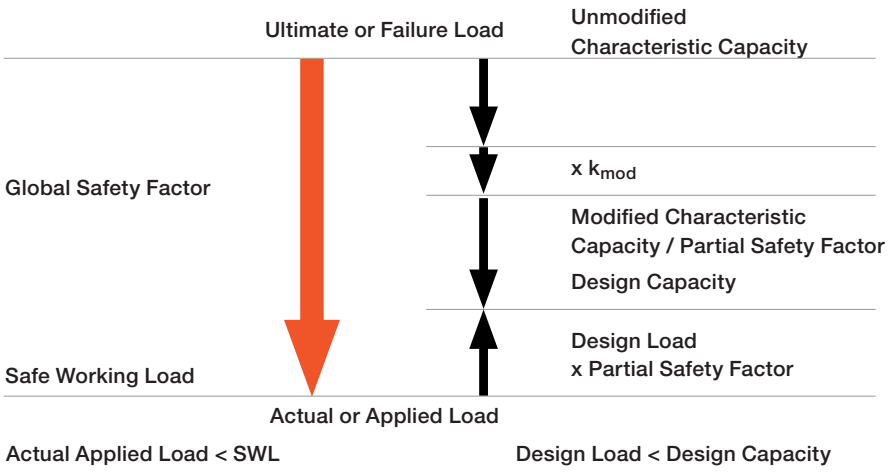
This catalogue generally presents characteristic resistances for timber to timber connectors as Unmodified Characteristic Resistances i.e. the characteristic value has not been modifed by the appropriate k_{mod} factor.
Please note the k_{mod} factor does not apply to masonry hangers and connectors.

Actual Applied Loads x Partial Safety Factor on Loads = Design Load (or Factored Load)
Characteristic Capacity x k_{mod} / Partial Safety Factor on Materials = Design Capacity
Design Load < Design Capacity

NOTE: It is important Characteristic or Design Capacities are not compared with Actual Applied Loads when selecting and designing a connector. Design Capacities (i.e. Characteristic Capacities factored as described above), shall only be used to check against factored design loads.

The Allowable load design method utilises a Global Safety Factor to reduce the Ultimate or Failure Load to a Safe Working Load, this must be greater than the Actual Applied Load.

The two methods can be compared graphically using the diagram below:



Construction Product Regulations

CE Marking and Construction Connectors

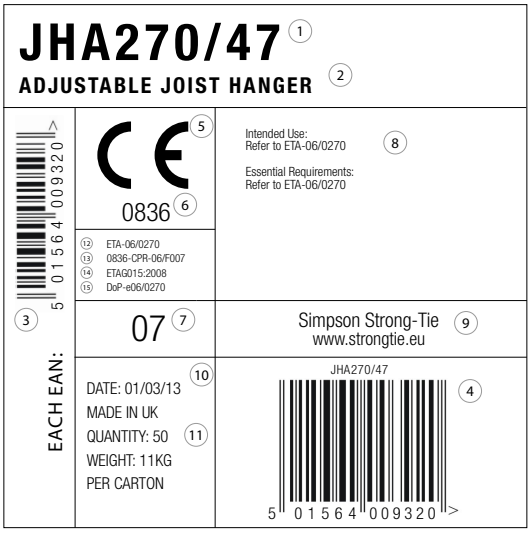
From the 1st July 2013, the Construction Product Regulations (CPR) became compulsory in the UK. All construction products covered by the CPR, sold after this date, must comply with it. It is the distributors responsibility to ensure that it sells products which comply with the CPR.

To prove that a construction product meets this requirement, a document known as a 'Declaration of Performance' must be provided by the manufacturer. All of our DoP's can be found at **www.strongtie.co.uk**,

Where to find a DoP

All of our Declaration of Performance documents can be found online. Search for any item on our website: www.strongtie.co.uk to find a link to each DOP, use the ''features'' section from the relevant product web page. Alternatively, they are available on request from **uksales@strongtie.com.**

Our packaging is labelled in accordance with CPR, an example of which can be seen below.



1. Simpson Strong-Tie® item code
2. Item description
3. EAN bar code (each)
4. EAN bar code (box)
5. CE symbol
6. The number of the notified body undertaking factory production control auditing (if applicable)
7. Year that Simpson Strong-Tie® first CE marked the product
8. Information on intended use of product and its essential requirements
9. Name of manufacturer and web address
10. Date of manufacture
11. Box quantity and weight
12. Technical document number to which the product complies
13. Factory production control certificate number
14. Number of the technical standard to which the product complies
15. Declaration of Performance number
    (copy available from www.strongtie.co.uk or upon request).

If you have any questions about the CPR and how it affects you, please call our Technical Department on 01827 255600 who will be delighted to help you, or visit www.strongtie.co.uk.

- CPR became effective: 1st July 2013 • Prove compliance by CE marking • Our products CE marked to the CPR
- Declaration of Performance (DoP) readily available

Corrosion Information

Understanding the corrosion issue

Many environments and materials can cause corrosion, including ocean salt air, fire retardants, fumes, fertilizers, preservative-treated wood, de-icing salts, dissimilar metals and more. Metal connectors, fasteners and anchors could corrode and lose load-carrying capacity when installed in corrosive environments or when installed in contact with corrosive materials.

When corrosion is caused by airborne solutions (ocean air, swimming halls, spray from a salt-treated streets in winter, etc.) the metal parts can be in environments that are directly exposed to rain. They can be covered by a roof or inside the ventilated area of a facade.

The many variables present in a building environment make it impossible to accurately predict if, or when, corrosion will begin or reach a critical level. This relative uncertainty makes it crucial that specifiers and users are knowledgeable of the potential risks and select a product suitable for the intended use. It is also prudent that regular maintenance and periodic inspections are performed, especially for outdoor applications.

It is common to see some corrosion in outdoor applications. Even stainless steel can corrode. The presence of some kinds of corrosion, e.g. white rust on zinc, does not mean that load capacity has been affected or that failure is imminent. If significant corrosion, e.g. red rust, is apparent or suspected, then a qualified engineer or inspector should inspect the framing members, fasteners and connectors. Replacement or cleansing of affected components may be appropriate. Red rust corrosion of steels will mostly carry on increasing and will cause major damage at an advanced stage.

Due to the many different chemical treatment formulations, chemical retention levels, moisture conditions and regional formulation variants, selection of coatings has become a complex task. We have attempted to provide basic knowledge on the subject here, but it is important to fully educate yourself by reviewing information, literature and evaluation reports published by others.

It is important to select the fastener coating so that it fits with the connector coating to avoid to decreased performance of the connection. This document does not include information or guidance related to fire retardant timbers.

Galvanic corrosion

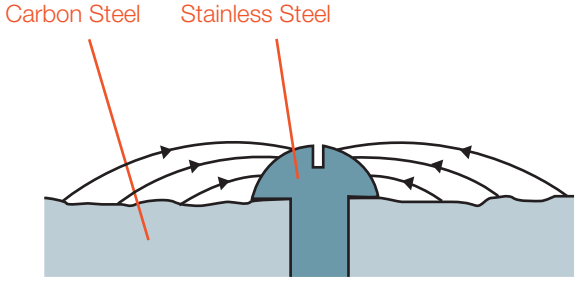
Galvanic corrosion (also known as bimetallic corrosion, dissimilar metal corrosion or contact corrosion) may occur when dissimilar metals (e.g. galvanised mild steel and stainless steel) are in contact in a corrosive electrolyte (e.g. water containing salt, acid, etc.). When a galvanic couple forms, one of the metals in the couple becomes the anode and corrodes faster than it would all by itself, while the other becomes the cathode and corrodes slower than it would alone. For galvanic corrosion to occur, three conditions must be present:

1. Electrochemically dissimilar metals must be present.
2. These metals must be in electrical contact.
3. The metals must be exposed to an electrolyte.

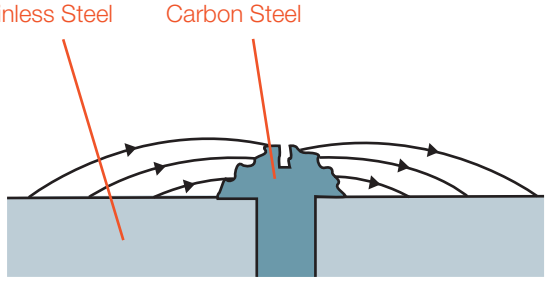
The relative nobility of a material can be predicted by measuring its corrosion potential. The well-known galvanic series, (see right) lists the relative nobility of certain materials in seawater.

A small anode/cathode area ratio is highly undesirable. In this case, the galvanic current is concentrated onto a small anodic area. Rapid thickness loss of the dissolving anode tends to occur under these conditions. Adverse area ratios are likely to occur with fasteners at joints. Using Carbon Steel fasteners with Stainless Steel connectors should be avoided because the ratio of the area between the stainless steel to Carbon Steel is small and the fasteners will be subject to aggressive attack, thus greater corrosion. Conversely, the rate of attack of a Carbon Steel connector secured by a Stainless Steel fastener is much slower.

Corroded end (Anode)
Magnesium, Magnesium alloys and Zinc
Aluminium, Cadium, Iron and Steel
Lead, Tin, Nickel and Ni-Cr alloy
Brasses, Copper and Cu-Ni alloys
Nickel
Stainless Steels
Protected end (Cathode)



Large Anode (Carbon Steel) area, small Cathode (Stainless Steel fastener) area showing no attack on the fasteners and relatively insignificant attack of Carbon Steel.



Large Cathode (Stainless Steel) area, small Anode (Carbon Steel fastener) area showing no attack on the Stainless Steel and relatively increased attack of the fastener.

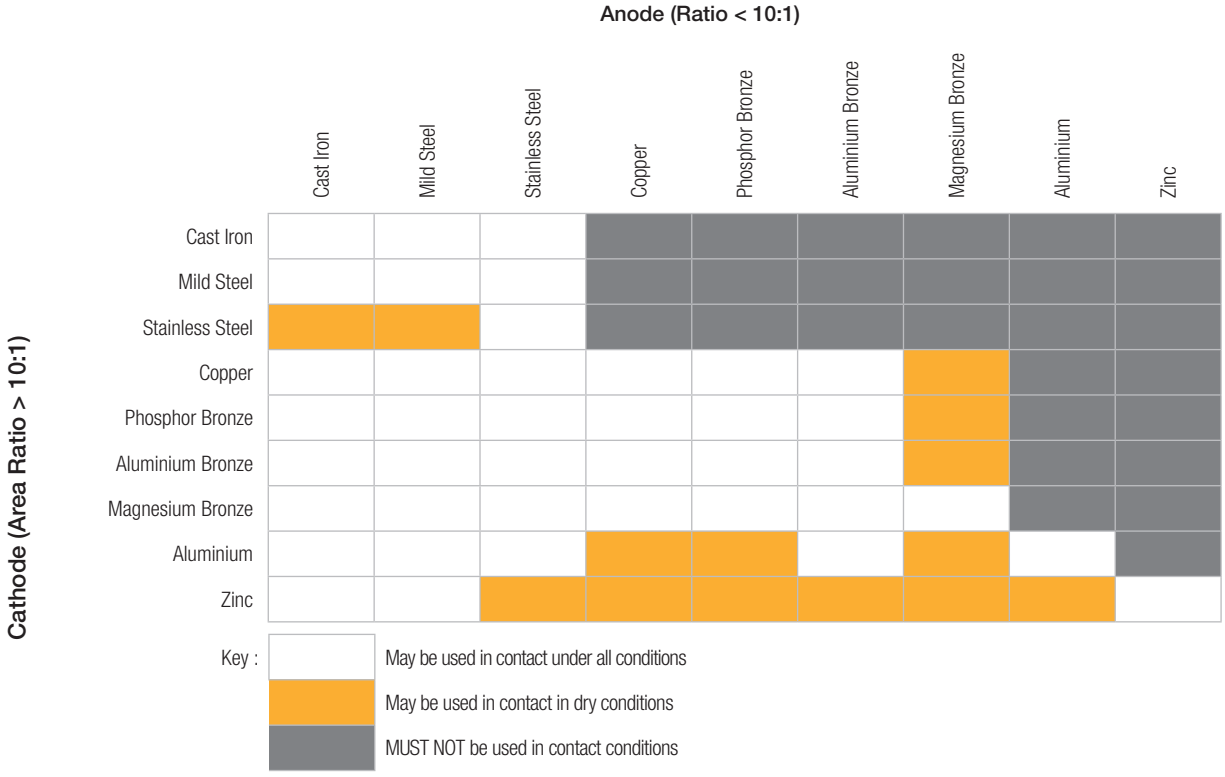
Corrosion Information

Good to know: When low-alloy steels, in high moisture atmospheres, are in contact with even small carbon steel particles, bimetallic corrosion can cause nucleus for a stainless steel corrosion. This may occur when stainless fasteners are processed with non-stainless tools.

Prevention of bimetallic corrosion is possible by excluding an electrolyte from the connection by painting or taping over the joint. Alternatively, the two metals should be isolated from each other by painting each contact surface or using a non-metallic isolation material; typically nylon, neoprene or Teflon washers, pads, gaskets or bushes depending upon the particular application.

The table below provides details of general materials that may be used together in certain instances, depending on area ratio as previously discussed.

It is difficult to give general statements on certain materials (e.g. aluminium), as the appearance some ingredients in an alloy (e.g. copper) can have a major impact on the corrosion resistance in the presence of various electrolytes (e.g de-icing salts). In addition, post treatments (e.g. eloxation) can have an impact on the corrosion resistance. This is especially when low-alloy steels in high moisture atmospheres are in contact even with small carbon steel particles, bimetallic corrosion can cause a nucleus for a stainless steel corrosion. This might happen when stainless fasteners are processed with non-stainless tools.



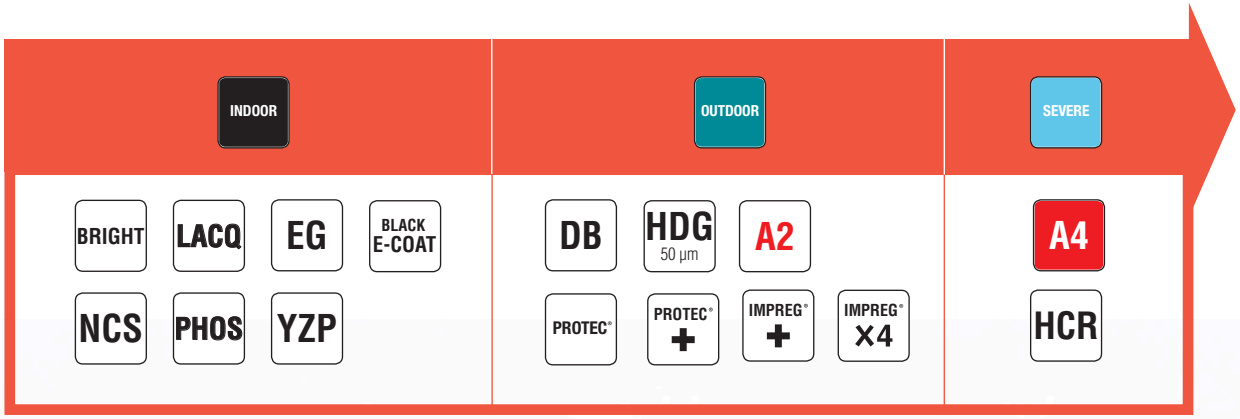
Service classes according to Eurocode 5: Definition of the service classes environment are given within the EN1995-1-1

Service Class	Description	Examples
1 	Moisture content in the materials corresponding to a temperature of 20°C and the relative humidity of the surrounding air only exceeding 65% for a few weeks per year.	Warm roof, intermediate floors, timber frame walls - internal and party walls.
2 	Moisture content in the materials corresponding to a temperature of 20°C and the relative humidity of the surrounding air only exceeding 85% for a few weeks per year.	Cold roof, ground floors, timber frame walls - external walls where member is protected from direct wetting.
3 	Climatic conditions leading to higher moisture contents than in service class 2.	External uses - fully exposed.

Different Types of Coating

		For fasteners, different coatings are used, depending of the intended use of the product.
INDOOR	BRIGHT	Bright: No coating is applied on the fasteners. It is only suitable for temporary fixing and very low corrosion application.
	LACQ	Lacquered: A thin layer of paint is applied on the fastener. It is only suitable for temporary fixing and very low corrosion application.
	PHOS	Phosphated: Products are dipped in a hot phosphoric acid and phosphates. Anti-corrosion oil is added after the treatment in order to improve the corrosion resistance. It is intended for dry, low corrosion applications.
	NCS	Non coated steel: No coating is applied on the fasteners. It is only suitable for temporary fixing and very low corrosion application.
	EG	Electrogalvanised: This coating system consists of a thin electroplated zinc base layer. It provides corrosion resistance that is adequate for low corrosion environments.
	YZP	Electroplated Zinc: This coating system consists of an electroplated zinc base layer with a top coat. It provides corrosion resistance that is adequate for medium corrosion environments.
	BLACK E-COAT	Black E-Coat: Electrocoat utilizes electrical currents to deposit the coating material onto the fastener. After application, the coating is oven cured. Electrocoat is intended for dry, low corrosion applications.
OUTDOOR	PROTEC®	Protec®: Products are dipped in liquid that consists of zinc and aluminium flakes, then hardened in ovens, after the spinning process. It is intended for a medium corrosion environment.
	PROTEC® +	Protec®+: Products are dipped in liquid that consists of zinc and aluminium flakes, harden in ovens after the spinning process. It is intended for a medium corrosion environment.
	HDG 50 µm	Hot Dip Galvanised: Products are dipped in melted zinc 550-560°c, chemical reaction between the steel and the zinc. It provides a good corrosion resistance in most environments.
	DB	Double Barrier: The Simpson Strong-Tie Double Barrier coating is a proprietary coating that provides a level of corrosion resistance that is equivalent to hot-dip galvanization in most non-marine environments.
	IMPREG® +	Impreg®+: Products are dipped in liquid that consists of zinc and nickel. It offers excellent corrosion performance and has a low risk of galvanic corrosion when used together with Aluminum or Stainless Steel.
	IMPREG® X4	Impreg®X4: The Simpson Strong-Tie Impreg®X4 coating is a proprietary coating that provides a very good level of corrosion resistance. It can resist the aggressive chemicals in treated timber.
	A2	Non-Acid Proof Stainless Steel 304, 304L –A2 (1.4301, …): Type 304 stainless steel is a nickel-chromium austenitic grade of stainless steel. Types 304 stainless steel is not hardened by heat treatment and is inherently non-magnetic. It provides very good corrosion resistance and is suitable for use in many corrosive environments.
SEVERE	A4	Acid Proof Stainless Steel 316, 316L –A4 (1.4401, 1.4404 …): Type 316 stainless steel is a nickel-chromium austenitic grade of stainless steel with 2-3% Molybdenum. Type 316 stainless steel is not hardened by heat treatment and is inherently non-magnetic. It provides a level of corrosion protection suitable for severe environments.
	HCR	High Corrossion Resistance Stainless Steel HCR (1.4529, …): Type HCR Stainless Steel is adapted for severe environments that are not managed by Type 304 or 316 stainless steel, such as swimming pools.
Others	AL	Aluminium: Can withstand rain but shouldn't be used together with other metals where there is a risk of galvanic corrosion. Certain Aluminum alloys can be used outdoor together with Stainless Steel types, in the absence of chlorides.
	BRASS	Brass: Can withstand rain but shouldn't be used together with other metals where there is a risk of galvanic corrosion.
	CU	Copper: Can withstand rain but shouldn't be used together with other metals where there is a risk of galvanic corrosion.

Different Types of Coating



Terms and Conditions

Product Use

Products in this catalogue are designed and manufactured for the specific purposes shown, and should not be used with other fixings not approved by a qualified designer. Modifications to products or changes in installation procedures should only be made by a qualified designer.

The performance of such modified products or altered installation procedures is the sole responsibility of the designer.

Indemnity

The Buyers shall indemnify Simpson Strong-Tie® against any claim or liability in respect of any infringement of a patent or registered design, copyright or other industrial property resulting from compliance with the Buyer's instructions, express or implied, and the Buyer undertakes further to indemnify the Simpson Strong-Tie® for any loss, damage or expense in respect of any liability arising under or by reason of the provisions of the Consumer Protection Act 1987 in relation to the specification or design of such goods or any similar legislation in any other country in which the goods are supplied.

Non-Catalogue & Modified Products

Consult Simpson Strong-Tie® for applications requiring modified products, or for fixings for use in hostile environments, with excessive wood shrinkage, or with abnormal loading or erection requirements.

Non-catalogue products must be designed by the customer and will be fabricated by Simpson Strong-Tie® in accordance with customer specifications. Simpson Strong-Tie® cannot and does not make any representations regarding the suitability of use or load-carrying capacities of non-catalogue products. Simpson Strong-Tie® provides no warranty, express or implied, on non-catalogue products. Any party modifying Simpson Strong-Tie® products must provide the installer with specific instructions on the modified product's specifications, installation, and use.

Limited Warranty

a) The Seller warrants that it has good title to the goods and that the goods will, for a period of 12 months from the date of delivery comply with their specification and be free from defects in material and workmanship. The Seller does not warrant that the goods are fit for any particular purpose and it is the Buyer's responsibility to ensure the goods are suitable for the use(s) to which it intends to put them.

b) The warranties in condition (a) are given on condition that the Seller is not liable for a defect in the goods caused by:

(i) fair wear and tear, wilful damage, negligence, or abnormal or unsuitable storage or working conditions of the goods by the Buyer;

(ii) failure to follow the Seller's instructions or guidance whether oral or in writing (including but not limited to any instructions set out in the Seller's catalogue) as to the storage, commissioning, installation, use and maintenance of the goods or (if there are none) good trade practice regarding the same;

(iii) the Buyer altering or repairing the goods without the written consent of the Seller;

(iv) the Buyer making further use of the goods after giving notice in accordance with condition (c); or

(v) the goods differing from their specification as a result of changes made to ensure they comply with applicable statutory or regulatory requirements.

c) The Seller is not liable for a defect in the goods unless it is notified to the Seller within 5 days of the date of delivery or, if the defect would not be apparent on reasonable inspection, of the date on which it would become apparent to a reasonable buyer.

d) The Seller shall not be liable for damage in transit, shortage of delivery or non-delivery unless the Buyer shall have given the Seller written notice of such damage, shortage or loss, with reasonable particulars of it within 5 days of receipt of the goods or (in the case of total loss) of receipt of the invoice or other notification of dispatch.

e) If the Seller is liable under these warranties then (subject to condition (j)) the Seller's only obligation is, at its option, to make good any shortage or non-delivery; replace or repair any goods which are damaged or defective; or refund to the Buyer the amount paid by the Buyer for the goods that are the subject of the claim.

f) Except as expressly set out in these conditions, all conditions, warranties and representations, expressed or implied by statute, common law or otherwise, in relation to the goods are excluded.

g) The Seller is not liable to the Buyer, whether for negligence, breach of contract, misrepresentation or otherwise, for:

(i) loss or damage incurred by the Buyer as a result of third party claims; or

(ii) indirect or consequential damage suffered by the Buyer, including, without limitation, loss of goodwill, business opportunity or anticipated savings; or

(iii) economic losses including without limitation loss of profit.

h) For the avoidance of doubt, subject to condition (j) the entire liability of the Seller arising out of or in connection with the goods, whether for tort (including negligence), breach of contract, breach of statutory duty, misrepresentation or otherwise, is limited to the Seller's level of insurance cover in place from time to time (currently £500,000) and the Buyer shall be responsible for making its own arrangements for the insurance of any excess loss.

i) The Seller's prices are determined on the basis of the liability limits in this condition. The Buyer may, by written notice to the seller, request the Seller to agree a higher limit of liability provided insurance cover can be obtained for that higher limit.

j) Nothing in these conditions shall operate to exclude or restrict the Seller's liability for death or personal injury resulting from negligence, or breach of the obligations arising from section 12 of the Sale of Goods Act 1979, or for fraud/deceit.

Company Profile

Quality Policy

We help people build safer structures, economically. We do this by designing, engineering and manufacturing “No Equal” structural connectors, and other related products, that meet or exceed our customers’ needs and expectations.

Everyone is responsible for product quality and is committed to ensuring the effectiveness of the Quality Management System. Simpson Strong-Tie® is an ISO 9001 registered company. ISO 9001 is an internationally recognised quality management system standard, which lets our customers know that they can count on the consistent quality of Simpson Strong-Tie’s products and services.

FM14704

Environmental Health and Safety Policy

Simpson Strong-Tie® continues to look for ways to build safer and stronger homes while being mindful of how we can help protect the environment and the health and safety of our employees. We are committed to environmental management, including health, safety and ecological protection. Simpson Strong-Tie® is accredited to the internationally recognised standards for environmental health & safety management systems.

EMS517722

OHS57006

Testing Laboratory Accreditation

The Andris Peterson European Test Laboratory, located in Tamworth, Staffordshire, is the first manufacturer’s facility to achieve third party accreditation to the international standard BS EN ISO/IEC 17025.

The world-class facility now conducts around 10,000 product tests annually and has recently benefited from a significant investment, which will enable it to double productivity. The fact that we extensively test our connectors gives you the reassurance that they will perform in the toughest conditions. We strive to ensure that our products are compliant with the latest European requirements for construction products.

Disproportionate Collapse - Timber Frame Buildings

The Regulations

It is a requirement under the UK building regulations that buildings comply to a minimum level of robustness. This is referred to as 'disproportionate collapse'. The building regulations for Scotland and England & Wales in essence state, although worded slightly differently from each other, that: "The building shall be constructed so that in the event of an accident the building will not suffer collapse to an extent disproportionate to the cause".

Until a British code is available and referenced in the building regulations, the route for timber designers is to adopt alternative methods. The STA (Structural Timber Association) have developed a method and forms the basis for the following information.

The Methods

Platform timber frame is a lightweight building process that under accidental damage is known to be robust and has significant capacity to span over gaps caused by accidental damage. This was demonstrated by tests carried out on the BRE/TRADA TF2000 six storey building in 1998 which concluded that: "...timber frames designed and built correctly were robust against disproportionate collapse".

Platform timber frame comprises wall and floor components mechanically fixed to each other. Unlike other structural concepts, buildings falling outside the scope of platform cellular layouts e.g. post & beam or portal frames, platform timber frame relies on the full diaphragm action of the floors to transfer horizontal forces to an evenly distributed layout of load bearing walls, which provide both vertical support and horizontal load resistance.

The building regulations have classified buildings into 4 classes according to building type and risk.

Class	Building Type & Occupancy	Method	Design Check	Products
Class 1	Single occupancy - 1 to 4 storey e.g. Detached and town houses.	Platform:	No additional requirements above normal design process.	
		Other:	Horizontal tying[1] force at each junction to be checked.	
Class 2A	Houses or apartments - up to 4 storey	Platform:	Use common proven details to provide tying[1] of suspended floors to walls.	ITB, HITB, SAE, SAI, IUC
		Other:	Check for an accidental horizontal effective tying[1] force of 5 kN/m of supported wall.	
Class 2B	Houses, apartments or other residential buildings - 4 to 15 storey Hospitals - up to 3 storey Educational buildings - up to 15 storey	Platform:	Use common proven details to provide effective tying[1] of suspended floors to walls, along with a check on the notional removal of each load bearing wall (bridging)[2]. Key element[3] design to be used when notional removal is not practical.	SAE, SAI, IUC, CC, CCC, CCT, ECCLL
		Other:	Check for an accidental horizontal effective tie force of 7 kN/m of supported wall along with check on the notional removal of each load supporting, load bearing or wall (bridging)[2]. Key element[3] design to be used when notional removal is not practical.	
Class 3	Buildings with high levels of crowd accumulation	Designer to carry out risk assessment and decide upon a suitable method.		

1. Tying – Provision of effective horizontal ties.
2. Bridging – "Rim Beam" method where the structure is designed to bridge over the loss of an untied member.
3. Key Element – A structural member (column) upon which the stability of the remainder of the structure depends.

ITB, HITB, SAE, SAI, IUC tie the joist to rim beam, providing a vertical support & horizontal tie force.
SAE, SAI, CC, CCC, CCT, ECCLL join rim beam members at each junction, providing a vertical support & horizontal tie force.
CC, CCC, CCT, ECCLL join a structural column (Key Element) to the rim beam, providing a horizontal tie force.

Important Information

General Notes

This catalogue reflects changes in the product performance and configurations of some Simpson Strong-Tie® products. This catalogue is effective until 31st December 2021 and supersedes all information in earlier publications of products shown. Information on product performance and configurations are updated periodically. Contact Simpson Strong-Tie® for the most current product information. Product performances in the catalogue are for the described specific applications of properly installed products. Product modifications, improper loading or installation procedures, or deviations from recommended applications will affect product performances.

These notes are provided to ensure proper installation of Simpson Strong-Tie® products and must be followed fully.

- Simpson Strong-Tie® reserves the right to change specifications, designs and models without notice.
- Steel used for each Simpson Strong-Tie® product is individually selected based on the product's steel specifications, including strength, thickness, formability, finish, and can be welded. Contact factory for steel information on specific products.
- Unless otherwise noted, dimensions are in millimeters [mm] and loads are in kilo Newtons [kN].
- Unless otherwise noted, product performances are for use with C16 (SC3) timber. Products assessed in the USA were evaluated with Spruce-Pine-Fir timber.
- Unless otherwise noted, bending steel on site may cause fractures at the bend line. Fractured steel will not carry the load and must be replaced. Products designed for bending at time of installation should only be bent once.
- A fastener that splits timber will not take the design load. Evaluate splits to determine if the connection will perform as required. Dry wood may split more easily and should be evaluated as required. If wood tends to split, consider pre-drilling holes with diameters not exceeding 75% of the nail diameter.
- Take wood shrinkage into account when designing and installing connections. Simpson Strong-Tie® manufactures products to fit common dry timber dimensions. If you require a connector with dimensions other than those listed, Simpson may be able to vary connector dimensions; contact the factory.
- Top fix hangers may cause unevenness. Possible remedies should be evaluated by a professional and include using a face-fixing hanger or removing material to accommodate the top flange thickness.
- Multiple member timbers must be fastened together to act as one unit to resist the applied load.
- Do not overload. Do not exceed the product performance which would jeopardise the connection.
- Some model configurations may differ from illustrations shown. Contact factory for details.
- Fill all fastener holes with fastener types specified in the tables, unless otherwise noted. When nailing options are noted, the fasteners must be the correct type and location to obtain full loading.
- Hanger options - some combinations of hanger options have not been evaluated. In some cases, combinations of these options may not be installed. Horizontal loads induced by sloped joists must be resisted by other members in the structural system. A qualified engineeer must always evaluate each connection, including the carried and carrying member limitations, before specifying the product.

Instructions to the Installer

- All specified fasteners must be installed according to the instructions for each connector. Incorrect fastener quantity, size, type, material, or finish may cause the connection to fail.
- Install all specified fasteners before loading the connection.
- Pneumatic or power-actuated fasteners may deflect and injure the operator or others. Nail guns may be used to install connectors, provided the correct number and type of nails are properly installed in the holes provided.
- Guns with hole locators should be used. Follow the manufacturer's instructions and use appropriate safety equipment.
- Protruding nails should always be clinched to avoid injury.
- Masonry supported connectors must be embedded into correct strength mortar as per British Standard.
- Hangers into masonry walls must have the minimum specified height of masonry above the hanger, with the mortar fully cured, before load is applied. Top fix masonry hangers will not carry the design load without specified masonry above the top flange of the hanger. The exception to this would be the use of the Safety Fast range of products. Safety Fast hangers allows construction work to continue safely just 3 days after the supporting block work has been laid.

Instructions to the Designer

Characteristic capacities specified in this catalogue are based on C16 timber grades unless otherwise specified and are presented for use with Limit State Design methods in accordance with Eurocode 5.

- The Safe Working Loads (SWL) shown in the Simpson Strong-Tie® publications for the United Kingdom are derived from tests, calculations and assessments performed in the UK and the USA.
- Safe Working Loads (SWL) are presented for use in permissible stress design in accordance with BS 5268: Part 2: 2002 for Service Classes 1 and 2.
- Loads from Germany were in accordance to DIN design criteria and testing required for Zulassung certification by the Institute für Bautechnique.
- Some products in this catalogue are designed, tested and evaluated in accordance with U.S. industry standards including: National Design.
- Wood shear is not considered in the loads given; reduce allowable loads when wood shear is limiting.
- Simpson Strong-Tie® strongly recommends the following addition to construction drawings and specifications: substitutions for Simpson Strong-Tie® products must be pre-approved in writing by the designer'.
- Verify that the dimensions of the supporting members are sufficient to receive the specified fasteners.
- Some catalogue illustrations show connections that could cause cross grain tension or bending of timber if not sufficiently reinforced.
- Timber connectors showing the CE mark have been assessed in accordance with Eurocode 5. European Technical Approvals (ETA's) have been obtained and are available on request.

Options and Terminology

Options and Terminology

This information applies only to hangers manufactured by Simpson Strong-Tie® and installed as per our installation instructions. Some combinations of these options on a single hanger have not been evaluated. In some cases, combinations of these options may not be installable. A qualified engineer must always evaluate each connection, including header and joist limitations, before specifying the product.

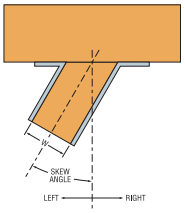
Testing is performed using a standardised hanger test method. The joist in the test set up may include a certain amount of structural stability. Header and other attached structural members are assumed fixed in actual installations. Horizontal loads, induced by sloped joists, must be resisted by other members in the structural system.

Material: Material thickness may vary from that specified for standard hanger configurations, depending on the manufacturing process. Generally welded hangers have one-piece stirrups; occasionally it may be necessary to create a welded stirrup from two or three pieces. Hanger configurations, height and fastener schedules may vary from the table depending on the joist size, skew and slope

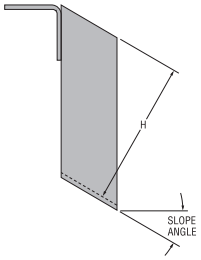
Finish: See specific hanger tables. Welded hangers can be supplied with a galvanised or zinc plated finish.

Installation: Fastener quantities may be increased beyond the amount specified in the standard hanger table. Fill all holes with the table specified fastener type.

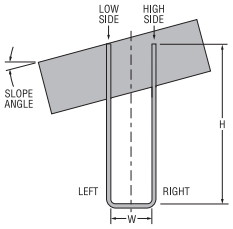
Terminology - refer to the table below for limits and possible combinations.



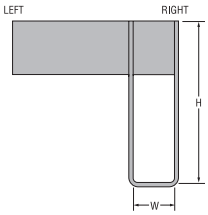
Skewed Seat



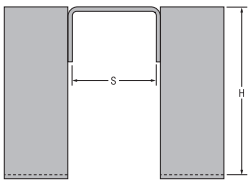
Sloped Seat



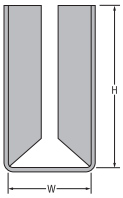
Sloped Top Flange



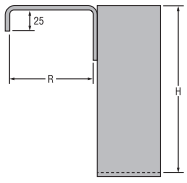
Offset Top Flange



Straddle



Concealed Flanges



Return Top Flange

Skewed Seat: Skewed left or right, on plan. Suitable for floor or roof members skewed at an angle to the support. Specify skew angle and direction.

Sloped Seat: Sloped up or down on plan. Suitable for roof rafters supported on ridge beam. Specifiy slope angle and up or down.

Sloped Top Flange: Top flange sloped down to the left or right. Suitable for roof member supported on main rafter. Specify slope angle to horizontal, slope down to left or right and low, centre or high side of stirrup flush with header.

Offset Top Flange: Stirrup is offset to right or left end of the top flange, as viewed from joist. Suitable for support of trimmer beams from end of main beam. Specify offset right or left.

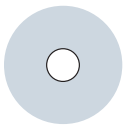
Straddle: Two stirrups directly opposite each other. Suitable for support of joists on either side of main support beam. Specify width of support beam or wall.

Concealed Flanges: SAI hangers flanges concealed. Specify both flanges or single left or right flange concealed. For SAI minimum width 100mm.

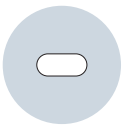
Return Top Flange: Masonry JHM(I) & HJHM(I) hanger. Specify return R dimension.

Model	Skewed Max. Angle	Sloped Max. Angle	Sloped Top Flange	Offset Top Flange	Return	Straddle	Combination
HB	45°	45°					
HJHM(I)	-	-	-		•	•	
JHM(I)	45°	-	-		•	•	
RHMSK	90°	-	-				
SAE	67.5°	45°	-				•

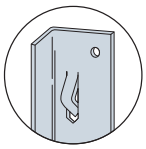
Fastening Identification



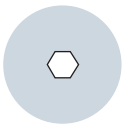
Round Holes
Purpose:
To fasten a connector.
Fill Requirements: Always fill, unless noted otherwise.



Obround Holes
Purpose: To make fastening a connector in a tight location easier.
Fill Requirements: Always fill.

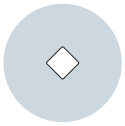


Speed Prongs
Used to temporarily position and secure the connector for easier and faster installation.

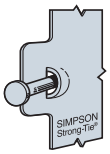


Hexagonal Holes
Purpose: To fasten using structural wood screws.
Fill Requirements: Used with SDS structural screw.

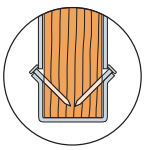
Triangular Holes
Purpose: To increase a connector's strength or to achieve max. strength.
Fill Requirements: When the Designer specifies max. nailing.



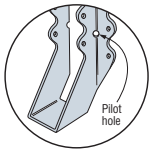
Diamond Holes
Purpose: To temporarily fasten a connector to make installing it easier. **Fill Requirements:** None.



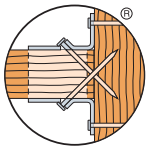
Dome Nailing
This feature guides the nail into the joist and header at a 45° angle.



Positive Angle Nailing (PAN)
Provided when wood splitting may occur, and to speed installation.



Pilot Holes
Tooling holes for manufacturing purposes. No fasteners required.



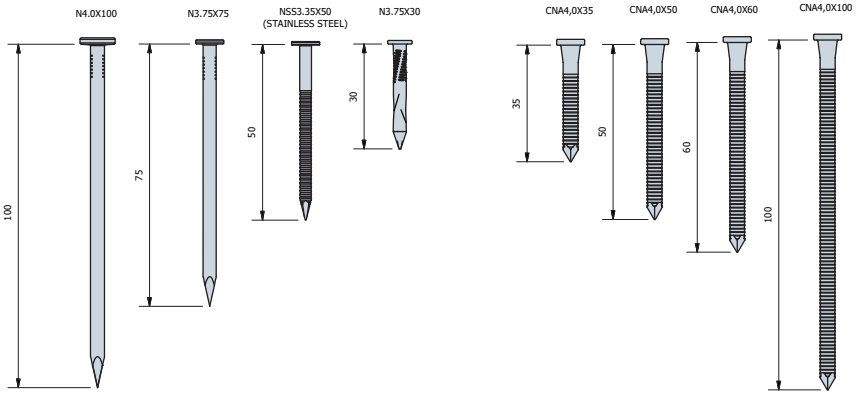
Double-Shear Nailing
The nail is installed into the joist and header, distributing the load through two points on each joist nail for greater strength. Double-shear nailing must be full-length catalog nail.

Nailing Information

Many Simpson Strong-Tie® products are designed to use common nails, readily available to builders.

Certain applications require special fasteners, such as those with length limitations or for use in hostile environments.

This section shows common nails referred to in our design literature along with special fasteners we supply upon request.



Recommended Fixing References

- This icon accompanies products that are recommended to be fixed with the N3.75 Square Twist nail.

- This icon accompanies products that are recommended to be fixed with Ring Shank nails.

- This icon accompanies products that are recommended to be fixed with Round Wire nails.

- This icon accompanies products that are recommended to be fixed with Structural timber screws.

- This icon accompanies products that are recommended to be fixed with SDS screws.

- This icon accompanies products that are recommended to be fixed with The Strong-Drive® SDW screw.

CSA

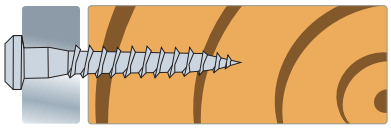
Structural Timber Screw

The CSA is a self-drilling flat head screw with a type 17 point tip, suitable for installing construction connectors such as angle brackets or joist hangers, to solid sawn and engineered timber joists.

- Use to install selected Simpson Strong-Tie connectors.
- Pan head.
- Type 17 point.
- Carbon Steel with clear zinc coating.
- BIT (T20) not included.

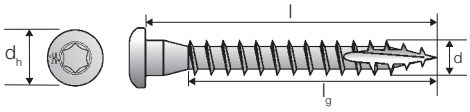
Carbon Steel

Stainless Steel



Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]
CSA4,0x30	30	24	2.5	3.9	7.3
CSA5,0x25	25	19	3.2	4.9	8.3
CSA5,0x35	35	29	3.2	4.9	8.3
CSA5,0x40	40	34	3.2	4.9	8.3
CSA5,0x50	50	44	3.2	4.9	8.3
SS CSA5,0x25S	25	19	3.2	4.9	8.3
SS CSA5,0x35S	35	29	3.2	4.9	8.3
SS CSA5,0x40S	40	34	3.2	4.9	8.3



Performance Values

Model No.	Characteristic Lateral Capacities $F_{lat,k}$ [kN] / Material Thickness [mm]			Characteristic Axial Capacity $F_{ax,k}$ [kN]
	1.2	1.5 to 2.0	2.5 to 4.0	
CSA4,0x30	1.37	1.36	1.32	1.28
CSA5,0x25	1.51	1.49	1.46	1.38
CSA5,0x35	2.01	1.99	1.94	2.11
CSA5,0x40	2.27	2.25	2.20	2.47
CSA5,0x50	2.63	2.63	2.63	3.20
SS CSA5,0x25S	1.51	1.49	1.46	1.38
SS CSA5,0x35S	2.01	1.99	1.94	2.11
SS CSA5,0x40S	2.27	2.25	2.20	2.47

- Performance values based upon timber density of 350 kg/m³.

NSS

Stainless Steel Nail

The NSS nail is a stainless steel fixing used in conjunction with stainless steel connectors and stainless steel straps.

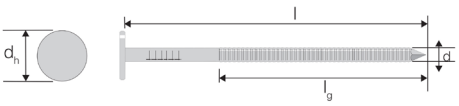
- The flat head of the nail allows full contact with the connector or strap.
- Annular ring thread.

Product Dimensions

Model No.	l [mm]	l_g [mm]	d [mm]	d_h [mm]
SS NSS3.35x50	50	35	3.6	8

Structural Parameters

Model No.	Yield Moment M_{yk} [Nm]	Withdrawal Parameter $F_{ax,k}$ [N/mm²]	Head Pull Through $F_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]
NSS3.35x50	5.1	7.4	26.6	6.4



N3.75

Square Twist Nail

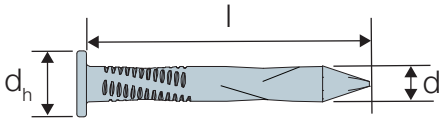
Tested and approved for use when installing Simpson Strong-Tie joist hangers, brackets and straps. Internal use only.

Features:

- Square twist profile.
- Sheradised coating or galvanised.

Product Dimensions

Model No.	l [mm]	d [mm]	d_h [mm]
N3.75x30SH/1KG	30	3.8	8.0
N3.75x30SH/2.5KG	30	3.8	8.0
N3.75x30SH/5KG	30	3.8	8.0
N3.75x30SH/25KG	30	3.8	8.0



Structural Parameters

Model No.	Yield Moment M_{yk} [Nm]	Withdrawal Parameter $F_{ax,k}$ [N/mm²]	Head Pull Through $F_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]
N3.75x30SH	5.2	4.8	24.5	5.8

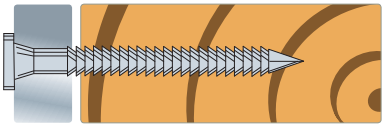
CNA

Ring Shank Nail - Electro Galvanised

Electro-galvanised annular ring-shank nails are recommended for structural assemblies and use with Simpson Strong-Tie connectors

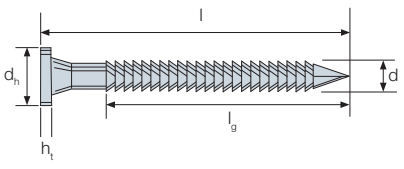
Features:

- The conical shape under the head ensures that the nail is fully in contact with the hole.
- Annular ring thread.
- Electro-galvanised coating or Stainless Steel.



Product Dimensions

Model No.	l [mm]	l_g [mm]	d [mm]	d_h [mm]	h_t [mm]
CNA4,0x35	35	19	4.4	8.0	1.5
CNA4,0x40	40	24	4.4	8.0	1.5
CNA4,0x50	50	34	4.4	8.0	1.5
CNA4,0x60	60	44	4.4	8.0	1.5
SS CNA4,0x40S	40	24	4.4	8.0	1.5
SS CNA4,0x50S	50	34	4.4	8.0	1.5
SS CNA4,0x60S	60	44	4.4	8.0	1.5



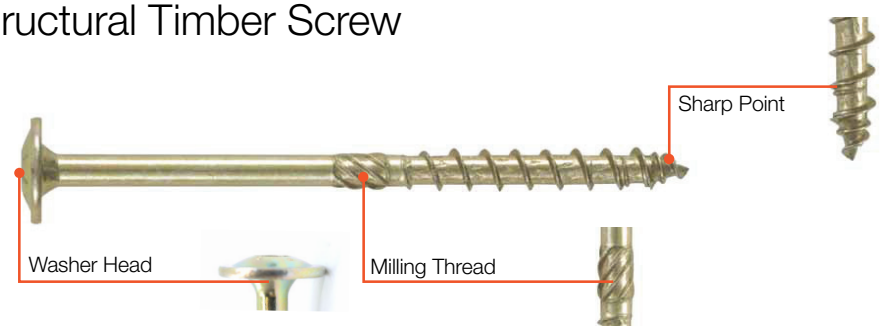
Performance Values

Model No.	Characteristic Lateral Capacities $F_{lat,k}$ [kN] / Material Thickness [mm]			Characteristic Axial Capacity $F_{ax,k}$ [kN]
	1.2	1.5 to 2.0	2.5 to 4.0	
CNA4,0x35	1.67	1.66	1.61	0.61
CNA4,0x40	1.87	1.85	1.80	0.74
CNA4,0x50	2.22	2.22	2.20	0.98
CNA4,0x60	2.36	2.36	2.36	1.23
SS CNA4,0x40S	1.87	1.85	1.80	0.74
SS CNA4,0x50S	2.22	2.22	2.20	0.98
SS CNA4,0x60S	2.36	2.36	2.36	1.23

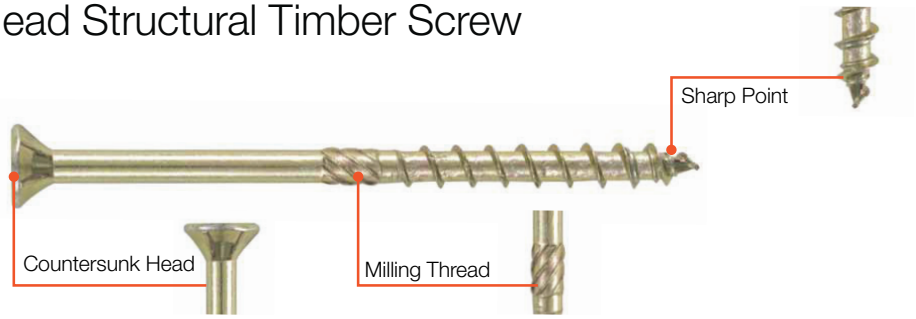
- Performance values based upon timber density of 350 kg/m³.

Structural Screws for Multi-Ply Timbers

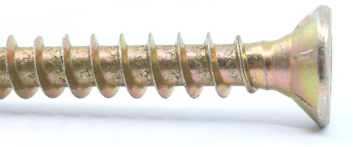
ESCR Washer Head Structural Timber Screw

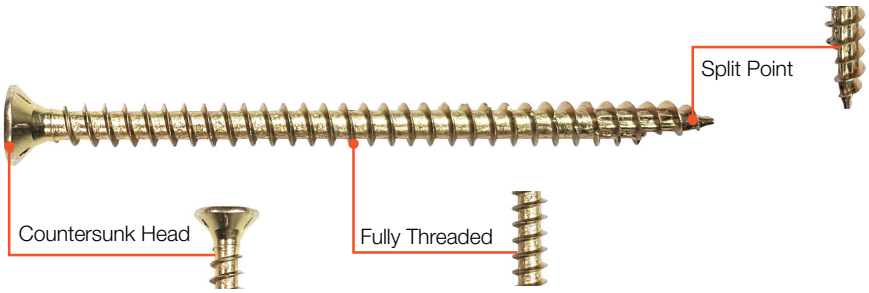


ESCRC Countersunk Head Structural Timber Screw

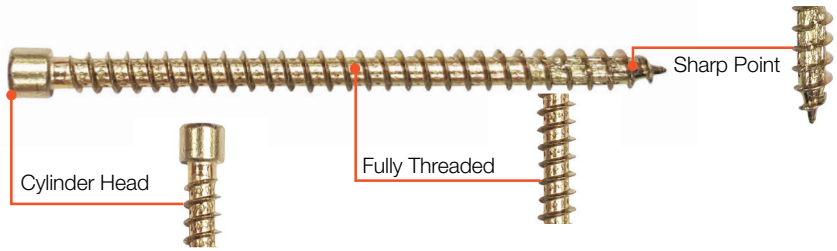


ESCRFTC Fully Threaded Countersunk Head Structural Timber Screw

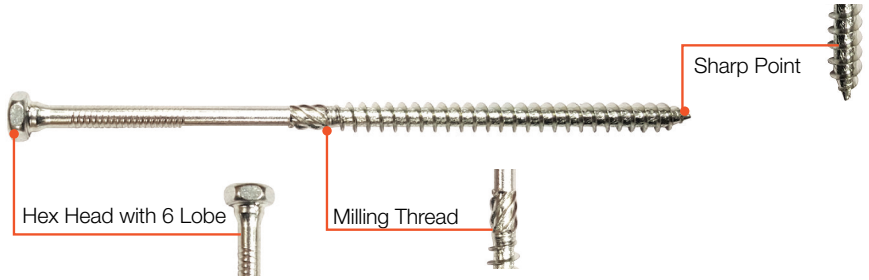




ESCRFTZ Fully Threaded Cylinder Head Structural Timber Screw



ESCRHRD Hex Head and 6 Lobe Drive Structural Timber Screw



Structural Screws for Multi-Ply Timbers

Simpson Strong-Tie® have developed a range of structural screws to meet the demands of the construction industry. The screw ranges are designed to meet the needs of contractor's building in timber frame, SIP (Structural Insulated Panel), CLT (Cross Laminated Timber), Glulam, but also for joining together multiple truss plies and I-Joists, metal web and solid joists.

Design Methods

Performance values for both design methods (Permissible and Limit State) are listed and have been determined as follows:

Permissible Design (BS5268-2) (Safe Working Loads)

The calculations in Annex G, of BS5268-2, have been used to determine the performance tables in section 6 of the same standard. They can also be used to determine the other lateral loads of varying connections, which are listed in the following pages.

Joints should be designed so that the permissible loads applied to the fasteners or timbers do not exceed the design loads of the structure.

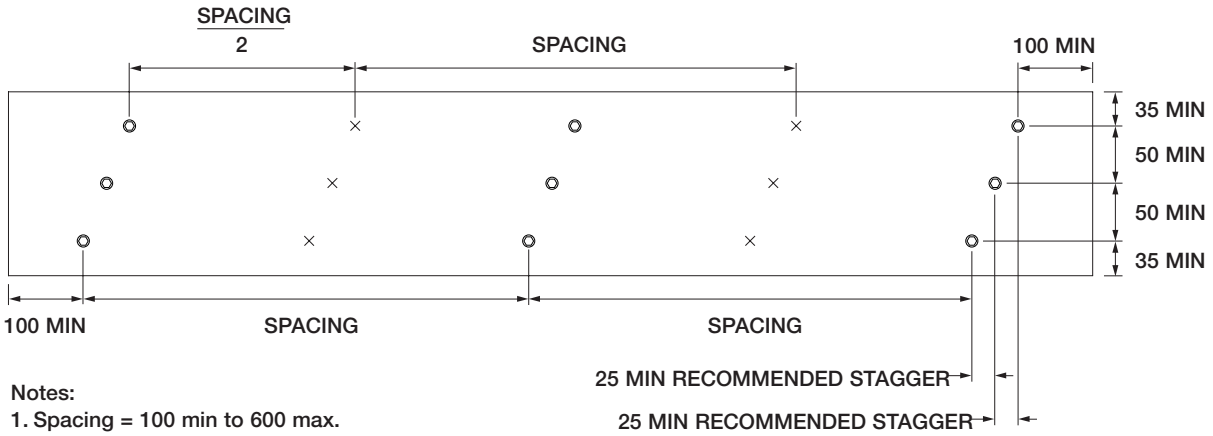
Limit State Design (EN1995-1-1 or Eurocode 5) (Characteristic Loads)

The guidelines laid out in Section 8 of EN1995-1-1, are to be used to determine the withdrawal and lateral performance of a connection when using the Limit State Design method.

Connections should be designed so that the design reactions applied to the structure do not exceed the design capacity of the connection.

Spacings and Edge / End Distances should be complied with, as laid out within the relevant standard, to ensure full capacity of the connection is achieved. Any reduction in the recommendations will result in a reduction of the connection performance and should be verified by the engineer responsible for the design of the building.

Figure 1. Screw spacing and distances (also applies when screwing from both sides).



Notes:
1. Spacing = 100 min to 600 max.
2. O = Fixing from this side.
3. X = Fixing from opposite side.
4. When fixing from both sides divide the recommended spacing by 2.

Structural Timber Screw

The Strong-Drive® SDW screw is a 8.0mm thread diameter, high-strength structural timber screw specifically designed for fastening multi-ply timber members together such as plated trusses, engineered timber products and solid-sawn timber.

The SDW installs easily with no pre-drilling and is available in optimized lengths for fastening 2, 3 and 4-ply trusses or 45mm engineered timber such as Laminated Veneer Lumber (LVL). The SDW enables single-side fastening, while still allowing concurrent loading on both sides of the assembly to the full allowable head or point-side load of the fastener.

- Low-profile head for reduced interference during handling or installation of hardware on the assembly.
- High shear values enable wider screw spacing.
- Bold thread design firmly clinches plies together to close gaps in multi-ply assemblies.
- Optimal screw lengths provide maximum point side penetration.
- T40 6-Lobe bit for positive driving.

Material: Heat treated carbon steel. **Finish:** Black E-coat™.

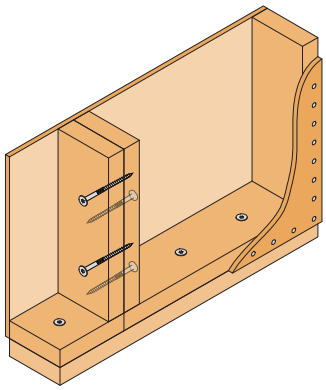
Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the SDW timber screws should only be used in dry, interior and non-corrosive environments e.g. Service class 1 & 2.

Installation:

- SDW screws install best with an impact driver and a T40 6-lobe bit (one bit included in the box).
- Pre-drilling is typically not required. SDW screws may be installed through metal truss plates as approved by the truss designer.
- Drive the fastener so that the top of the head is slightly embedded into the top surface of the timber. To ensure correct performance, do not under or over-drive the fastener.
- Individual screw locations may be adjusted up to 75mm to avoid conflicts with other hardware or to avoid timber defects.

Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
SDW22258-R50E	66	36	5.6	8.0	19.0	T40
SDW22300-R50E	76	37	5.6	8.0	19.0	T40
SDW22338-R50E	86	40	5.6	8.0	19.0	T40
SDW22438-R50E	111	37	5.6	8.0	19.0	T40
SDW22458-R50E	117	37	5.6	8.0	19.0	T40
SDW22500-R50E	127	40	5.6	8.0	19.0	T40
SDW22600-R50E	152	37	5.6	8.0	19.0	T40
SDW22638-R50E	162	37	5.6	8.0	19.0	T40
SDW22634-R50E	172	40	5.6	8.0	19.0	T40



Structural Parameters

Model No.	Yield Moment $M_{y,k}$ [Nmm]	Withdrawal Parameter $f_{ax,k}$ [N/mm²]	Head Pull-Through $f_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]	Torsional Strength $f_{tor,k}$ [kN]
SDW	15.5	7.8	10.8	20.5	20.6

- Mechanical properties based upon timber density ρ_k = 350 kg/m³

Washer Head Structural Timber Screw

The ESCR screws have a washer head and 6 lobe drive to aid installation and give excellent pull-through capacities.

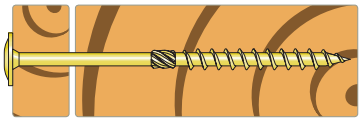
Material: Heat treated carbon steel.

Benefits

- High pull-out resistance.
- Reamer allows smooth driving.
- Connects two or more timbers together.

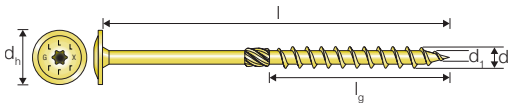
Finish: Electrogalvanised with yellow finish and anti-friction coating. Zinc coating thickness ≥ 5µm.

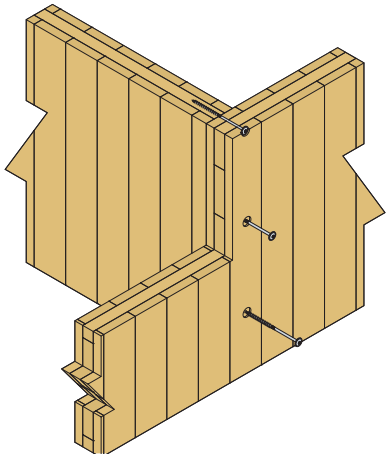
Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the ESCR timber screws should only be used in dry, interior and non-corrosive environments e.g. Sevice class 1 & 2.



Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
ESCR8.0X80	80	54	5.3	8.0	20.0	T40
ESCR8.0X100	100	54	5.3	8.0	20.0	T40
ESCR8.0X120	120	54	5.3	8.0	20.0	T40
ESCR8.0X140	140	84	5.3	8.0	20.0	T40
ESCR8.0X160	160	84	5.3	8.0	20.0	T40
ESCR8.0X180	180	100	5.3	8.0	20.0	T40
ESCR8.0X200	200	100	5.3	8.0	20.0	T40
ESCR8.0X220	220	100	5.3	8.0	20.0	T40
ESCR8.0X240	240	100	5.3	8.0	20.0	T40
ESCR8.0X260	260	100	5.3	8.0	20.0	T40
ESCR8.0X280	280	100	5.3	8.0	20.0	T40
ESCR8.0X300	300	100	5.3	8.0	20.0	T40
ESCR8.0X320	320	100	5.3	8.0	20.0	T40
ESCR8.0X340	340	100	5.3	8.0	20.0	T40
ESCR8.0X360	360	100	5.3	8.0	20.0	T40
ESCR8.0X380	380	100	5.3	8.0	20.0	T40
ESCR8.0X400	400	100	5.3	8.0	20.0	T40
ESCR10.0x100	100	60	6.2	10.0	25.0	T50
ESCR10.0x120	120	60	6.2	10.0	25.0	T50
ESCR10.0x140	140	60	6.2	10.0	25.0	T50
ESCR10.0x160	160	100	6.2	10.0	25.0	T50
ESCR10.0x180	180	100	6.2	10.0	25.0	T50
ESCR10.0x200	200	100	6.2	10.0	25.0	T50
ESCR10.0x220	220	100	6.2	10.0	25.0	T50
ESCR10.0x240	240	100	6.2	10.0	25.0	T50
ESCR10.0x260	260	100	6.2	10.0	25.0	T50
ESCR10.0x280	280	100	6.2	10.0	25.0	T50
ESCR10.0x300	300	100	6.2	10.0	25.0	T50
ESCR10.0x320	320	100	6.2	10.0	25.0	T50
ESCR10.0x340	340	100	6.2	10.0	25.0	T50
ESCR10.0x360	360	100	6.2	10.0	25.0	T50
ESCR10.0x380	380	100	6.2	10.0	25.0	T50
ESCR10.0x400	400	100	6.2	10.0	25.0	T50





Typical Installation of ESCR with Cross-laminated timber

Installation:

- ESCR screws install best with an impact driver and a T40 or T50 6-lobe bit (included in the box).
- Pre-drilling is typically not required. ESCR screws may be installed through metal truss plates as approved by the truss designer.
- Drive the fastener so that the top of the head is slightly embedded into the top surface of the timber. To ensure correct performance, do not under or over drive the fastener.
- Individual screw locations may be adjusted up to 75mm to avoid conflict with other hardware or to avoid timber defects.

Structural Parameters

Model No.	Yield Moment $M_{y,k}$ [Nmm]	Withdrawal Parameter $f_{ax,k}$ [N/mm²]	Head Pull-Through $f_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]	Torsional Strength $f_{tor,k}$ [kN]
ESCR8.0	22.6	10.7	17.6	22.7	25.6
ESCR10.0	33.0	9.5	15.2	33.2	47.5

- Mechanical properties based upon timber density ρ_k = 350 kg/m³

ESCRC

Countersunk Structural Timber Screw

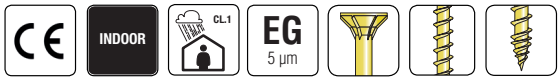
The ESCRC is a countersunk head screw designed to connect two or more timber members together. The ESCRC screw has a reamer to allow for smooth driving of the shank. The countersunk head gives flush fitting while allowing the timber members to close up firmly.

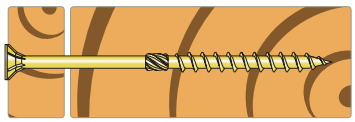
- Countersinking head.
- 6 lobe drive.

Material: Heat treated carbon steel.

Benefits:

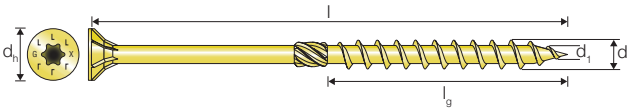
- High pull-out resistance.
- Reamer reduces drive resistance for faster installation.





Finish: Electrogalvanised with yellow finish and anti-friction coating. Zinc coating thickness ≥ 5µm.

Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the ESCRC timber screw should only be used in dry, interior and non-corrosive environments. (e.g. Service class 1 & 2).



Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
ESCRC4.0X40	40	30	2.6	4.0	8.0	T20
ESCRC4.0X50	50	30	2.6	4.0	8.0	T20
ESCRC4.0X60	60	35	2.6	4.0	8.0	T20
ESCRC4.0X70	70	35	2.6	4.0	8.0	T20
ESCRC4.0X80	80	35	2.6	4.0	8.0	T20
ESCRC6.0X60	60	36	4.3	6.0	12.0	T30
ESCRC6.0X70	70	36	4.3	6.0	12.0	T30
ESCRC6.0X80	80	48	4.3	6.0	12.0	T30
ESCRC6.0X90	90	48	4.3	6.0	12.0	T30
ESCRC6.0X100	100	48	4.3	6.0	12.0	T30
ESCRC6.0X120	120	64	4.3	6.0	12.0	T30
ESCRC6.0X140	140	64	4.3	6.0	12.0	T30
ESCRC6.0X160	160	64	4.3	6.0	12.0	T30
ESCRC6.0X180	180	64	4.3	6.0	12.0	T30
ESCRC6.0X200	200	64	4.3	6.0	12.0	T30
ESCRC6.0X220	220	64	4.3	6.0	12.0	T30
ESCRC6.0X240	240	64	4.3	6.0	12.0	T30
ESCRC6.0X260	260	64	4.3	6.0	12.0	T30
ESCRC6.0X280	280	64	4.3	6.0	12.0	T30
ESCRC6.0X300	300	64	4.3	6.0	12.0	T30
ESCRC8.0X80	80	54	5.9	8.0	15.0	T40
ESCRC8.0X100	100	54	5.9	8.0	15.0	T40
ESCRC8.0X120	120	54	5.9	8.0	15.0	T40
ESCRC8.0X140	140	84	5.9	8.0	15.0	T40
ESCRC8.0X160	160	84	5.9	8.0	15.0	T40
ESCRC8.0X180	180	100	5.9	8.0	15.0	T40

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
ESCRC8.0X200	200	100	5.9	8.0	15.0	T40
ESCRC8.0X220	220	100	5.9	8.0	15.0	T40
ESCRC8.0X240	240	100	5.9	8.0	15.0	T40
ESCRC8.0X260	260	100	5.9	8.0	15.0	T40
ESCRC8.0X280	280	100	5.9	8.0	15.0	T40
ESCRC8.0X300	300	100	5.9	8.0	15.0	T40
ESCRC8.0X320	320	100	5.9	8.0	15.0	T40
ESCRC8.0X340	340	100	5.9	8.0	15.0	T40
ESCRC8.0X360	360	100	5.9	8.0	15.0	T40
ESCRC8.0X380	380	100	5.9	8.0	15.0	T40
ESCRC8.0X400	400	100	5.9	8.0	15.0	T40
ESCRC10.0X80	80	60	7.1	10.0	18.5	T50
ESCRC10.0X100	100	60	7.1	10.0	18.5	T50
ESCRC10.0X120	120	60	7.1	10.0	18.5	T50
ESCRC10.0X140	140	60	7.1	10.0	18.5	T50
ESCRC10.0X160	160	100	7.1	10.0	18.5	T50
ESCRC10.0X180	180	100	7.1	10.0	18.5	T50
ESCRC10.0X200	200	100	7.1	10.0	18.5	T50
ESCRC10.0X220	220	100	7.1	10.0	18.5	T50
ESCRC10.0X240	240	100	7.1	10.0	18.5	T50
ESCRC10.0X260	260	100	7.1	10.0	18.5	T50
ESCRC10.0X280	280	100	7.1	10.0	18.5	T50
ESCRC10.0X300	300	100	7.1	10.0	18.5	T50
ESCRC10.0X320	320	100	7.1	10.0	18.5	T50
ESCRC10.0X340	340	100	7.1	10.0	18.5	T50
ESCRC10.0X360	360	100	7.1	10.0	18.5	T50
ESCRC10.0X380	380	100	7.1	10.0	18.5	T50
ESCRC10.0X400	400	100	7.1	10.0	18.5	T50

Installation:

- ESCRC screws install with an impact driver and a T20, T30, T40 or T50 6-lobe bit (included in the box).
- Drive the fastener so that the top of the head is slightly embedded into the top surface of the timber. To ensure correct performance, do not under or over drive the fastener.
- Individual screw locations may be adjusted up to 75mm to avoid conflict with other hardware or to avoid timber defects.

Performance Values

Model No.	Yield Moment $M_{y,k}$ [Nmm]	Withdrawal Parameter $f_{ax,k}$ [N/mm²]	Head Pull-Through $f_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]	Torsional Strength $f_{tor,k}$ [kN]
ESCRC4.0	3.2	14.8	17.1	5.0	3.0
ESCRC6.0	10.1	13.0	14.6	12.8	10.1
ESCRC8.0	22.6	10.7	12.4	22.7	25.6
ESCRC10.0	33.0	9.5	12.2	33.2	47.5

- Mechanical properties based upon timber density P_k = 350 kg/m³

ESCRFTC

Fully Threaded Structural Timber Screw

The ESCRFTC has a countersunk head and a 6 lobe drive to aid installation. The countersunk head allows for flush fitting, and the full thread gives extra withdrawal strength to the connection.

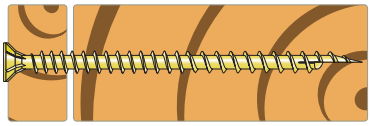
- Individual screw locations may be adjusted up to 75mm to avoid conflicts with other hardware or to avoid timber defects.

Material: Heat treated carbon steel.

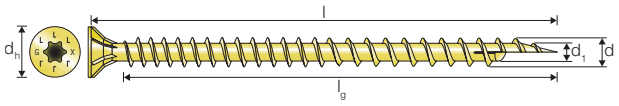
Benefits

- Countersinking head.
- High withdrawal resistance.

Finish: Electrogalvanised with yellow finish and anti-friction coating. Zinc coating thickness ≥ 5µm.



Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the ESCRFTC timber screw should only be used in dry, interior and non-corrosive environments. (e.g. Service class 1 & 2).



Installation:

- ESCRFTC screws install best with an impact driver and a T40 or T50 6-lobe bit (included in the box).
- Drive the fastener so that the top of the head is slightly embedded into the top surface of the timber. To ensure correct performance, do not under or over drive the fastener.
- Individual screw locations may be adjusted up to 75mm to avoid conflicts with other hardware or to avoid timber defects.

Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
ESCRFTC8.0X120	120	110	5.2	8.0	15.0	T40
ESCRFTC8.0X180	180	170	5.2	8.0	15.0	T40
ESCRFTC8.0X200	200	190	5.2	8.0	15.0	T40
ESCRFTC8.0X240	240	240	5.2	8.0	15.0	T40
ESCRFTC8.0X300	300	290	5.2	8.0	15.0	T40
ESCRFTC8.0X400	400	390	5.2	8.0	15.0	T40
ESCRFTC10.0X160	160	148	6.1	10.0	18.5	T50
ESCRFTC10.0X180	180	168	6.1	10.0	18.5	T50
ESCRFTC10.0X200	200	188	6.1	10.0	18.5	T50
ESCRFTC10.0X220	220	208	6.1	10.0	18.5	T50
ESCRFTC10.0X240	240	228	6.1	10.0	18.5	T50
ESCRFTC10.0X260	260	248	6.1	10.0	18.5	T50
ESCRFTC10.0X280	280	268	6.1	10.0	18.5	T50
ESCRFTC10.0X300	300	288	6.1	10.0	18.5	T50
ESCRFTC10.0X350	350	338	6.1	10.0	18.5	T50
ESCRFTC10.0X400	400	388	6.1	10.0	18.5	T50

Performance Values

Model No.	Yield Moment $M_{y,k}$ [Nmm]	Withdrawal Parameter $f_{ax,k}$ [N/mm²]	Head Pull-Through $f_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]	Torsional Strength $f_{tor,k}$ [kN]
ESCRFTC8.0	20.3	13.1	12.4	24.1	25.8
ESCRFTC10.0	36.7	12.5	12.2	40.0	55.0

- Mechanical properties based upon timber density ρ_k = 350 kg/m³

ESCRFTZ

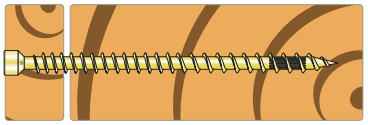
Fully Threaded Cylinder Head Screw

The ESCRFTZ is a fully threaded screw designed to connect two or more timber members together. The ESCRFTZ has a cylinder head.

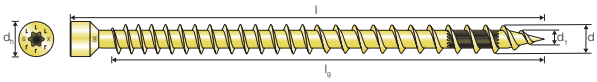
- Cylinder Head.
- 6 lobe drive.
- No pre-drilling required.
- Fully threaded shank provides excellent pull-out resistance.
- Sharp point, drives even at angles to the timber.

Material: Heat treated carbon steel.

Finish: Electrogalvanised with yellow finish and anti-friction coating. Zinc coating thickness ≥ 5µm.



Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the ESCRFTZ range of timber screws should only be used in dry, interior and non-corrosive environments. (e.g. Service class 1 & 2).



Installation:

- ESCRFTZ screws install best with an impact driver and a T40 6-lobe bit (included in the box).
- Pre-drilling is typically not required.
- Drive the fastener so that the top of the head is slightly embedded into the top surface of the timber. To ensure correct performance, do not under or over-drive the fastener.
- Individual screw locations may be adjusted up to 75mm to avoid conflicts with other hardware or to avoid timber defects.

Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
ESCRFTZ8.0X120	120	110	5.2	8.0	10.2	T40
ESCRFTZ8.0X180	180	170	5.2	8.0	10.2	T40
ESCRFTZ8.0X200	200	190	5.2	8.0	10.2	T40
ESCRFTZ8.0X220	220	210	5.2	8.0	10.2	T40
ESCRFTZ8.0X240	240	230	5.2	8.0	10.2	T40
ESCRFTZ8.0X300	300	290	5.2	8.0	10.2	T40
ESCRFTZ8.0X400	400	390	5.2	8.0	10.2	T40

Performance Values

Model No.	Yield Moment $M_{y,k}$ [Nmm]	Withdrawal Parameter $f_{ax,k}$ [N/mm²]	Head Pull-Through $f_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]	Torsional Strength $f_{tor,k}$ [kN]
ESCRFTZ8.0	20.3	13.1	-	24.1	-

- Mechanical properties based upon timber density ρ_k = 350 kg/m³

ESCRHRD

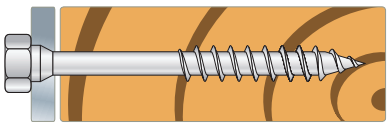
Hex Head Structural Timber Screw

The ESCRHRD is a dual headed screw designed to connect two or more timber members together. The ESCRHRD also features a reamer to reduce driving resistance.

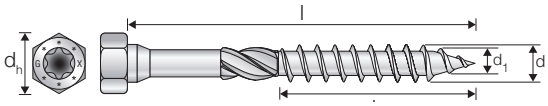
- Hex head with integrated 6-lobe drive.
- No pre-drilling required.
- Reamer for even faster installation.
- Sharp point, drives even at angles to the timber.

Material: Heat treated carbon stee.l

Finish: Electrogalvanised with yellow finish and anti-friction coating. Zinc coating thickness ≥ 5µm.



Installation:



- Pre-drilling is typically not required.
- ESCRHRD screws install best with a low-speed impact driver and T30, or T40 drive bit (included in the box). May also be installed with a hex head bit (not included).
- Drive the fastener so that the top of the head is slightly embedded into the top surface of the timber. To ensure correct performance, do not under or over-drive the fastener.

Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the ESCRHRD range of timber screws should only be used in dry, interior and non-corrosive environments. (e.g. Service class 1 & 2).

Product Dimensions

Model No.	l [mm]	l_g [mm]	d_1 [mm]	d [mm]	d_h [mm]	
ESCRHRD8.0X80	80	54	5.9	8.1	12.0	T30
ESCRHRD8.0X120	120	84	5.9	8.1	12.0	T30
ESCRHRD8.0X180	180	100	5.9	8.1	12.0	T30
ESCRHRD8.0X240	240	100	5.9	8.1	12.0	T30
ESCRHRD10.0X120	120	84	7.1	10.0	15.0	T40
ESCRHRD10.0X180	180	108	7.1	10.0	15.0	T40
ESCRHRD10.0X240	240	125	7.1	10.0	15.0	T40

Performance Values

Model No.	Yield Moment $M_{y,k}$ [Nmm]	Withdrawal Parameter $f_{ax,k}$ [N/mm²]	Head Pull-Through $f_{head,k}$ [N/mm²]	Tensile Capacity $f_{tens,k}$ [kN]	Torsional Strength $f_{tor,k}$ [kN]
ESCRHRD8.0	22.6	10.9	16.7	22.0	24.8
ESCRHRD10.0	33.0	9.8	16.7	32.0	44.8

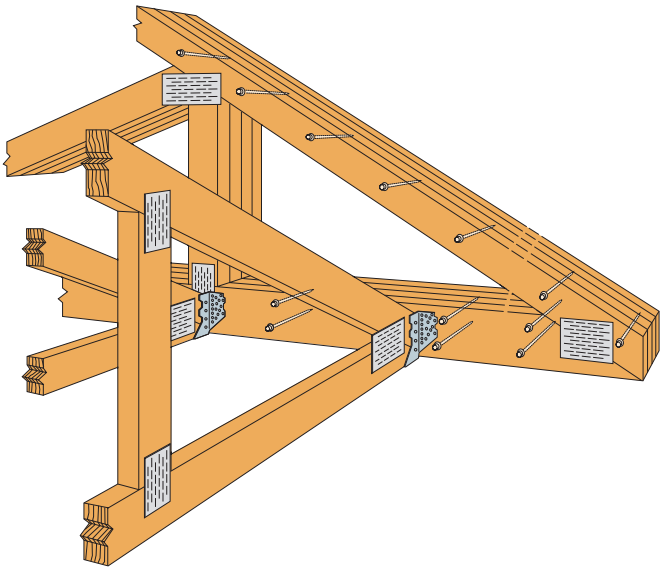
- Mechanical properties based upon timber density ρ_k = 350 kg/m³

Roof Trusses

Simpson Strong-Drive® SDW and ESCR Screws can be used for a fast and effective connection of multi-ply roof trusses.

Installation:

- Screws can be installed from one side of the truss for faster installation.
- Screw heads shall be on the same side of the truss to which the hangers are attached.
- If screws are installed in the wrong face of the truss then install additional screws in the correct face with the maximum spacing of twice the required spacing but not exceeding 600mm centres.
- The additional screws shall be offset from the existing screws.
- If hangers or hanger fixings clash with the girder screws, relocate the girder screw as close as possible to the side flange of the hanger on the same screw line.



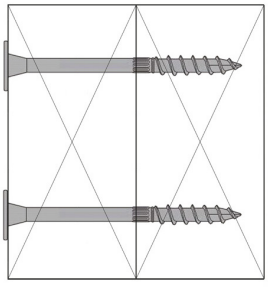
Multi-Ply Roof Truss Item Codes

Truss Plys	Model No.	Safe Working Load TR26 Medium Term Shear (lateral) Load [N]	Characteristic Loads TR26 - $F_{v,Rk}$ [N]
2 x 35mm	SDW22258-R50E	980	2195
3 x 35mm	ESCR8.0X100	1090	2485
4 x 35mm	ESCR8.0X140	1180	2690
2 x 47mm	SDW22300-R50E	1140	2145
3 X 47mm	SDW22500-R50E	1200	2315
4 x 47mm	ESCR8.0X180	1200	3705

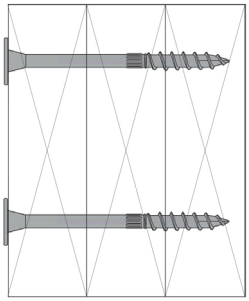
1. Loads are per shear plane assuming single shear. Timber-to-timber connections.
2. Screws are installed from 1 side only.

Design and Detailing:

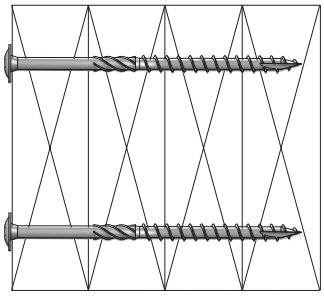
- Where multiple trussed rafters are fastened together on site, the fastening of at least the ceiling tie members should be with screws or bolts, using the appropriate washer, in positions marked by the manufacturer, according to BS5268-3 clause 6.5.5.
- Spacing of loads applied to the multi-ply truss shall not exceed 600mm centres.
- The truss engineer shall ensure torsion due to loads coming into one side of the multi-ply truss is adequately catered for.
- Screws shall not be installed through metal truss plates unless approved by the truss engineer, pre-drilling is not required.
- Individual screw locations may be adjusted to avoid conflicts with other hardware or timber defects.
- Use maximum of 1 row of screws in members up to 120mm deep.
- Use 1 or 2 rows of screws up to 170mm deep (depending on capacity requirements).
- Use 1, 2 or 3 rows of screws in members over 171mm deep (depending on capacity requirements).



SDW 2 Ply Detail



SDW 3 Ply Detail



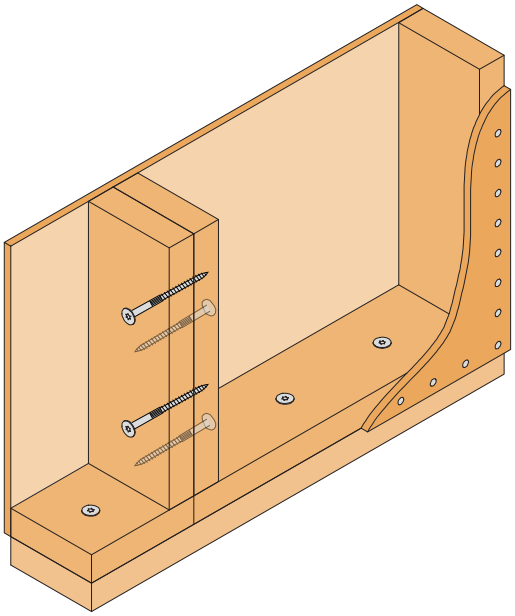
ESCR 4 Ply Detail

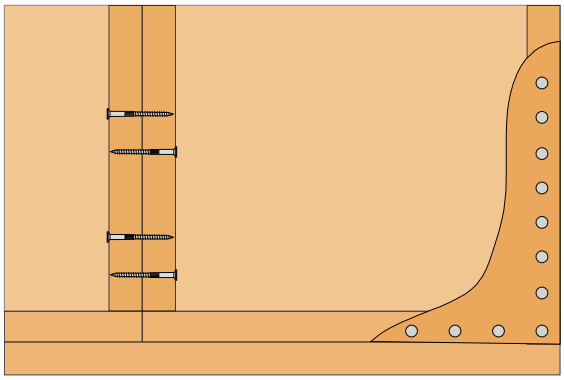
Timber Frame Panels

Simpson Strong-Drive® SDW Screws can be used for a fast and effective connection of Timber Frame Panels as shown below. The SDW screws allow for a permanent connection, pulling the two panels together, to help reduce air leakage at panel to panel junctions as well as panel to sole plate junctions.

Installation:

- All members shall be full length with no intermediate splices.
- Screws shall be installed with the screw heads in the loaded ply.
- Individual screw locations may be adjusted up to 1/2 of the required spacing to avoid conflicts with other hardware or timber defects.
- Use maximum of 1 row of screws in 89mm timber frame panels.
- Use 1 or 2 rows of screws in 140mm wide timber frame panels.
- The screw guns used to install the screws should have the following (minimum) specification: 100Nm torque, 14.4V or 18V battery and have impact driving functionality.
- The number of screws being installed needs to be considered against the constant high loads, at high torque, applied to the screw gun motor. Refer to manufacturer for motor loading conditions.





SDW screws can be fitted from one side or both sides if required.

Safe Working Loads (BS5268-2) (Per Screw)

Timber Plys	Model No.	How to Install	C16 - Long Term Shear (Lateral) Load [N]	C16 - Long Term Withdrawal (Axial) Load [N]
2 x 38mm	SDW22300-R50E	From 1 Side	790	600

Characteristic Loads (EN1995-1-1) (Per Screw)

Timber Plys	Model No.	How to Install	C16 - Shear (Lateral) Load [N]	C16 - Withdrawal (Axial) Load [N]
2 x 38mm	SDW22300-R50E	From 1 Side	2430	2305

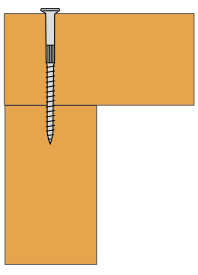
Composite Panels

Simpson Strong-Drive® SDW and ESCR Screws can be used as a fast and effective connection of Composite Panels. For typical connections see details below. The screws are quick to start and both have a reamer allowing for smooth passage of the shank even into the denser composite materials.

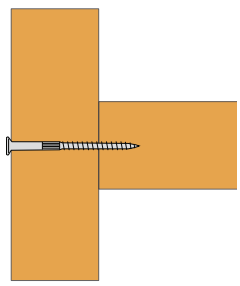
Safe Working Loads (per screw)

Headside Timber Thickness [mm]	Model No.	Safe Working Loads [N] Shear		Safe Working Loads [N] Axial	
		C16 - Long Term Load [N]	C24 - Long Term Load [N]	C16 - Long Term Load [N]	C24 - Long Term Load [N]
60	SDW22438-R50E	1050	1150	720	870
60	ESCR8.0x120	1320	1450	910	1100
80	SDW22438-R50E	980	1070	630	770
80	ESCR8.0x120	1160	1270	710	860
95-100	SDW22600-R50E	1120	1190	890	1080
95-100	ESCR8.0x140	1160	1270	710	860
111	SDW22600-R50E	1120	1130	700	850
111	ESCR8.0x160	1290	1420	870	1060
119	SDW22600-R50E	1060	1170	740	890
119	ESCR8.0x160	1170	1280	930	890
125	SDW22638-R50E	980	1070	630	770
125	ESCR8.0x160	1380	1470	980	1190
136	SDW22634-R50E	960	1060	620	750
136	ESCR8.0x180	1220	1330	780	950
140-145	ESCR8.0x180	1380	1470	980	1190
150	ESCR8.0x200	1300	1430	890	1080
162	ESCR8.0x200	1140	1240	680	820
175-180	ESCR8.0x220	1160	1270	710	860
190-195	ESCR8.0x240	1230	1350	800	970
206	ESCR8.0x260	1360	1470	960	1170
219	ESCR8.0x260	1170	1280	730	890

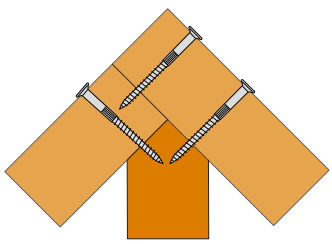
1. Loads are per shear plane assuming single shear. Timber-to-timber connections.



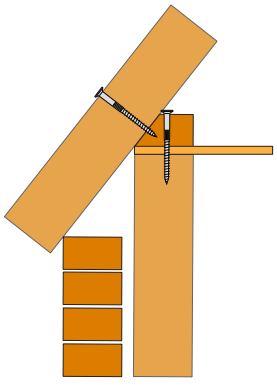
Typical Wall Corner Detail



Typical Wall "T" Detail



Typical Ridge Detail



Typical Eaves Detail

Composite Panels

Characteristic Loads (per screw)

Thickness of Headside Timber [mm]	Model No.	Characteristic Loads [N] Shear - $F_{v,Rk}$		Characteristic Loads [N] Axial - $F_{a,Rk}$	
		C16	C24	C16	C24
60	SDW22438-R50E	2830	3150	1810	2305
60	ESCR8.0x120	3500	3895	3420	4365
80	SDW22438-R50E	2695	2955	1810	2305
80	ESCR8.0x120	3105	3435	2685	3420
95-100	SDW22600-R50E	3325	3640	1810	2305
95-100	ESCR8.0x140	3235	3585	2685	3420
111	SDW22600-R50E	2880	3130	1810	2305
111	ESCR8.0x160	3670	4085	3290	4190
119	SDW22600-R50E	2960	3220	1810	2305
119	ESCR8.0x160	3405	3710	2750	3505
125	SDW22638-R50E	2730	2922	1810	2305
125	ESCR8.0x160	4020	4485	3690	4705
136	SDW22634-R50E	2680	2900	1760	2245
136	ESCR8.0x180	3620	3905	2950	3765
140-145	ESCR8.0x180	4155	4640	3690	4705
150	ESCR8.0x200	3980	4310	3355	4280
162	ESCR8.0x200	3265	3515	2550	3250
175-180	ESCR8.0x220	3385	3645	2685	3420
190-195	ESCR8.0x240	3685	3970	3020	3850
206	ESCR8.0x260	4245	4590	3625	4620
219	ESCR8.0x260	3445	3710	2750	3505
240	ESCR8.0x280	3385	3645	2685	3420
257	ESCR8.0x300	3560	3840	2885	3680
307	ESCR8.0x360	4180	4520	3555	4535

Installation:

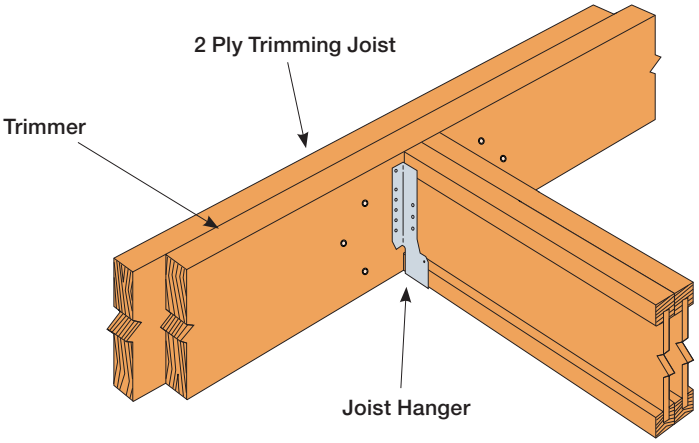
- Screws are to be installed from one side of the composite panel.
- Position and number of screws are to be specified by the person responsible for building design.

Design and Detailing:

Individual screw locations may be adjusted to avoid conflicts with other hardware or timber defects, ensuring recommendations for spacing and edge distances are maintained.

Engineered Timber

Simpson Strong-Drive® SDW Screws can be used for a fast and effective connection of solid rectangular multi-ply engineered timbers.



Connection Detail for a Multi-Ply Trimming Joist

Multi-Ply Engineered Timber Performance Values

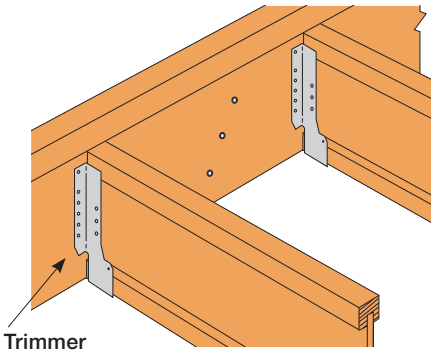
Timber Plys	Model No.	Safe Working Loads [N]	Characteristic Loads [N]
		Long Term Shear LVL	Shear - $F_{V,RK}$ LVL
2 x 38mm	SDW22300-R50E	980	2900
2 x 45mm	SDW22338-R50E	1110	3110
2 x 75mm	SDW22500-R50E	1220	3810
2 x 89mm	SDW22634-R50E	1220	3810
3 x 38mm	SDW22438-R50E	1090	2950
3 x 45mm	SDW22500-R50E	1120	3070
4 x 38mm	SDW22600-R50E	1130	3115
4 x 45mm	SDW22634-R50E	1120	3070

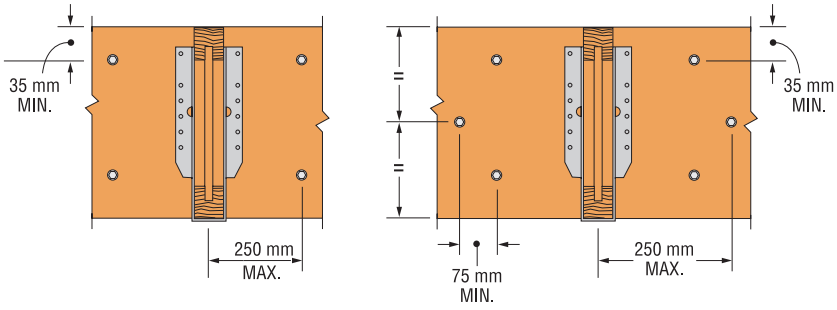
1. Loads are per shear plane assuming single shear, timber-to-timber connections.
2. Equal plies assumed.
3. Calculations are based on timbers having a characteristic density of 370kg/m^3
4. Screws are installed from 1 side only.

Installation:

- All members shall be full length with no intermediate splices.
- Screws shall be installed with the screw heads in the loaded ply.
- Individual screw locations may be adjusted up to 1/2 of the required spacing to avoid conflicts with other hardware or timber defects.
- The spacing of applied uniform loads to the multi-ply member shall not exceed 600mm centres (i.e. Hanger Spacing).
- Use maximum of 1 row of screws in members up to 120mm deep (depending on capacity requirements).
- Use 1 or 2 rows in members up to 170mm deep (depending on capacity requirements).
- Use 1, 2 or 3 rows of screws in members over 171mm deep (depending on capacity requirements).
- Screws with self drilling tips require high torque to install, especially when installed into dense wood materials such as laminated veneer lumber (LVL).
- The screw guns used to install the screws should have the following (minimum) specification: 100Nm torque, 14.4V or 18V Battery and have impact driving functionality.
- The number of screws being installed needs to be considered against the constant high loads, at high torque, applied to the screw gun motor. Refer to manufacturer for motor loading conditions.

Engineered Timber





See Load Transfer Table.

Connection Detail for a Multi-Ply Trimmer (UDL[1])

Timber Plys	Model No.	Screw SWL [N]	Characteristic Loads Maximum UDL[1] [kN/m]			Screw Characteristic Load [N]	Safe Working Loads Maximum UDL[1] [kN/m]		
		SCL[2] Long Term	1 Row @ 600 ctrs	2 Row @ 600 ctrs	3 Row @ 600 ctrs	SCL[1]	1 Row @ 600 ctrs	2 Row @ 600 ctrs	3 Row @ 600 ctrs
2 x 38mm	SDW22300-R50E	2900	9.67	19.33	29.00	980	3.27	6.53	9.80
2 x 45mm	SDW22338-R50E	3110	10.37	20.73	31.10	1110	3.70	7.40	11.10
2 x 75mm	SDW22500-R50E	3810	12.70	25.40	38.10	1220	4.07	8.13	12.20
2 x 89mm	SDW22634-R50E	3810	12.70	25.40	38.10	1220	4.07	8.13	12.20
3 x 38mm	SDW22438-R50E	2950	7.38	14.75	22.13	1090	2.73	5.45	8.18
3 x 45mm	SDW22500-R50E	3070	7.68	15.35	23.03	1120	2.80	5.60	8.40
4 x 38mm	SDW22600-R50E	3115	6.92	13.84	20.77	1130	2.51	5.02	7.53

1. Uniformly Distributed Load.
2. Structural Composite Lumber
3. The load is uniformly distributed from hangers at regular centres of up to 600mm maximum.
4. To calculate the maximum allowable end reaction for each hanger - multiply the UDL by the spacing e.g. 3.51 x 0.6 = 2.1kN per hanger.
5. To calculate the maximum span of trimmed joists use the $\frac{2 \times \text{UDL (from above table)}}{\text{Floor Load (kN/m}^2\text{)}}$ e.g. $\frac{2 \times 3.51}{2.25}$ = 3.12m

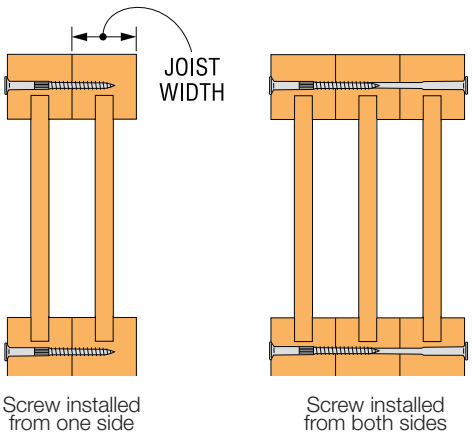
Load Transfer

Timber Plys	Model No.	Maximum Safe Working Load [kN]		Maximum Characteristic Load [kN]	
		4 No. Screws	6 No. Screws	4 No. Screws	6 No. Screws
2 x 38mm	SDW22300-R50E	7.84	11.76	23.20	34.80
2 x 45mm	SDW22338-R50E	8.88	13.32	24.88	37.32
2 x 75mm	SDW22500-R50E	9.76	14.64	30.48	45.72
2 x 89mm	SDW22634-R50E	9.76	14.64	30.48	45.72
3 x 38mm	SDW22438-R50E	6.54	9.81	17.70	26.55
3 x 45mm	SDW22500-R50E	6.72	10.08	18.42	27.63
4 x 38mm	SDW22600-R50E	6.03	9.04	16.61	24.92
4 x 45mm	SDW22634-R50E	5.97	8.96	16.37	24.56

Solid Flange I-Joists

Simpson Strong-Drive SDW® & ESCR screws can be used for the fast and effective connection of 2 or 3 ply I-Joists (with a minimum flange height of 45mm).

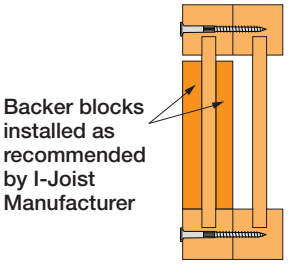
No. of Plies	Joist Width [mm]	Model No.	How to Install	Design Resistance per Screw [kN]	Safe Working Load per Screw [kN]
2	47	SDW22338-R50E	From 1 side	2.40	1.00
2	63	SDW22458-R50E	From 1 side	3.09	1.27
2	72	SDW22500-R50E	From 1 side	2.96	1.25
2	97	SDW22634-R50E	From 1 side	2.99	1.25
3	47	SDW22500-R50E	From 1 side	2.43	1.03
3	63	SDW22634-R50E	From 1 side	2.46	1.05
3	72	SDW22500-R50E	From both sides	2.29	0.97
3	72	ESCR8.0X200	From 1 side	1.77	0.73
3	97	ESCR8.0X280	From 1 side	2.06	0.87
3	97	SDW22634-R50E	From both sides	1.86	0.79



Installation:

- No pre-drilling required.
- For best installation use a low speed drill.
- Install the screw head flush to the surface of the member being connected.
- Do not over-drive the screws.
- Install backer blocks on to both sides of the load carrying member only, when using face fix hangers that require backer block (see diagram below right).

Backer block details for face fix hangers

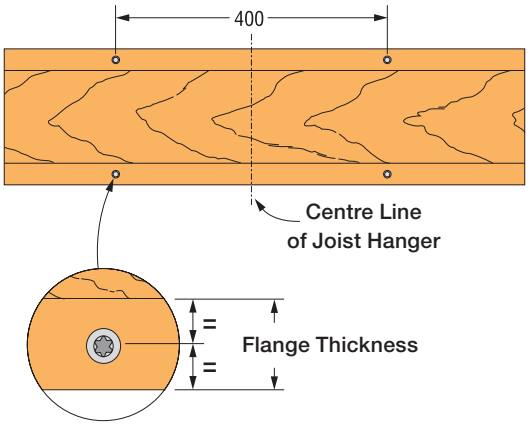


Note: For top flange hangers, including ITB enhanced, install backer blocks tight to the I-Joist top flange.

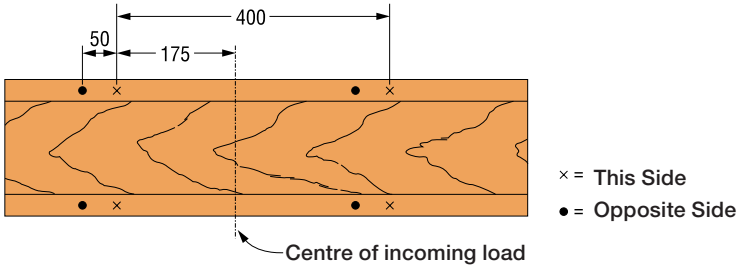
Design and Detailing:

- It is common practice to facilitate handling of the multi-ply I-Joists to also install screws uniformly distributed along the length of the joist at centres not exceeding 600mm and a minimum distance of 400mm from each end.
- Gap between joists not to exceed 3mm.
- Floor sheathing to be attached to the top of both floor joists by nailing, screwing or gluing.
- The floor designer to ensure each joist is designed for the appropriate loads considering the location of the applied loads.
- For 2 ply trimmers / headers with supported hangers at less than 600mm centres - refer to SST technical department.

Screw spacing and distances when fixed from one side



Screw spacing and distances when fixed from two sides

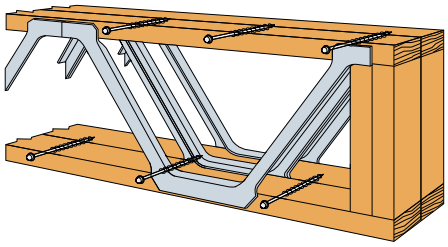


Metal Web Joists

Simpson Strong-Drive® SDW & ESCR Screws can be used for a fast and effective connection of the multi-ply open web floor joists manufactured from metal webs and timber chords.

Joist Plys	Model No.	How to Install	Safe Working Load Long Term Load [kN]	Characteristic Loads F_k [kN]
2 x 72mm	SDW22500-R50E	Fom 1 Side	1.59	3.76
2 x 97mm	SDW22634-R50E		1.66	3.93
2 x 122mm	SDW22634-R50E		1.07	2.53
2 x 147mm	ESCR8.0X200		1.74	4.13
3 x 72mm	ESCR8.0X200		0.97	2.29
3 x 97mm	ESCR8.0X280		0.81	1.83

1. Loads are based on TR26 timbers with a minimum pointside penetration of 50mm.
2. Loads are per shear plane assuming single shear, timber-to-timber connections.



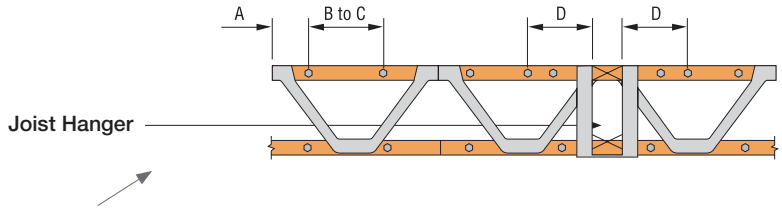
Load Transfer

Joist Plys	Model No.	Max Safe Working Loads [kN]				Maximum Design Load [kN]			
		2 No. Screws	4 No. Screws	6 No. Screws	8 No. Screws	2 No. Screws	4 No. Screws	6 No. Screws	8 No. Screws
2 x 72mm	SDW22500-R50E	3.18	6.36	9.54	12.72	7.52	15.04	22.56	30.08
2 x 97mm	SDW22634-R50E	3.32	6.64	9.96	13.28	7.86	15.72	23.58	31.44
2 x 122mm	SDW22634-R50E	2.14	4.28	6.42	8.56	5.06	10.12	15.18	20.24
2 x 147mm	ESCR8.0X200	3.48	6.96	10.44	13.92	8.26	16.52	24.78	33.04
3 x 72mm	ESCR8.0X200	1.94	3.88	5.82	7.76	4.58	9.16	13.74	18.32
3 x 97mm	ESCR8.0X280	1.62	3.24	4.86	6.48	3.66	7.32	10.98	14.64

1. Maximum loads are based on screw capacity only, designer of floor to check joist capacity and ply sizes required to support the applied loads.
2. The above are examples of multi-ply combinations; other combinations can be used provided the minimum of 50mm pointside penetration is achieved into the last ply.
3. Joist designer to check capability of joists to take applied load.

Installation:

- No pre-drilling required.
- For best installation use a low speed drill.
- Install the screw head flush to the surface of the member being connected.
- Do not over-drive the screws.
- Screws are recommended for use in dry environments. Care should be taken during construction to prevent prolonged exposure to water or wet weather.
- Screw to be installed centrally in the depth of the flange (+/- 2.5mm) typically at 400mm centres about the centre of the joist hanger - see opposite.

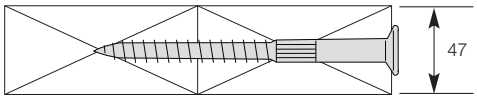


For A-D dimensions refer to the diagram above.

Screw Spacing Requirements [mm]		
A	Minimum End Distance	100
B	Minimum Spacing Along Chords	100
C	Maximum Spacing Along Chords	600
D	Maximum Distance Either Side of Concentrated Load	300

Typical Screw Minimum Spacing Examples:

Install screws central to the chord height.



Design and Detailing:

- Flanges to be a minimum of 47mm deep.
- Screws shall be installed within 300mm of either side of a concentrated load, to be considered effective in transferring loads.
- It is common practice to facilitate handling of the multi-ply joist, to also include screws uniformly distributed along the length of the joist at centres not exceeding 600mm.
- Gap between joists not to exceed 3mm.
- If screws are installed in the wrong face of the joist then install additional screws in the correct face with a maximum spacing of twice the required spacing but not exceeding 600mm centres. The additional screws shall be offset from the existing screws to prevent splitting.
- Floor sheathing to be attached to the top of both floor joists by nailing, screwing or gluing.
- Floor designer to ensure each joist is designed for the appropriate loads considering the location of the applied loads.
- Do not install screws through the metal web plates unless approved by the joist manufacturer; pre-drilling would be required.
- Individual screw locations may be adjusted up to 75mm to avoid conflicts with other hardware or timber defects.

SFLH/SFLHI

Safety Fast Lite Hanger

The SFLH/SFLHI is an innovative single piece hanger designed to support timber joists from masonry walls without the need for masonry above the course of blockwork supporting the hanger.

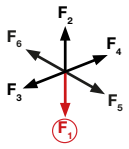
The SFLH/SFLHI has been designed to assist in meeting the air leakage requirements as part of the Code for Sustainable Homes. Since the joist is supported by a hanger and does not penetrate the inner leaf of blockwork, the potential for air leakage is reduced and avoids the time consuming and costly mortaring and sealing with mastic around built in joist ends.

This hanger allows construction work to continue safely just 3 days after the supporting blockwork has been laid - as opposed to 28 days in the case of traditional masonry hangers.

Material: Pre-galvanised mild steel.

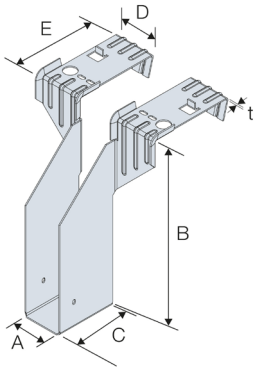
Performance Values

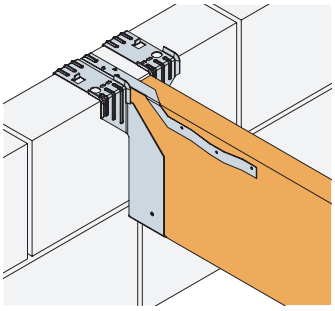
Model No.	Joist Fasteners		Safe Working Loads [kN]			Characteristic Capacity [kN]		
			$R_{1,SWL}$			$R_{1,k}$		
	Qty	Type	2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC	2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC
SFLH/SFLHI	2	N3.75x30	3.9	4.5	4.5	6.8	7.9	7.9



Features and Benefits

- Avoids joist penetrating block work, minimising air leakage.
- Achieves published performance values with no masonry above the supporting course of block work.
- Enables the construction of the floor deck prior to the next lift of masonry.
- Reduces health & safety risks associated with the use of traditional masonry hangers with no masonry courses above them.
- Eliminates the need for propping to support the floor joists.
- Web stiffeners are not required with joists to achieve published performance values.
- Use FMS strap range with every hanger spaced up to 600mm centres, to provide lateral restraint of the floor joist.





SFLH joist hanger used in conjunction with FMS strap. FMS to be ordered separately.

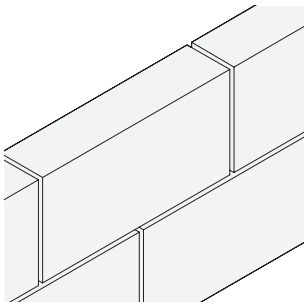
SFLH/SFLHI

Model No.	Dimensions [mm]						Joist Holes
	A	B	C	D	E	t	Ø4x6 Obround
SFLH100/38	38	100	75	50	103	1.5	2
SFLH125/38	38	125	75	50	103	1.5	2
SFLH150/38	38	140	75	50	103	1.5	2
SFLH175/38	38	165	75	50	103	1.5	2
SFLH200/38	38	190	75	50	103	1.5	2
SFLH225/38	38	215	75	50	103	1.5	2
SFLH250/38	38	240	75	50	103	1.5	2
SFLH300/38	38	290	75	50	103	1.5	2
SFLH100/44	44	100	75	50	103	1.5	2
SFLH125/44	44	125	75	50	103	1.5	2
SFLH150/44	44	140	75	50	103	1.5	2
SFLH175/44	44	165	75	50	103	1.5	2
SFLH200/44	44	190	75	50	103	1.5	2
SFLH225/44	44	215	75	50	103	1.5	2
SFLH250/44	44	240	75	50	103	1.5	2
SFLH300/44	44	290	75	50	103	1.5	2
SFLH100/47	47	100	75	50	103	1.5	2
SFLH125/47	47	125	75	50	103	1.5	2
SFLH150/47	47	140	75	50	103	1.5	2
SFLH175/47	47	165	75	50	103	1.5	2
SFLH200/47	47	190	75	50	103	1.5	2
SFLH225/47	47	215	75	50	103	1.5	2
SFLH250/47	47	240	75	50	103	1.5	2
SFLH300/47	47	290	75	50	103	1.5	2
SFLH100/50	50	100	75	50	103	1.5	2
SFLH125/50	50	125	75	50	103	1.5	2
SFLH150/50	50	140	75	50	103	1.5	2
SFLH175/50	50	165	75	50	103	1.5	2
SFLH200/50	50	190	75	50	103	1.5	2
SFLH225/50	50	215	75	50	103	1.5	2
SFLH250/50	50	240	75	50	103	1.5	2
SFLH300/50	50	290	75	50	103	1.5	2
SFLH100/63	63	100	75	50	103	1.5	2
SFLH125/63	63	125	75	50	103	1.5	2
SFLH150/63	63	140	75	50	103	1.5	2
SFLH175/63	63	165	75	50	103	1.5	2
SFLH200/63	63	190	75	50	103	1.5	2
SFLH225/63	63	215	75	50	103	1.5	2
SFLH250/63	63	240	75	50	103	1.5	2
SFLH300/63	63	290	75	50	103	1.5	2
SFLH100/75	75	100	75	50	103	1.5	2
SFLH125/75	75	125	75	50	103	1.5	2
SFLH150/75	75	140	75	50	103	1.5	2
SFLH175/75	75	165	75	50	103	1.5	2
SFLH200/75	75	190	75	50	103	1.5	2
SFLH225/75	75	215	75	50	103	1.5	2
SFLH250/75	75	240	75	50	103	1.5	2
SFLH300/75	75	290	75	50	103	1.5	2
SFLH100/91	91	100	75	50	103	1.5	2
SFLH125/91	91	125	75	50	103	1.5	2
SFLH150/91	91	140	75	50	103	1.5	2
SFLH175/91	91	165	75	50	103	1.5	2
SFLH200/91	91	190	75	50	103	1.5	2
SFLH225/91	91	215	75	50	103	1.5	2
SFLH250/91	91	240	75	50	103	1.5	2
SFLH300/91	91	290	75	50	103	1.5	2
SFLH100/96	96	100	75	50	103	1.5	2
SFLH125/96	96	125	75	50	103	1.5	2
SFLH150/96	96	140	75	50	103	1.5	2
SFLH175/96	96	165	75	50	103	1.5	2
SFLH200/96	96	190	75	50	103	1.5	2
SFLH225/96	96	215	75	50	103	1.5	2
SFLH250/96	96	240	75	50	103	1.5	2
SFLH300/96	96	290	75	50	103	1.5	2
SFLH100/100	100	100	75	50	103	1.5	2
SFLH125/100	100	125	75	50	103	1.5	2
SFLH150/100	100	140	75	50	103	1.5	2
SFLH175/100	100	165	75	50	103	1.5	2
SFLH200/100	100	190	75	50	103	1.5	2
SFLH225/100	100	215	75	50	103	1.5	2
SFLH250/100	100	240	75	50	103	1.5	2
SFLH300/100	100	290	75	50	103	1.5	2

Model No.	Dimensions [mm]						Joist Holes
	A	B	C	D	E	t	Ø4x6 Obround
SFLHI195/40	40	195	75	50	103	1.5	2
SFLHI200/40	40	200	75	50	103	1.5	2
SFLHI220/40	40	220	75	50	103	1.5	2
SFLHI225/40	40	225	75	50	103	1.5	2
SFLHI235/40	40	235	75	50	103	1.5	2
SFLHI240/40	40	240	75	50	103	1.5	2
SFLHI245/40	40	245	75	50	103	1.5	2
SFLHI300/40	40	300	75	50	103	1.5	2
SFLHI356/40	40	356	75	50	103	1.5	2
SFLHI360/40	40	360	75	50	103	1.5	2
SFLHI400/40	40	400	75	50	103	1.5	2
SFLHI195/47	47	195	75	50	103	1.5	2
SFLHI200/47	47	200	75	50	103	1.5	2
SFLHI220/47	47	220	75	50	103	1.5	2
SFLHI225/47	47	225	75	50	103	1.5	2
SFLHI235/47	47	235	75	50	103	1.5	2
SFLHI240/47	47	240	75	50	103	1.5	2
SFLHI245/47	47	245	75	50	103	1.5	2
SFLHI300/47	47	300	75	50	103	1.5	2
SFLHI350/47	47	350	75	50	103	1.5	2
SFLHI356/47	47	356	75	50	103	1.5	2
SFLHI360/47	47	360	75	50	103	1.5	2
SFLHI400/47	47	400	75	50	103	1.5	2
SFLHI195/50	50	195	75	50	103	1.5	2
SFLHI220/50	50	220	75	50	103	1.5	2
SFLHI235/50	50	235	75	50	103	1.5	2
SFLHI240/50	50	240	75	50	103	1.5	2
SFLHI245/50	50	245	75	50	103	1.5	2
SFLHI300/50	50	300	75	50	103	1.5	2
SFLHI200/56	56	200	75	50	103	1.5	2
SFLHI220/56	56	220	75	50	103	1.5	2
SFLHI240/56	56	240	75	50	103	1.5	2
SFLHI300/56	56	300	75	50	103	1.5	2
SFLHI360/56	56	360	75	50	103	1.5	2
SFLHI400/56	56	400	75	50	103	1.5	2
SFLHI200/63	63	200	75	50	103	1.5	2
SFLHI220/63	63	220	75	50	103	1.5	2
SFLHI240/63	63	240	75	50	103	1.5	2
SFLHI300/63	63	300	75	50	103	1.5	2
SFLHI350/63	63	350	75	50	103	1.5	2
SFLHI360/63	63	360	75	50	103	1.5	2
SFLHI400/63	63	400	75	50	103	1.5	2
SFLHI220/66	66	220	75	50	103	1.5	2
SFLHI235/66	66	235	75	50	103	1.5	2
SFLHI245/66	66	245	75	50	103	1.5	2
SFLHI300/66	66	300	75	50	103	1.5	2
SFLHI200/72	72	200	75	50	103	1.5	2
SFLHI220/72	72	220	75	50	103	1.5	2
SFLHI240/72	72	240	75	50	103	1.5	2
SFLHI300/72	72	300	75	50	103	1.5	2
SFLHI360/72	72	360	75	50	103	1.5	2
SFLHI400/72	72	400	75	50	103	1.5	2
SFLHI195/75	75	195	75	50	103	1.5	2
SFLHI200/75	75	200	75	50	103	1.5	2
SFLHI220/75	75	220	75	50	103	1.5	2
SFLHI225/75	75	225	75	50	103	1.5	2
SFLHI235/75	75	235	75	50	103	1.5	2
SFLHI245/75	75	245	75	50	103	1.5	2
SFLHI253/75	75	253	75	50	103	1.5	2
SFLHI300/75	75	300	75	50	103	1.5	2
SFLHI304/75	75	304	75	50	103	1.5	2
SFLHI350/75	75	350	75	50	103	1.5	2
SFLHI356/75	75	356	75	50	103	1.5	2
SFLHI373/75	75	373	75	50	103	1.5	2
SFLHI400/75	75	400	75	50	103	1.5	2
SFLHI195/78	78	195	75	50	103	1.5	2
SFLHI200/78	78	200	75	50	103	1.5	2
SFLHI220/78	78	220	75	50	103	1.5	2
SFLHI225/78	78	225	75	50	103	1.5	2
SFLHI235/78	78	235	75	50	103	1.5	2
SFLHI240/78	78	240	75	50	103	1.5	2
SFLHI245/78	78	245	75	50	103	1.5	2

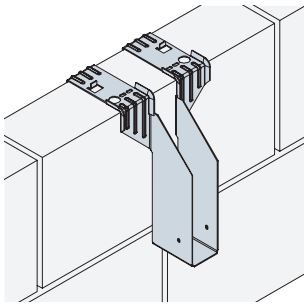
Model No.	Dimensions [mm]						Joist Holes
	A	B	C	D	E	t	Ø4x6 Obround
SFLHI300/78	78	300	75	50	103	1.5	2
SFLHI356/78	78	356	75	50	103	1.5	2
SFLHI360/78	78	360	75	50	103	1.5	2
SFLHI400/78	78	400	75	50	103	1.5	2
SFLHI195/91	91	195	75	50	103	1.5	2
SFLHI200/91	91	200	75	50	103	1.5	2
SFLHI220/91	91	220	75	50	103	1.5	2
SFLHI225/91	91	225	75	50	103	1.5	2
SFLHI235/91	91	235	75	50	103	1.5	2
SFLHI240/91	91	240	75	50	103	1.5	2
SFLHI245/91	91	245	75	50	103	1.5	2
SFLHI300/91	91	300	75	50	103	1.5	2
SFLHI350/91	91	350	75	50	103	1.5	2
SFLHI356/91	91	356	75	50	103	1.5	2
SFLHI360/91	91	360	75	50	103	1.5	2
SFLHI400/91	91	400	75	50	103	1.5	2
SFLHI195/96	96	195	75	50	103	1.5	2
SFLHI220/96	96	220	75	50	103	1.5	2
SFLHI235/96	96	235	75	50	103	1.5	2
SFLHI240/96	96	240	75	50	103	1.5	2
SFLHI245/96	96	245	75	50	103	1.5	2
SFLHI300/96	96	300	75	50	103	1.5	2
SFLHI195/99	99	195	75	50	103	1.5	2
SFLHI200/99	99	200	75	50	103	1.5	2
SFLHI220/99	99	220	75	50	103	1.5	2
SFLHI225/99	99	225	75	50	103	1.5	2
SFLHI235/99	99	235	75	50	103	1.5	2
SFLHI240/99	99	240	75	50	103	1.5	2
SFLHI245/99	99	245	75	50	103	1.5	2
SFLHI253/99	99	253	75	50	103	1.5	2
SFLHI300/99	99	300	75	50	103	1.5	2
SFLHI304/99	99	304	75	50	103	1.5	2
SFLHI350/99	99	350	75	50	103	1.5	2
SFLHI356/99	99	356	75	50	103	1.5	2
SFLHI360/99	99	360	75	50	103	1.5	2
SFLHI373/99	99	373	75	50	103	1.5	2
SFLHI400/99	99	400	75	50	103	1.5	2

SFLH/SFLHI

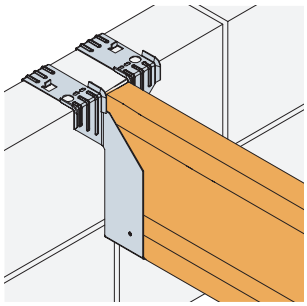


Step 1: Build masonry to the required level, ensuring any coursing bricks or blocks are at least one course below the supporting block.

Leave the masonry to cure for at least three days.

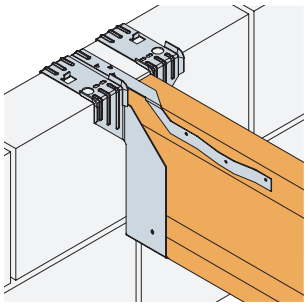


Step 2: Place the Safety Fast Lite Masonry Hanger for I-joists (SFLHI) over the inner leaf of the block work, ensuring the top flanges are fully bearing onto the top of the supporting block work and are also tight against the front face of the block work.



Step 3: Install the floor joist into the SFLHI. The end of the joist should be tight against the back of the hanger. Maximum gap allowed: 6mm.

Install the specified joist nails (see table on page 45).



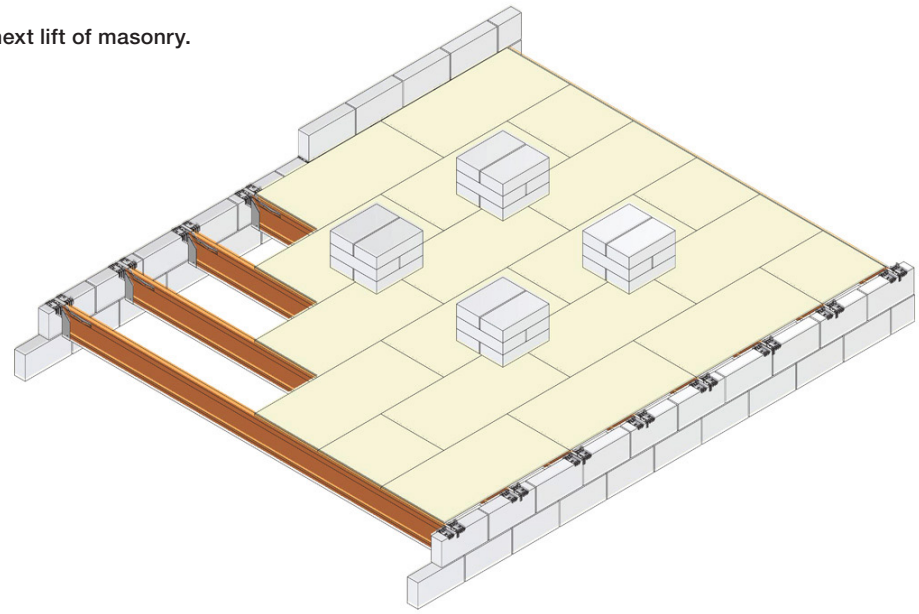
Step 4: Install the appropriate restraint strap (see installation notes on pages 158), ensuring the strap is tight against the back face of the block work hanger return and the side of the floor joist. Fix with 3 x 3.75x30mm Square Twist Nails.

Working on the floor prior to the next lift of masonry.

1. The floor decking may be stored on the joists provided the load is uniformly distributed among several joists and does not exceed the hanger or joist capacities. Refer to joist manufacturer or supplier for joist capacity and maximum construction loads.

2. The floor decking must be securely attached to each joist before additional loads can be placed on the system.

3. Pallets of blocks or other construction material should be placed onto the scaffolding and not directly onto the floor. The materials can then be evenly distributed around the floor manually, ensuring the hanger or joist capacities are not exceeded.



For example, total number of blocks per pair of joists (4 hangers) @ 600 c/c:

- 2.8N/mm2 AAC = 24
- 3.5N/mm2 AAC = 20
- 7.0N/mm2 DAC = 16

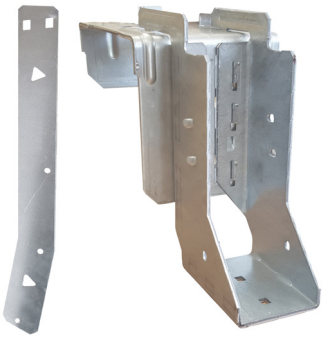
Note: I-Joist shown above for illustration purposes, SFLH is compatible with solid sawn joists.

SFH/SFHI - SFWH /SFWHI

Safety Fast Masonry Restraint Hangers

The Safety Fast Hangers are designed to support timber joists, beams and trussed rafters from masonry walls without the need for masonry above the top flange.

- Requires no masonry above the top flange to achieve the published performance values.
- Improved vertical and lateral load distribution.
- Mini Strap simply hooks onto the hanger.
- Enables the construction of the floor deck prior to the next lift of masonry.
- Reduces Health & Safety risks associated with the use of the traditional masonry hangers with no masonry above.
- Eliminates the need for propping of floor joists.
- Mini Strap provides lateral restraint in accordance with NHBC guidelines.
- Allows for retrofit of lateral restraint straps.



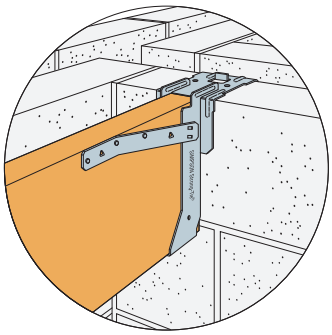
Material: SFH/SFHI: Pre-galvanised mild steel.
SFWH/SFWHI: Hot-dip galvanised mild steel.
Mini Strap: Pre-galvanised mild steel.

STN RECOMMENDED FIXINGS

CE

Installation:

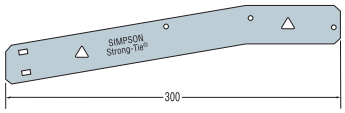
- Build masonry to required level, ensuring any coursing bricks or blocks are at least one course below the supporting block, and leave to cure.
- Place the Safety Fast Restraint Hanger over the inner leaf of block work, ensuring the bearing plate is fully located onto the top of the masonry, sitting tight against the front face and top of the block work.
- Sit the floor joist into the masonry hanger and ensure all joists are correctly installed. The joist should be tight into the back of the hanger. The maximum gap between the back of the hanger and the end of the joist is 6mm; Use specified nails.
- Clip the Safety Fast Mini Strap onto the restraining hooks on either side of the hanger and nail to the side face of the joist with 3.75 x 30mm square twist nails. INSTALL ONLY ONE STRAP PER HANGER.



Typical SFH Installation

General Installation Notes

- The floor decking may be stored on the joists provided the load is uniformly distributed between the several joists and does not exceed the hanger or joist capacities. Refer to joist manufacturer or supplier for joist capacity and maximum construction loads.
- The floor decking must be securely attached to each joist before additional loads can be placed on the system.
- Floor decking and block work is to be cut where necessary to fit around the upstand stiffeners.
- Pallets of blocks or other construction materials should be placed onto the scaffolding and NOT directly onto the floor. The materials can then be evenly distributed around the floor manually, ensuring hanger or joist capacities are not exceeded.



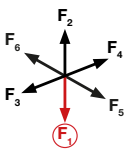
Mini Strap (Included with Safety Fast hanger)

Performance Values

Model No.	A	Joist Fasteners		Mini Strap Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]	
						$R_{1,SWL}$			$R_{1,k}$	
		Qty	Type	Qty	Type	2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC
SFH/SFHI	< 61	2	N3.75x30	3	N3.75 x 30	5.3	6.7	6.7	13.3	13.3
	> 66	2	N3.75x30	3	N3.75 x 30	10.0	12.5	12.5	24.9	24.9

Performance Values

Model No.	A	Joist Fasteners		Mini Strap Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]	
						$R_{1,SWL}$			$R_{1,k}$	
		Qty	Type	Qty	Type	2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC
SFWH/SFWHI	< 61	2	N3.75x30	3	N3.75 x 30	7.4	9.3	9.3	18.6	18.6
	> 66	2	N3.75x30	3	N3.75 x 30	11.6	14.5	14.5	28.9	28.9

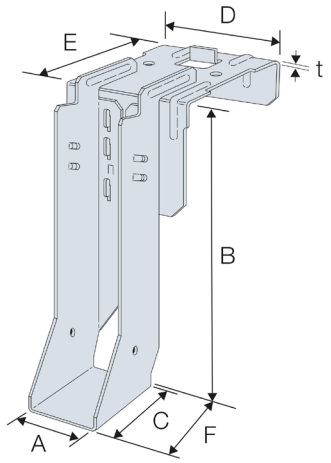


SFH/SFHI

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Mini Strap Ø4.1
SFH100/38/100	38	100	64	100	103	75	2.5	2	3
SFH125/38/100	38	125	64	100	103	75	2.5	2	3
SFH150/38/100	38	140	64	100	103	75	2.5	2	3
SFH175/38/100	38	165	64	100	103	75	2.5	2	3
SFH200/38/100	38	190	64	100	103	75	2.5	2	3
SFH225/38/100	38	215	64	100	103	75	2.5	2	3
SFH250/38/100	38	240	64	100	103	75	2.5	2	3
SFH300/38/100	38	290	64	100	103	75	2.5	2	3
SFH100/44/100	44	100	64	100	103	75	2.5	2	3
SFH125/44/100	44	125	64	100	103	75	2.5	2	3
SFH150/44/100	44	140	64	100	103	75	2.5	2	3
SFH175/44/100	44	165	64	100	103	75	2.5	2	3
SFH200/44/100	44	190	64	100	103	75	2.5	2	3
SFH225/44/100	44	215	64	100	103	75	2.5	2	3
SFH250/44/100	44	240	64	100	103	75	2.5	2	3
SFH300/44/100	44	290	64	100	103	75	2.5	2	3
SFH100/47/100	47	100	64	100	103	75	2.5	2	3
SFH125/47/100	47	125	64	100	103	75	2.5	2	3
SFH150/47/100	47	140	64	100	103	75	2.5	2	3
SFH175/47/100	47	165	64	100	103	75	2.5	2	3
SFH200/47/100	47	190	64	100	103	75	2.5	2	3
SFH225/47/100	47	215	64	100	103	75	2.5	2	3
SFH250/47/100	47	240	64	100	103	75	2.5	2	3
SFH300/47/100	47	290	64	100	103	75	2.5	2	3
SFH100/50/100	50	100	64	100	103	75	2.5	2	3
SFH125/50/100	50	125	64	100	103	75	2.5	2	3
SFH150/50/100	50	140	64	100	103	75	2.5	2	3
SFH175/50/100	50	165	64	100	103	75	2.5	2	3
SFH200/50/100	50	190	64	100	103	75	2.5	2	3
SFH225/50/100	50	215	64	100	103	75	2.5	2	3
SFH250/50/100	50	240	64	100	103	75	2.5	2	3
SFH300/50/100	50	290	64	100	103	75	2.5	2	3
SFH100/63/100	63	100	64	100	103	75	2.5	2	3
SFH125/63/100	63	125	64	100	103	75	2.5	2	3
SFH150/63/100	63	140	64	100	103	75	2.5	2	3
SFH175/63/100	63	165	64	100	103	75	2.5	2	3
SFH200/63/100	63	190	64	100	103	75	2.5	2	3
SFH225/63/100	63	215	64	100	103	75	2.5	2	3
SFH250/63/100	63	240	64	100	103	75	2.5	2	3
SFH300/63/100	63	290	64	100	103	75	2.5	2	3
SFH100/75/100	75	100	64	200	103	75	2.5	2	3
SFH125/75/100	75	125	64	200	103	75	2.5	2	3
SFH150/75/100	75	140	64	200	103	75	2.5	2	3
SFH175/75/100	75	165	64	200	103	75	2.5	2	3
SFH200/75/100	75	190	64	200	103	75	2.5	2	3
SFH225/75/100	75	215	64	200	103	75	2.5	2	3
SFH250/75/100	75	240	64	200	103	75	2.5	2	3
SFH300/75/100	75	290	64	200	103	75	2.5	2	3
SFH100/91/100	91	100	64	200	103	75	2.5	2	3
SFH125/91/100	91	125	64	200	103	75	2.5	2	3
SFH150/91/100	91	140	64	200	103	75	2.5	2	3
SFH175/91/100	91	165	64	200	103	75	2.5	2	3
SFH200/91/100	91	190	64	200	103	75	2.5	2	3
SFH225/91/100	91	215	64	200	103	75	2.5	2	3
SFH250/91/100	91	240	64	200	103	75	2.5	2	3
SFH300/91/100	91	290	64	200	103	75	2.5	2	3
SFH100/96/100	96	100	64	200	103	75	2.5	2	3
SFH125/96/100	96	125	64	200	103	75	2.5	2	3
SFH150/96/100	96	140	64	200	103	75	2.5	2	3
SFH175/96/100	96	165	64	200	103	75	2.5	2	3
SFH200/96/100	96	190	64	200	103	75	2.5	2	3
SFH225/96/100	96	215	64	200	103	75	2.5	2	3
SFH250/96/100	96	240	64	200	103	75	2.5	2	3
SFH300/96/100	96	290	64	200	103	75	2.5	2	3
SFH100/100/100	100	100	64	200	103	75	2.5	2	3
SFH125/100/100	100	125	64	200	103	75	2.5	2	3
SFH150/100/100	100	140	64	200	103	75	2.5	2	3
SFH175/100/100	100	165	64	200	103	75	2.5	2	3
SFH200/100/100	100	190	64	200	103	75	2.5	2	3
SFH225/100/100	100	215	64	200	103	75	2.5	2	3
SFH250/100/100	100	240	64	200	103	75	2.5	2	3
SFH300/100/100	100	290	64	200	103	75	2.5	2	3

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Mini Strap Ø4.1
SFHI195/40/100	40	195	64	100	103	75	2.5	2	3
SFHI200/40/100	40	200	64	100	103	75	2.5	2	3
SFHI220/40/100	40	220	64	100	103	75	2.5	2	3
SFHI225/40/100	40	225	64	100	103	75	2.5	2	3
SFHI235/40/100	40	235	64	100	103	75	2.5	2	3
SFHI240/40/100	40	240	64	100	103	75	2.5	2	3
SFHI245/40/100	40	245	64	100	103	75	2.5	2	3
SFHI300/40/100	40	300	64	100	103	75	2.5	2	3
SFHI356/40/100	40	356	64	100	103	75	2.5	2	3
SFHI360/40/100	40	360	64	100	103	75	2.5	2	3
SFHI400/40/100	40	400	64	100	103	75	2.5	2	3
SFHI195/47/100	47	195	64	100	103	75	2.5	2	3
SFHI200/47/100	47	200	64	100	103	75	2.5	2	3
SFHI220/47/100	47	220	64	100	103	75	2.5	2	3
SFHI225/47/100	47	225	64	100	103	75	2.5	2	3
SFHI235/47/100	47	235	64	100	103	75	2.5	2	3
SFHI240/47/100	47	240	64	100	103	75	2.5	2	3
SFHI245/47/100	47	245	64	100	103	75	2.5	2	3
SFHI300/47/100	47	300	64	100	103	75	2.5	2	3
SFHI350/47/100	47	350	64	100	103	75	2.5	2	3
SFHI356/47/100	47	356	64	100	103	75	2.5	2	3
SFHI360/47/100	47	360	64	100	103	75	2.5	2	3
SFHI400/47/100	47	400	64	100	103	75	2.5	2	3
SFHI195/50/100	50	195	64	100	103	75	2.5	2	3
SFHI220/50/100	50	220	64	100	103	75	2.5	2	3
SFHI235/50/100	50	235	64	100	103	75	2.5	2	3
SFHI240/50/100	50	240	64	100	103	75	2.5	2	3
SFHI245/50/100	50	245	64	100	103	75	2.5	2	3
SFHI300/50/100	50	300	64	100	103	75	2.5	2	3
SFHI200/56/100	56	200	64	100	103	75	2.5	2	3
SFHI220/56/100	56	220	64	100	103	75	2.5	2	3
SFHI240/56/100	56	240	64	100	103	75	2.5	2	3
SFHI300/56/100	56	300	64	100	103	75	2.5	2	3
SFHI360/56/100	56	360	64	100	103	75	2.5	2	3
SFHI400/56/100	56	400	64	100	103	75	2.5	2	3
SFHI200/63/100	63	200	64	100	103	75	2.5	2	3
SFHI220/63/100	63	220	64	100	103	75	2.5	2	3
SFHI240/63/100	63	240	64	100	103	75	2.5	2	3
SFHI300/63/100	63	300	64	100	103	75	2.5	2	3
SFHI350/63/100	63	350	64	100	103	75	2.5	2	3
SFHI360/63/100	63	360	64	100	103	75	2.5	2	3
SFHI400/63/100	63	400	64	100	103	75	2.5	2	3
SFHI220/66/100	66	220	64	200	103	75	2.5	2	3
SFHI235/66/100	66	235	64	200	103	75	2.5	2	3
SFHI245/66/100	66	245	64	200	103	75	2.5	2	3
SFHI300/66/100	66	300	64	200	103	75	2.5	2	3
SFHI200/72/100	72	200	64	200	103	75	2.5	2	3
SFHI220/72/100	72	220	64	200	103	75	2.5	2	3
SFHI240/72/100	72	240	64	200	103	75	2.5	2	3
SFHI300/72/100	72	300	64	200	103	75	2.5	2	3
SFHI360/72/100	72	360	64	200	103	75	2.5	2	3
SFHI400/72/100	72	400	64	200	103	75	2.5	2	3
SFHI195/75/100	75	195	64	200	103	75	2.5	2	3
SFHI200/75/100	75	200	64	200	103	75	2.5	2	3
SFHI220/75/100	75	220	64	200	103	75	2.5	2	3
SFHI225/75/100	75	225	64	200	103	75	2.5	2	3
SFHI235/75/100	75	235	64	200	103	75	2.5	2	3
SFHI245/75/100	75	245	64	200	103	75	2.5	2	3
SFHI253/75/100	75	253	64	200	103	75	2.5	2	3
SFHI300/75/100	75	300	64	200	103	75	2.5	2	3
SFHI304/75/100	75	304	64	200	103	75	2.5	2	3
SFHI350/75/100	75	350	64	200	103	75	2.5	2	3
SFHI356/75/100	75	356	64	200	103	75	2.5	2	3
SFHI373/75/100	75	373	64	200	103	75	2.5	2	3
SFHI400/75/100	75	400	64	200	103	75	2.5	2	3
SFHI417/75/100	75	417	64	200	103	75	2.5	2	3
SFHI421/75/100	75	421	64	200	103	75	2.5	2	3
SFHI424/75/100	75	424	64	200	103	75	2.5	2	3
SFHI195/78/100	78	195	64	200	103	75	2.5	2	3
SFHI200/78/100	78	200	64	200	103	75	2.5	2	3
SFHI220/78/100	78	220	64	200	103	75	2.5	2	3
SFHI225/78/100	78	225	64	200	103	75	2.5	2	3

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Mini Strap Ø4.1
SFHI235/78/100	78	235	64	200	103	75	2.5	2	3
SFHI240/78/100	78	240	64	200	103	75	2.5	2	3
SFHI245/78/100	78	245	64	200	103	75	2.5	2	3
SFHI300/78/100	78	300	64	200	103	75	2.5	2	3
SFHI356/78/100	78	356	64	200	103	75	2.5	2	3
SFHI360/78/100	78	360	64	200	103	75	2.5	2	3
SFHI400/78/100	78	400	64	200	103	75	2.5	2	3
SFHI195/91/100	91	195	64	200	103	75	2.5	2	3
SFHI200/91/100	91	200	64	200	103	75	2.5	2	3
SFHI220/91/100	91	220	64	200	103	75	2.5	2	3
SFHI225/91/100	91	225	64	200	103	75	2.5	2	3
SFHI235/91/100	91	235	64	200	103	75	2.5	2	3
SFHI240/91/100	91	240	64	200	103	75	2.5	2	3
SFHI245/91/100	91	245	64	200	103	75	2.5	2	3
SFHI300/91/100	91	300	64	200	103	75	2.5	2	3
SFHI350/91/100	91	350	64	200	103	75	2.5	2	3
SFHI356/91/100	91	356	64	200	103	75	2.5	2	3
SFHI360/91/100	91	360	64	200	103	75	2.5	2	3
SFHI400/91/100	91	400	64	200	103	75	2.5	2	3
SFHI406/91/100	91	406	64	200	103	75	2.5	2	3
SFHI450/91/100	91	450	64	200	103	75	2.5	2	3
SFHI457/91/100	91	457	64	200	103	75	2.5	2	3
SFHI195/96/100	96	195	64	200	103	75	2.5	2	3
SFHI220/96/100	96	220	64	200	103	75	2.5	2	3
SFHI235/96/100	96	235	64	200	103	75	2.5	2	3
SFHI240/96/100	96	240	64	200	103	75	2.5	2	3
SFHI245/96/100	96	245	64	200	103	75	2.5	2	3
SFHI300/96/100	96	300	64	200	103	75	2.5	2	3
SFHI195/99/100	99	195	64	200	103	75	2.5	2	3
SFHI200/99/100	99	200	64	200	103	75	2.5	2	3
SFHI220/99/100	99	220	64	200	103	75	2.5	2	3
SFHI225/99/100	99	225	64	200	103	75	2.5	2	3
SFHI235/99/100	99	235	64	200	103	75	2.5	2	3
SFHI240/99/100	99	240	64	200	103	75	2.5	2	3
SFHI245/99/100	99	245	64	200	103	75	2.5	2	3
SFHI253/99/100	99	253	64	200	103	75	2.5	2	3
SFHI300/99/100	99	300	64	200	103	75	2.5	2	3
SFHI304/99/100	99	304	64	200	103	75	2.5	2	3
SFHI350/99/100	99	350	64	200	103	75	2.5	2	3
SFHI356/99/100	99	356	64	200	103	75	2.5	2	3
SFHI360/99/100	99	360	64	200	103	75	2.5	2	3
SFHI373/99/100	99	373	64	200	103	75	2.5	2	3
SFHI400/99/100	99	400	64	200	103	75	2.5	2	3
SFHI417/99/100	99	417	64	200	103	75	2.5	2	3
SFHI421/99/100	99	421	64	200	103	75	2.5	2	3
SFHI424/99/100	99	424	64	200	103	75	2.5	2	3
SFHI450/99/100	99	450	64	200	103	75	2.5	2	3

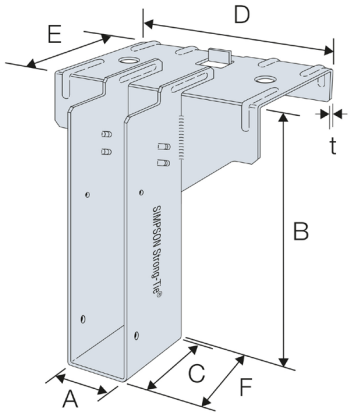


SFH/SFHI

SFWH/SFWHI

Model No.	Dimensions [mm]							Joist Holes		
	A	B	C	D	E	F	t	Ø4x6 Obround	Ø4.1	Mini Strap Ø4.1
SFWH225/38/100	38	215	64	200	103	75	2.5	2	2	3
SFWH225/44/100	44	215	64	200	103	75	2.5	2	2	3
SFWH250/44/100	44	240	64	200	103	75	2.5	2	2	3
SFWH100/47/100	47	100	64	200	103	75	2.5	2	2	3
SFWH125/47/100	47	125	64	200	103	75	2.5	2	2	3
SFWH150/47/100	47	140	64	200	103	75	2.5	2	2	3
SFWH175/47/100	47	165	64	200	103	75	2.5	2	2	3
SFWH200/47/100	47	190	64	200	103	75	2.5	2	2	3
SFWH225/47/100	47	215	64	200	103	75	2.5	2	2	3
SFWH250/47/100	47	240	64	200	103	75	2.5	2	2	3
SFWH300/47/100	47	290	64	200	103	75	2.5	2	2	3
SFWH100/50/100	50	100	64	200	103	75	2.5	2	2	3
SFWH125/50/100	50	125	64	200	103	75	2.5	2	2	3
SFWH150/50/100	50	140	64	200	103	75	2.5	2	2	3
SFWH175/50/100	50	165	64	200	103	75	2.5	2	2	3
SFWH200/50/100	50	190	64	200	103	75	2.5	2	2	3
SFWH225/50/100	50	215	64	200	103	75	2.5	2	2	3
SFWH250/50/100	50	240	64	200	103	75	2.5	2	2	3
SFWH300/50/100	50	290	64	200	103	75	2.5	2	2	3
SFWH100/75/100	75	100	64	200	103	75	2.5	2	2	3
SFWH125/75/100	75	125	64	200	103	75	2.5	2	2	3
SFWH150/75/100	75	140	64	200	103	75	2.5	2	2	3
SFWH175/75/100	75	165	64	200	103	75	2.5	2	2	3
SFWH200/75/100	75	190	64	200	103	75	2.5	2	2	3
SFWH225/75/100	75	215	64	200	103	75	2.5	2	2	3
SFWH250/75/100	75	240	64	200	103	75	2.5	2	2	3
SFWH300/75/100	75	290	64	200	103	75	2.5	2	2	3
SFWH100/91/100	91	100	64	200	103	75	2.5	2	2	3
SFWH125/91/100	91	125	64	200	103	75	2.5	2	2	3
SFWH150/91/100	91	140	64	200	103	75	2.5	2	2	3
SFWH175/91/100	91	165	64	200	103	75	2.5	2	2	3
SFWH200/91/100	91	190	64	200	103	75	2.5	2	2	3
SFWH225/91/100	91	215	64	200	103	75	2.5	2	2	3
SFWH250/91/100	91	240	64	200	103	75	2.5	2	2	3
SFWH300/91/100	91	290	64	200	103	75	2.5	2	2	3
SFWH100/100/100	100	100	64	200	103	75	2.5	2	2	3
SFWH125/100/100	100	125	64	200	103	75	2.5	2	2	3
SFWH150/100/100	100	140	64	200	103	75	2.5	2	2	3
SFWH175/100/100	100	165	64	200	103	75	2.5	2	2	3
SFWH200/100/100	100	190	64	200	103	75	2.5	2	2	3
SFWH225/100/100	100	215	64	200	103	75	2.5	2	2	3
SFWH250/100/100	100	240	64	200	103	75	2.5	2	2	3
SFWH300/100/100	100	290	64	200	103	75	2.5	2	2	3
SFWH100/116/100	116	100	64	200	103	75	2.5	2	2	3
SFWH125/116/100	116	125	64	200	103	75	2.5	2	2	3
SFWH150/116/100	116	140	64	200	103	75	2.5	2	2	3
SFWH175/125/100	125	165	64	275	103	75	2.5	2	2	3
SFWH200/125/100	125	190	64	275	103	75	2.5	2	2	3
SFWH225/125/100	125	215	64	275	103	75	2.5	2	2	3
SFWH250/125/100	125	240	64	275	103	75	2.5	2	2	3
SFWH300/125/100	125	290	64	275	103	75	2.5	2	2	3
SFWH100/135/100	135	100	64	275	103	75	2.5	2	2	3
SFWH125/135/100	135	125	64	275	103	75	2.5	2	2	3
SFWH150/135/100	135	140	64	275	103	75	2.5	2	2	3
SFWH175/135/100	135	165	64	275	103	75	2.5	2	2	3
SFWH200/135/100	135	190	64	275	103	75	2.5	2	2	3
SFWH225/135/100	135	215	64	275	103	75	2.5	2	2	3
SFWH250/135/100	135	240	64	275	103	75	2.5	2	2	3
SFWH300/135/100	135	290	64	275	103	75	2.5	2	2	3

Model No.	Dimensions [mm]							Joist Holes		
	A	B	C	D	E	F	t	Ø4x6 Obround	Ø4.1	Mini Strap Ø4.1
SFWH100/150/100	150	100	64	275	103	75	2.5	2	2	3
SFWH125/150/100	150	125	64	275	103	75	2.5	2	2	3
SFWH150/150/100	150	140	64	275	103	75	2.5	2	2	3
SFWH175/150/100	150	165	64	275	103	75	2.5	2	2	3
SFWH200/150/100	150	190	64	275	103	75	2.5	2	2	3
SFWH225/150/100	150	215	64	275	103	75	2.5	2	2	3
SFWH250/150/100	150	240	64	275	103	75	2.5	2	2	3
SFWH300/150/100	150	290	64	275	103	75	2.5	2	2	3
SFWH100/180/100	180	100	64	275	103	75	2.5	2	2	3
SFWH100/200/100	200	100	64	275	103	75	2.5	2	2	3
SFWH125/200/100	200	125	64	275	103	75	2.5	2	2	3
SFWH150/200/100	200	140	64	275	103	75	2.5	2	2	3
SFWH175/200/100	200	165	64	275	103	75	2.5	2	2	3
SFWH200/200/100	200	190	64	275	103	75	2.5	2	2	3
SFWH225/200/100	200	215	64	275	103	75	2.5	2	2	3
SFWH250/200/100	200	240	64	275	103	75	2.5	2	2	3
SFWH300/200/100	200	290	64	275	103	75	2.5	2	2	3
SFWH100/180/100	180	100	64	275	103	75	2.5	2	2	3
SFWH100/200/100	200	100	64	275	103	75	2.5	2	2	3
SFWH125/200/100	200	125	64	275	103	75	2.5	2	2	3
SFWH150/200/100	200	140	64	275	103	75	2.5	2	2	3
SFWH175/200/100	200	165	64	275	103	75	2.5	2	2	3
SFWH200/200/100	200	190	64	275	103	75	2.5	2	2	3
SFWH225/200/100	200	215	64	275	103	75	2.5	2	2	3
SFWH250/200/100	200	240	64	275	103	75	2.5	2	2	3
SFWH300/200/100	200	290	64	275	103	75	2.5	2	2	3



SFWH/SFWHI

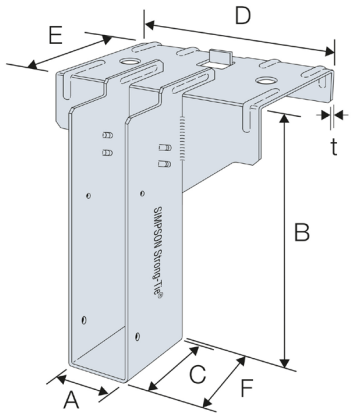
SFWH/SFWHI

Model No.	Dimensions [mm]							Joist Holes		
	A	B	C	D	E	F	t	Ø4x6 Obround	Ø4.1	Mini Strap Ø4.1
SFWHI195/40/100	40	195	64	200	103	75	2.5	2	2	3
SFWHI200/40/100	40	200	64	200	103	75	2.5	2	2	3
SFWHI220/40/100	40	220	64	200	103	75	2.5	2	2	3
SFWHI225/40/100	40	225	64	200	103	75	2.5	2	2	3
SFWHI235/40/100	40	235	64	200	103	75	2.5	2	2	3
SFWHI240/40/100	40	240	64	200	103	75	2.5	2	2	3
SFWHI245/40/100	40	245	64	200	103	75	2.5	2	2	3
SFWHI300/40/100	40	300	64	200	103	75	2.5	2	2	3
SFWHI356/40/100	40	356	64	200	103	75	2.5	2	2	3
SFWHI360/40/100	40	360	64	200	103	75	2.5	2	2	3
SFWHI400/40/100	40	400	64	200	103	75	2.5	2	2	3
SFWHI195/47/100	47	195	64	200	103	75	2.5	2	2	3
SFWHI200/47/100	47	200	64	200	103	75	2.5	2	2	3
SFWHI220/47/100	47	220	64	200	103	75	2.5	2	2	3
SFWHI225/47/100	47	225	64	200	103	75	2.5	2	2	3
SFWHI235/47/100	47	235	64	200	103	75	2.5	2	2	3
SFWHI240/47/100	47	240	64	200	103	75	2.5	2	2	3
SFWHI245/47/100	47	245	64	200	103	75	2.5	2	2	3
SFWHI300/47/100	47	300	64	200	103	75	2.5	2	2	3
SFWHI350/47/100	47	350	64	200	103	75	2.5	2	2	3
SFWHI356/47/100	47	356	64	200	103	75	2.5	2	2	3
SFWHI360/47/100	47	360	64	200	103	75	2.5	2	2	3
SFWHI400/47/100	47	400	64	200	103	75	2.5	2	2	3
SFWHI195/50/100	50	195	64	200	103	75	2.5	2	2	3
SFWHI220/50/100	50	220	64	200	103	75	2.5	2	2	3
SFWHI235/50/100	50	235	64	200	103	75	2.5	2	2	3
SFWHI240/50/100	50	240	64	200	103	75	2.5	2	2	3
SFWHI245/50/100	50	245	64	200	103	75	2.5	2	2	3
SFWHI300/50/100	50	300	64	200	103	75	2.5	2	2	3
SFWHI200/56/100	56	200	64	200	103	75	2.5	2	2	3
SFWHI220/56/100	56	220	64	200	103	75	2.5	2	2	3
SFWHI240/56/100	56	240	64	200	103	75	2.5	2	2	3
SFWHI300/56/100	56	300	64	200	103	75	2.5	2	2	3
SFWHI360/56/100	56	360	64	200	103	75	2.5	2	2	3
SFWHI400/56/100	56	400	64	200	103	75	2.5	2	2	3
SFWHI350/63/100	63	350	64	200	103	75	2.5	2	2	3
SFWHI200/63/100	63	200	64	200	103	75	2.5	2	2	3
SFWHI220/63/100	63	220	64	200	103	75	2.5	2	2	3
SFWHI240/63/100	63	240	64	200	103	75	2.5	2	2	3
SFWHI300/63/100	63	300	64	200	103	75	2.5	2	2	3
SFWHI360/63/100	63	360	64	200	103	75	2.5	2	2	3
SFWHI400/63/100	63	400	64	200	103	75	2.5	2	2	3
SFWHI220/66/100	66	220	64	200	103	75	2.5	2	2	3
SFWHI235/66/100	66	235	64	200	103	75	2.5	2	2	3
SFWHI245/66/100	66	245	64	200	103	75	2.5	2	2	3
SFWHI300/66/100	66	300	64	200	103	75	2.5	2	2	3
SFWHI200/72/100	72	200	64	200	103	75	2.5	2	2	3
SFWHI220/72/100	72	220	64	200	103	75	2.5	2	2	3
SFWHI240/72/100	72	240	64	200	103	75	2.5	2	2	3
SFWHI300/72/100	72	300	64	200	103	75	2.5	2	2	3
SFWHI360/72/100	72	360	64	200	103	75	2.5	2	2	3
SFWHI400/72/100	72	400	64	200	103	75	2.5	2	2	3
SFWHI195/75/100	75	195	64	200	103	75	2.5	2	2	3
SFWHI200/75/100	75	200	64	200	103	75	2.5	2	2	3
SFWHI220/75/100	75	220	64	200	103	75	2.5	2	2	3
SFWHI225/75/100	75	225	64	200	103	75	2.5	2	2	3
SFWHI235/75/100	75	235	64	200	103	75	2.5	2	2	3
SFWHI245/75/100	75	245	64	200	103	75	2.5	2	2	3
SFWHI253/75/100	75	253	64	200	103	75	2.5	2	2	3
SFWHI300/75/100	75	300	64	200	103	75	2.5	2	2	3
SFWHI304/75/100	75	304	64	200	103	75	2.5	2	2	3
SFWHI350/75/100	75	350	64	200	103	75	2.5	2	2	3
SFWHI356/75/100	75	356	64	200	103	75	2.5	2	2	3
SFWHI373/75/100	75	373	64	200	103	75	2.5	2	2	3
SFWHI400/75/100	75	400	64	200	103	75	2.5	2	2	3
SFWHI417/75/100	75	417	64	200	103	75	2.5	2	2	3
SFWHI421/75/100	75	421	64	200	103	75	2.5	2	2	3
SFWHI424/75/100	75	424	64	200	103	75	2.5	2	2	3
SFWHI195/78/100	78	195	64	200	103	75	2.5	2	2	3
SFWHI200/78/100	78	200	64	200	103	75	2.5	2	2	3
SFWHI220/78/100	78	220	64	200	103	75	2.5	2	2	3

Model No.	Dimensions [mm]							Joist Holes		
	A	B	C	D	E	F	t	Ø4x6 Obround	Ø4.1	Mini Strap Ø4.1
SFWHI225/78/100	78	225	64	200	103	75	2.5	2	2	3
SFWHI235/78/100	78	235	64	200	103	75	2.5	2	2	3
SFWHI240/78/100	78	240	64	200	103	75	2.5	2	2	3
SFWHI245/78/100	78	245	64	200	103	75	2.5	2	2	3
SFWHI300/78/100	78	300	64	200	103	75	2.5	2	2	3
SFWHI356/78/100	78	356	64	200	103	75	2.5	2	2	3
SFWHI360/78/100	78	360	64	200	103	75	2.5	2	2	3
SFWHI400/78/100	78	400	64	200	103	75	2.5	2	2	3
SFWHI195/91/100	91	195	64	200	103	75	2.5	2	2	3
SFWHI200/91/100	91	200	64	200	103	75	2.5	2	2	3
SFWHI220/91/100	91	220	64	200	103	75	2.5	2	2	3
SFWHI225/91/100	91	225	64	200	103	75	2.5	2	2	3
SFWHI235/91/100	91	235	64	200	103	75	2.5	2	2	3
SFWHI240/91/100	91	240	64	200	103	75	2.5	2	2	3
SFWHI245/91/100	91	245	64	200	103	75	2.5	2	2	3
SFWHI300/91/100	91	300	64	200	103	75	2.5	2	2	3
SFWHI350/91/100	91	350	64	200	103	75	2.5	2	2	3
SFWHI356/91/100	91	356	64	200	103	75	2.5	2	2	3
SFWHI360/91/100	91	360	64	200	103	75	2.5	2	2	3
SFWHI400/91/100	91	400	64	200	103	75	2.5	2	2	3
SFWHI406/91/100	91	406	64	200	103	75	2.5	2	2	3
SFWHI450/91/100	91	450	64	200	103	75	2.5	2	2	3
SFWHI457/91/100	91	457	64	200	103	75	2.5	2	2	3
SFWHI195/96/100	96	195	64	200	103	75	2.5	2	2	3
SFWHI220/96/100	96	220	64	200	103	75	2.5	2	2	3
SFWHI235/96/100	96	235	64	200	103	75	2.5	2	2	3
SFWHI240/96/100	96	240	64	200	103	75	2.5	2	2	3
SFWHI245/96/100	96	245	64	200	103	75	2.5	2	2	3
SFWHI300/96/100	96	300	64	200	103	75	2.5	2	2	3
SFWHI195/99/100	99	195	64	200	103	75	2.5	2	2	3
SFWHI200/99/100	99	200	64	200	103	75	2.5	2	2	3
SFWHI220/99/100	99	220	64	200	103	75	2.5	2	2	3
SFWHI225/99/100	99	225	64	200	103	75	2.5	2	2	3
SFWHI235/99/100	99	235	64	200	103	75	2.5	2	2	3
SFWHI240/99/100	99	240	64	200	103	75	2.5	2	2	3
SFWHI245/99/100	99	245	64	200	103	75	2.5	2	2	3
SFWHI253/99/100	99	253	64	200	103	75	2.5	2	2	3
SFWHI300/99/100	99	300	64	200	103	75	2.5	2	2	3
SFWHI304/99/100	99	304	64	200	103	75	2.5	2	2	3
SFWHI350/99/100	99	350	64	200	103	75	2.5	2	2	3
SFWHI356/99/100	99	356	64	200	103	75	2.5	2	2	3
SFWHI360/99/100	99	360	64	200	103	75	2.5	2	2	3
SFWHI373/99/100	99	373	64	200	103	75	2.5	2	2	3
SFWHI400/99/100	99	400	64	200	103	75	2.5	2	2	3
SFWHI417/99/100	99	417	64	200	103	75	2.5	2	2	3
SFWHI421/99/100	99	421	64	200	103	75	2.5	2	2	3
SFWHI424/99/100	99	424	64	200	103	75	2.5	2	2	3
SFWHI450/99/100	99	450	64	200	103	75	2.5	2	2	3
SFWHI200/109/100	109	200	64	200	103	75	2.5	2	2	3
SFWHI220/109/100	109	220	64	200	103	75	2.5	2	2	3
SFWHI240/109/100	109	240	64	200	103	75	2.5	2	2	3
SFWHI300/109/100	109	300	64	200	103	75	2.5	2	2	3
SFWHI360/109/100	109	360	64	200	103	75	2.5	2	2	3
SFWHI400/109/100	109	400	64	200	103	75	2.5	2	2	3
SFWHI200/122/100	122	200	64	275	103	75	2.5	2	2	3
SFWHI220/122/100	122	220	64	275	103	75	2.5	2	2	3
SFWHI240/122/100	122	240	64	275	103	75	2.5	2	2	3
SFWHI300/122/100	122	300	64	275	103	75	2.5	2	2	3
SFWHI350/122/100	122	350	64	275	103	75	2.5	2	2	3
SFWHI360/122/100	122	360	64	275	103	75	2.5	2	2	3
SFWHI400/122/100	122	400	64	275	103	75	2.5	2	2	3
SFWHI195/125/100	125	195	64	275	103	75	2.5	2	2	3
SFWHI219/125/100	125	219	64	275	103	75	2.5	2	2	3
SFWHI254/125/100	125	254	64	275	103	75	2.5	2	2	3
SFWHI304/125/100	125	304	64	275	103	75	2.5	2	2	3
SFWHI417/125/100	125	417	64	275	103	75	2.5	2	2	3
SFWHI220/128/100	128	220	64	275	103	75	2.5	2	2	3
SFWHI235/128/100	128	235	64	275	103	75	2.5	2	2	3
SFWHI245/128/100	128	245	64	275	103	75	2.5	2	2	3
SFWHI300/128/100	128	300	64	275	103	75	2.5	2	2	3
SFWHI200/142/100	142	200	64	275	103	75	2.5	2	2	3

SFWH/SFWHI

Model No.	Dimensions [mm]							Joist Holes		
	A	B	C	D	E	F	t	Ø4x6 Obround	Ø4.1	Mini Strap Ø4.1
SFWHI220/142/100	142	220	64	275	103	75	2.5	2	2	3
SFWHI240/142/100	142	240	64	275	103	75	2.5	2	2	3
SFWHI300/142/100	142	300	64	275	103	75	2.5	2	2	3
SFWHI360/142/100	142	360	64	275	103	75	2.5	2	2	3
SFWHI400/142/100	142	400	64	275	103	75	2.5	2	2	3
SFWHI195/146/100	146	195	64	275	103	75	2.5	2	2	3
SFWHI202/146/100	146	202	64	275	103	75	2.5	2	2	3
SFWHI219/146/100	146	219	64	275	103	75	2.5	2	2	3
SFWHI220/146/100	146	220	64	275	103	75	2.5	2	2	3
SFWHI225/146/100	146	225	64	275	103	75	2.5	2	2	3
SFWHI235/146/100	146	235	64	275	103	75	2.5	2	2	3
SFWHI245/146/100	146	245	64	275	103	75	2.5	2	2	3
SFWHI253/146/100	146	253	64	275	103	75	2.5	2	2	3
SFWHI254/146/100	146	254	64	275	103	75	2.5	2	2	3
SFWHI300/146/100	146	300	64	275	103	75	2.5	2	2	3
SFWHI304/146/100	146	304	64	275	103	75	2.5	2	2	3
SFWHI350/146/100	146	350	64	275	103	75	2.5	2	2	3
SFWHI356/146/100	146	356	64	275	103	75	2.5	2	2	3
SFWHI373/146/100	146	373	64	275	103	75	2.5	2	2	3
SFWHI400/146/100	146	400	64	275	103	75	2.5	2	2	3
SFWHI417/146/100	146	417	64	275	103	75	2.5	2	2	3
SFWHI418/146/100	146	418	64	275	103	75	2.5	2	2	3
SFWHI421/146/100	146	421	64	275	103	75	2.5	2	2	3
SFWHI424/146/100	146	424	64	275	103	75	2.5	2	2	3
SFWHI195/150/100	150	195	64	275	103	75	2.5	2	2	3
SFWHI219/150/100	150	219	64	275	103	75	2.5	2	2	3
SFWHI254/150/100	150	254	64	275	103	75	2.5	2	2	3
SFWHI304/150/100	150	304	64	275	103	75	2.5	2	2	3
SFWHI417/150/100	150	417	64	275	103	75	2.5	2	2	3
SFWHI195/182/100	182	195	64	275	103	75	2.5	2	2	3
SFWHI200/182/100	182	200	64	275	103	75	2.5	2	2	3
SFWHI220/182/100	182	220	64	275	103	75	2.5	2	2	3
SFWHI225/182/100	182	225	64	275	103	75	2.5	2	2	3
SFWHI235/182/100	182	235	64	275	103	75	2.5	2	2	3
SFWHI240/182/100	182	240	64	275	103	75	2.5	2	2	3
SFWHI241/182/100	182	241	64	275	103	75	2.5	2	2	3
SFWHI245/182/100	182	245	64	275	103	75	2.5	2	2	3
SFWHI300/182/100	182	300	64	275	103	75	2.5	2	2	3
SFWHI302/182/100	182	302	64	275	103	75	2.5	2	2	3
SFWHI350/182/100	182	350	64	275	103	75	2.5	2	2	3
SFWHI356/182/100	182	356	64	275	103	75	2.5	2	2	3
SFWHI360/182/100	182	360	64	275	103	75	2.5	2	2	3
SFWHI400/182/100	182	400	64	275	103	75	2.5	2	2	3
SFWHI406/182/100	182	406	64	275	103	75	2.5	2	2	3
SFWHI450/182/100	182	450	64	275	103	75	2.5	2	2	3
SFWHI457/182/100	182	457	64	275	103	75	2.5	2	2	3
SFWHI195/196/100	196	195	64	275	103	75	2.5	2	2	3
SFWHI200/196/100	196	200	64	275	103	75	2.5	2	2	3
SFWHI202/196/100	196	202	64	275	103	75	2.5	2	2	3
SFWHI219/196/100	196	219	64	275	103	75	2.5	2	2	3
SFWHI220/196/100	196	220	64	275	103	75	2.5	2	2	3
SFWHI225/196/100	196	225	64	275	103	75	2.5	2	2	3
SFWHI235/196/100	196	235	64	275	103	75	2.5	2	2	3
SFWHI240/196/100	196	240	64	275	103	75	2.5	2	2	3
SFWHI245/196/100	196	245	64	275	103	75	2.5	2	2	3
SFWHI253/196/100	196	253	64	275	103	75	2.5	2	2	3
SFWHI254/196/100	196	254	64	275	103	75	2.5	2	2	3
SFWHI300/196/100	196	300	64	275	103	75	2.5	2	2	3
SFWHI304/196/100	196	304	64	275	103	75	2.5	2	2	3
SFWHI350/196/100	196	350	64	275	103	75	2.5	2	2	3
SFWHI356/196/100	196	356	64	275	103	75	2.5	2	2	3
SFWHI360/196/100	196	360	64	275	103	75	2.5	2	2	3
SFWHI373/196/100	196	373	64	275	103	75	2.5	2	2	3
SFWHI400/196/100	196	400	64	275	103	75	2.5	2	2	3
SFWHI417/196/100	196	417	64	275	103	75	2.5	2	2	3
SFWHI418/196/100	196	418	64	275	103	75	2.5	2	2	3
SFWHI421/196/100	196	421	64	275	103	75	2.5	2	2	3
SFWHI424/196/100	196	424	64	275	103	75	2.5	2	2	3
SFWHI450/196/100	196	450	64	275	103	75	2.5	2	2	3



SFWH/SFWHI

JHM/JHMI

Joist Hanger for Masonry

The JHM and JHMI range of joist hangers can be used to connect solid sawn joists, trusses and engineered joists to masonry walls or steel beams.

- Built-in inspection slot at the base of the hanger to aid inspection from the ground.
- Top flange provides widest area in contact with masonry support allowing superior performance.
- Embossments on top flange, and holes, allow improved mortar keying.
- Flanges on hangers are much higher than traditional style, providing greatly enhanced resistance to joist rotation.
- Can be installed onto 'I' section or hollow section steel beams.

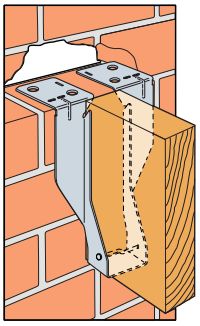
Material: JHM and JHMI: Pre-galvanised mild steel.

Installation:

- Use all specified fasteners. See table below.
- Hanger must be installed so that the back flange is tight against the face of the supporting member.
- MINIMUM 3 COURSES OF SOLID BLOCK (675MM MASONRY) REQUIRED ABOVE HANGER, WITH MORTAR FULLY CURED, BEFORE APPLYING LOAD.
- Do not stack blocks or heavy loads on the joists during construction unless the joists have additional support to take the full load of the blocks, vertically and horizontally.
- JHM/JHMI range can be mechanically fixed to steel beams of thicknesses up to 12.5mm
- Timber is required in the web of the 'I' section steel beam when the hanger depth is less than the steel depth.
- Timber must be flush with the outer edges of the 'I' section steel beam.

Options

- Return configuration provides additional support by wrapping around three sides of the block. Designate "return" and length of return dimensions when ordering.
- RETURN HANGERS DO NOT SATISFY THE REQUIREMENTS FOR LATERAL RESTRAINT TYPE HANGERS.
- Straddle configuration provides two hangers connected across top of support enabling exact alignment on both sides of supporting wall. Designate "straddle" and length of straddle dimensions when ordering. Minimum standard straddle is 150mm.
- Other widths/heights available. Contact Simpson Strong-Tie® for details.
- SPEC JHM's/JHMI's up to 61mm width can be skewed from 5 to 45 deg. See skewed hanger load table.

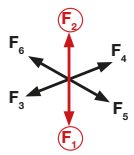


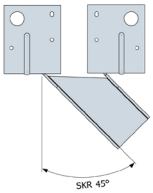
Performance Values

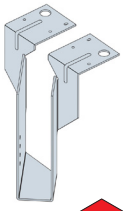
Model No.	Joist Fasteners		Safe Working Loads [kN]				Characteristic Capacity [kN]			
			$R_{1,SWL}$			$R_{2,SWL,Short\ Term}$	$R_{1,k}$			$R_{2,k}$
	Qty	Type	2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC		2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC	
JHM/JHMI	2	N3.75x30	5.2	6.4	10.0	1.0	10.5	12.8	20.0	1.8

Performance Values - Skewed

Model No.	Joist Fasteners		Safe Working Loads [kN]			
			$R_{1,SWL}$			$R_{2,SWL,Short\ Term}$
	Qty	Type	2.8N/mm² Solid AAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC	
SPEC E JHMSK	4	N3.75x30	5.1	5.2	5.2	1.0





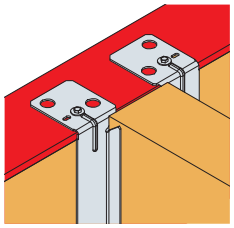


1. Widths from 38mm to 63mm.
2. Maximum skew 45°.

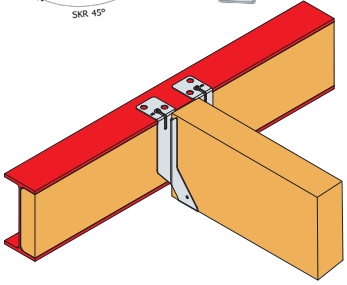
Performance Values onto Steel Beams

Model No.	Fasteners				Safe Working Load [kN]	Characteristic Capacity [kN]
	Steel Beam		Joist			
	Qty	Type	Qty	Type		
JHM/JHMI	2	XLQ114B	2	N3.75x30	10.8	19.0

- See XLQ114B1224 product information on page 53.



Fasteners to be installed through the inner obround slot in the hanger.

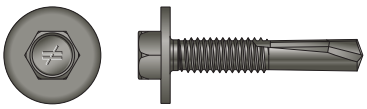


Ensure that the hanger is tight against the face of the supporting member. No gap allowed.

JHM/JHMI

XLQ114B1224 Hex Head Self Drilling Screw Specification

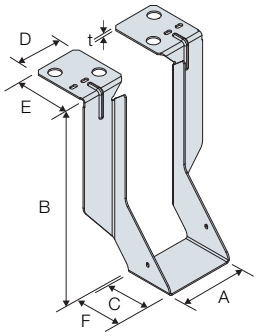
Hex Head Size	Length [mm]	Washer Ø [mm]	Shank Ø [mm]	Suitable Steel Thickness [mm]	Recommended Install Speed [RPM]
5/16"	32	16	5.5	3.5 - 12.5	1400



- XLQ114B1224, self drilling screw. Maximuum supporting thicknesses of up to 12.5mm.

Product Dimensions

Model No.	Dimensions [mm]							Joist Holes
	A	B	C	D	E	F	t	Ø4x6 Obround
JHM100/38	38	100	64	64	75	75	2	2
JHM125/38	38	125	64	64	75	75	2	2
JHM150/38	38	140	64	64	75	75	2	2
JHM175/38	38	165	64	64	75	75	2	2
JHM200/38	38	190	64	64	75	75	2	2
JHM225/38	38	215	64	64	75	75	2	2
JHM250/38	38	240	64	64	75	75	2	2
JHM300/38	38	290	64	64	75	75	2	2
JHM100/44	44	100	64	64	75	75	2	2
JHM125/44	44	125	64	64	75	75	2	2
JHM150/44	44	140	64	64	75	75	2	2
JHM175/44	44	165	64	64	75	75	2	2
JHM200/44	44	190	64	64	75	75	2	2
JHM225/44	44	215	64	64	75	75	2	2
JHM250/44	44	240	64	64	75	75	2	2
JHM300/44	44	290	64	64	75	75	2	2
JHM100/47	47	100	64	64	75	75	2	2
JHM125/47	47	125	64	64	75	75	2	2
JHM150/47	47	140	64	64	75	75	2	2
JHM175/47	47	165	64	64	75	75	2	2
JHM200/47	47	190	64	64	75	75	2	2
JHM225/47	47	215	64	64	75	75	2	2
JHM250/47	47	240	64	64	75	75	2	2
JHM300/47	47	290	64	64	75	75	2	2
JHM100/50	50	100	64	64	75	75	2	2
JHM125/50	50	125	64	64	75	75	2	2
JHM150/50	50	140	64	64	75	75	2	2
JHM175/50	50	165	64	64	75	75	2	2
JHM200/50	50	190	64	64	75	75	2	2
JHM225/50	50	215	64	64	75	75	2	2
JHM250/50	50	240	64	64	75	75	2	2
JHM300/50	50	290	64	64	75	75	2	2
JHM100/63	63	100	64	64	75	75	2	2
JHM125/63	63	125	64	64	75	75	2	2
JHM150/63	63	140	64	64	75	75	2	2
JHM175/63	63	165	64	64	75	75	2	2
JHM200/63	63	190	64	64	75	75	2	2
JHM225/63	63	215	64	64	75	75	2	2
JHM250/63	63	240	64	64	75	75	2	2
JHM300/63	63	290	64	64	75	75	2	2
JHM100/75	75	100	64	64	75	75	2	2
JHM125/75	75	125	64	64	75	75	2	2
JHM150/75	75	140	64	64	75	75	2	2
JHM175/75	75	165	64	64	75	75	2	2
JHM200/75	75	190	64	64	75	75	2	2
JHM225/75	75	215	64	64	75	75	2	2
JHM250/75	75	240	64	64	75	75	2	2
JHM300/75	75	290	64	64	75	75	2	2
JHM100/91	91	100	64	64	75	75	2	2
JHM125/91	91	125	64	64	75	75	2	2
JHM150/91	91	140	64	64	75	75	2	2
JHM175/91	91	165	64	64	75	75	2	2
JHM200/91	91	190	64	64	75	75	2	2
JHM225/91	91	215	64	64	75	75	2	2
JHM250/91	91	240	64	64	75	75	2	2
JHM300/91	91	290	64	64	75	75	2	2
JHM100/96	96	100	64	64	75	75	2	2
JHM125/96	96	125	64	64	75	75	2	2
JHM150/96	96	140	64	64	75	75	2	2
JHM175/96	96	165	64	64	75	75	2	2
JHM200/96	96	190	64	64	75	75	2	2
JHM225/96	96	215	64	64	75	75	2	2
JHM250/96	96	240	64	64	75	75	2	2
JHM300/96	96	290	64	64	75	75	2	2
JHM100/100	100	100	64	64	75	75	2	2
JHM125/100	100	125	64	64	75	75	2	2
JHM150/100	100	140	64	64	75	75	2	2
JHM175/100	100	165	64	64	75	75	2	2
JHM200/100	100	190	64	64	75	75	2	2
JHM225/100	100	215	64	64	75	75	2	2
JHM250/100	100	240	64	64	75	75	2	2
JHM300/100	100	290	64	64	75	75	2	2
JHM100/116	116	100	64	64	75	75	2	2
JHM125/116	116	125	64	64	75	75	2	2
JHM150/116	116	140	64	64	75	75	2	2
JHM175/116	116	165	64	64	75	75	2	2
JHM200/116	116	190	64	64	75	75	2	2
JHM225/116	116	215	64	64	75	75	2	2
JHM250/116	116	240	64	64	75	75	2	2
JHM300/116	116	290	64	64	75	75	2	2
JHM100/125	125	100	64	64	75	75	2	2
JHM125/125	125	125	64	64	75	75	2	2
JHM150/125	125	140	64	64	75	75	2	2
JHM175/125	125	165	64	64	75	75	2	2
JHM200/125	125	190	64	64	75	75	2	2
JHM225/125	125	215	64	64	75	75	2	2
JHM250/125	125	240	64	64	75	75	2	2
JHM300/125	125	290	64	64	75	75	2	2
JHM100/135	135	100	64	64	75	75	2	2
JHM125/135	135	125	64	64	75	75	2	2
JHM150/135	135	140	64	64	75	75	2	2
JHM175/135	135	165	64	64	75	75	2	2
JHM200/135	135	190	64	64	75	75	2	2
JHM225/135	135	215	64	64	75	75	2	2
JHM250/135	135	240	64	64	75	75	2	2
JHM300/135	135	290	64	64	75	75	2	2
JHM100/142	142	100	64	64	75	75	2	2
JHM125/142	142	125	64	64	75	75	2	2
JHM150/142	142	140	64	64	75	75	2	2
JHM175/142	142	165	64	64	75	75	2	2
JHM200/142	142	190	64	64	75	75	2	2
JHM225/142	142	215	64	64	75	75	2	2
JHM250/142	142	240	64	64	75	75	2	2
JHM300/142	142	290	64	64	75	75	2	2
JHM100/146	146	100	64	64	75	75	2	2
JHM125/146	146	125	64	64	75	75	2	2
JHM150/146	146	140	64	64	75	75	2	2
JHM175/146	146	165	64	64	75	75	2	2
JHM200/146	146	190	64	64	75	75	2	2
JHM225/146	146	215	64	64	75	75	2	2
JHM250/146	146	240	64	64	75	75	2	2
JHM300/146	146	290	64	64	75	75	2	2
JHM100/150	150	100	64	64	75	75	2	2
JHM125/150	150	125	64	64	75	75	2	2
JHM150/150	150	140	64	64	75	75	2	2
JHM175/150	150	165	64	64	75	75	2	2
JHM200/150	150	190	64	64	75	75	2	2
JHM225/150	150	215	64	64	75	75	2	2
JHM250/150	150	240	64	64	75	75	2	2
JHM300/150	150	290	64	64	75	75	2	2



JHM/JHMI

Product Dimensions

Model No.	Dimensions [mm]							Joist Holes
	A	B	C	D	E	F	t	Ø4x6 Obround
JHMI195/40	40	195	64	64	75	75	2	2
JHMI200/40	40	200	64	64	75	75	2	2
JHMI220/40	40	220	64	64	75	75	2	2
JHMI225/40	40	225	64	64	75	75	2	2
JHMI235/40	40	235	64	64	75	75	2	2
JHMI240/40	40	240	64	64	75	75	2	2
JHMI245/40	40	245	64	64	75	75	2	2
JHMI300/40	40	300	64	64	75	75	2	2
JHMI356/40	40	356	64	64	75	75	2	2
JHMI360/40	40	360	64	64	75	75	2	2
JHMI400/40	40	400	64	64	75	75	2	2
JHMI195/47	47	195	64	64	75	75	2	2
JHMI200/47	47	200	64	64	75	75	2	2
JHMI220/47	47	220	64	64	75	75	2	2
JHMI225/47	47	225	64	64	75	75	2	2
JHMI235/47	47	235	64	64	75	75	2	2
JHMI240/47	47	240	64	64	75	75	2	2
JHMI245/47	47	245	64	64	75	75	2	2
JHMI300/47	47	300	64	64	75	75	2	2
JHMI350/47	47	350	64	64	75	75	2	2
JHMI356/47	47	356	64	64	75	75	2	2
JHMI360/47	47	360	64	64	75	75	2	2
JHMI400/47	47	400	64	64	75	75	2	2
JHMI195/50	50	195	64	64	75	75	2	2
JHMI220/50	50	220	64	64	75	75	2	2
JHMI235/50	50	235	64	64	75	75	2	2
JHMI240/50	50	240	64	64	75	75	2	2
JHMI245/50	50	245	64	64	75	75	2	2
JHMI300/50	50	300	64	64	75	75	2	2
JHMI200/56	56	200	64	64	75	75	2	2
JHMI220/56	56	220	64	64	75	75	2	2
JHMI240/56	56	240	64	64	75	75	2	2
JHMI300/56	56	300	64	64	75	75	2	2
JHMI360/56	56	360	64	64	75	75	2	2
JHMI400/56	56	400	64	64	75	75	2	2
JHMI200/63	63	200	64	64	75	75	2	2
JHMI220/63	63	220	64	64	75	75	2	2
JHMI240/63	63	240	64	64	75	75	2	2
JHMI300/63	63	300	64	64	75	75	2	2
JHMI350/63	63	350	64	64	75	75	2	2
JHMI360/63	63	360	64	64	75	75	2	2
JHMI400/63	63	400	64	64	75	75	2	2
JHMI220/66	66	220	64	64	75	75	2	2
JHMI235/66	66	235	64	64	75	75	2	2
JHMI245/66	66	245	64	64	75	75	2	2
JHMI300/66	66	300	64	64	75	75	2	2
JHMI200/72	72	200	64	64	75	75	2	2
JHMI220/72	72	220	64	64	75	75	2	2
JHMI240/72	72	240	64	64	75	75	2	2
JHMI300/72	72	300	64	64	75	75	2	2
JHMI360/72	72	360	64	64	75	75	2	2
JHMI400/72	72	400	64	64	75	75	2	2
JHMI195/75	75	195	64	64	75	75	2	2
JHMI200/75	75	200	64	64	75	75	2	2
JHMI220/75	75	220	64	64	75	75	2	2
JHMI225/75	75	225	64	64	75	75	2	2
JHMI235/75	75	235	64	64	75	75	2	2
JHMI245/75	75	245	64	64	75	75	2	2
JHMI253/75	75	253	64	64	75	75	2	2
JHMI300/75	75	300	64	64	75	75	2	2
JHMI304/75	75	304	64	64	75	75	2	2
JHMI350/75	75	350	64	64	75	75	2	2
JHMI356/75	75	356	64	64	75	75	2	2
JHMI373/75	75	373	64	64	75	75	2	2
JHMI400/75	75	400	64	64	75	75	2	2
JHMI417/75	75	417	64	64	75	75	2	2
JHMI421/75	75	421	64	64	75	75	2	2
JHMI424/75	75	424	64	64	75	75	2	2

Model No.	Dimensions [mm]							Joist Holes
	A	B	C	D	E	F	t	Ø4x6 Obround
JHMI195/78	78	195	64	64	75	75	2	2
JHMI200/78	78	200	64	64	75	75	2	2
JHMI220/78	78	220	64	64	75	75	2	2
JHMI225/78	78	225	64	64	75	75	2	2
JHMI235/78	78	235	64	64	75	75	2	2
JHMI240/78	78	240	64	64	75	75	2	2
JHMI245/78	78	245	64	64	75	75	2	2
JHMI300/78	78	300	64	64	75	75	2	2
JHMI356/78	78	356	64	64	75	75	2	2
JHMI360/78	78	360	64	64	75	75	2	2
JHMI400/78	78	400	64	64	75	75	2	2
JHMI195/91	91	195	64	64	75	75	2	2
JHMI200/91	91	200	64	64	75	75	2	2
JHMI220/91	91	220	64	64	75	75	2	2
JHMI225/91	91	225	64	64	75	75	2	2
JHMI235/91	91	235	64	64	75	75	2	2
JHMI240/91	91	240	64	64	75	75	2	2
JHMI245/91	91	245	64	64	75	75	2	2
JHMI300/91	91	300	64	64	75	75	2	2
JHMI350/91	91	350	64	64	75	75	2	2
JHMI356/91	91	356	64	64	75	75	2	2
JHMI360/91	91	360	64	64	75	75	2	2
JHMI400/91	91	400	64	64	75	75	2	2
JHMI406/91	91	406	64	64	75	75	2	2
JHMI450/91	91	450	64	64	75	75	2	2
JHMI457/91	91	457	64	64	75	75	2	2
JHMI195/96	96	195	64	64	75	75	2	2
JHMI220/96	96	220	64	64	75	75	2	2
JHMI235/96	96	235	64	64	75	75	2	2
JHMI240/96	96	240	64	64	75	75	2	2
JHMI245/96	96	245	64	64	75	75	2	2
JHMI300/96	96	300	64	64	75	75	2	2
JHMI195/99	99	195	64	64	75	75	2	2
JHMI200/99	99	200	64	64	75	75	2	2
JHMI220/99	99	220	64	64	75	75	2	2
JHMI225/99	99	225	64	64	75	75	2	2
JHMI235/99	99	235	64	64	75	75	2	2
JHMI240/99	99	240	64	64	75	75	2	2
JHMI245/99	99	245	64	64	75	75	2	2
JHMI253/99	99	253	64	64	75	75	2	2
JHMI300/99	99	300	64	64	75	75	2	2
JHMI304/99	99	304	64	64	75	75	2	2
JHMI350/99	99	350	64	64	75	75	2	2
JHMI356/99	99	356	64	64	75	75	2	2
JHMI360/99	99	360	64	64	75	75	2	2
JHMI373/99	99	373	64	64	75	75	2	2
JHMI400/99	99	400	64	64	75	75	2	2
JHMI417/99	99	417	64	64	75	75	2	2
JHMI421/99	99	421	64	64	75	75	2	2
JHMI424/99	99	424	64	64	75	75	2	2
JHMI450/99	99	450	64	64	75	75	2	2
JHMI200/109	109	200	64	64	75	75	2	2
JHMI220/109	109	220	64	64	75	75	2	2
JHMI240/109	109	240	64	64	75	75	2	2
JHMI300/109	109	300	64	64	75	75	2	2
JHMI360/109	109	360	64	64	75	75	2	2
JHMI400/109	109	400	64	64	75	75	2	2
JHMI200/122	122	200	64	64	75	75	2	2
JHMI220/122	122	220	64	64	75	75	2	2
JHMI240/122	122	240	64	64	75	75	2	2
JHMI300/122	122	300	64	64	75	75	2	2
JHMI350/122	122	350	64	64	75	75	2	2
JHMI360/122	122	360	64	64	75	75	2	2
JHMI400/122	122	400	64	64	75	75	2	2
JHMI195/125	125	195	64	64	75	75	2	2
JHMI220/125	125	220	64	64	75	75	2	2
JHMI253/125	125	253	64	64	75	75	2	2
JHMI304/125	125	304	64	64	75	75	2	2

Model No.	Dimensions [mm]							Joist Holes
	A	B	C	D	E	F	t	Ø4x6 Obround
JHMI417/125	125	417	64	64	75	75	2	2
JHMI220/128	128	220	64	64	75	75	2	2
JHMI235/128	128	235	64	64	75	75	2	2
JHMI245/128	128	245	64	64	75	75	2	2
JHMI300/128	128	300	64	64	75	75	2	2
JHMI200/142	142	200	64	64	75	75	2	2
JHMI220/142	142	220	64	64	75	75	2	2
JHMI240/142	142	240	64	64	75	75	2	2
JHMI300/142	142	300	64	64	75	75	2	2
JHMI360/142	142	360	64	64	75	75	2	2
JHMI400/142	142	400	64	64	75	75	2	2
JHMI195/146	146	195	64	64	75	75	2	2
JHMI200/146	146	200	64	64	75	75	2	2
JHMI220/146	146	220	64	64	75	75	2	2
JHMI225/146	146	225	64	64	75	75	2	2
JHMI235/146	146	235	64	64	75	75	2	2
JHMI245/146	146	245	64	64	75	75	2	2
JHMI253/146	146	253	64	64	75	75	2	2
JHMI300/146	146	300	64	64	75	75	2	2
JHMI304/146	146	304	64	64	75	75	2	2
JHMI350/146	146	350	64	64	75	75	2	2
JHMI356/146	146	356	64	64	75	75	2	2
JHMI373/146	146	373	64	64	75	75	2	2
JHMI400/146	146	400	64	64	75	75	2	2
JHMI417/146	146	417	64	64	75	75	2	2
JHMI421/146	146	421	64	64	75	75	2	2
JHMI424/146	146	424	64	64	75	75	2	2
JHMI195/150	150	195	64	64	75	75	2	2
JHMI220/150	150	220	64	64	75	75	2	2
JHMI253/150	150	253	64	64	75	75	2	2
JHMI304/150	150	304	64	64	75	75	2	2
JHMI417/150	150	417	64	64	75	75	2	2

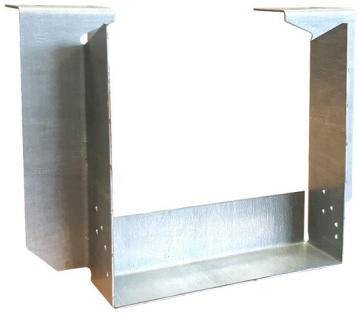
HJHM/HJHMI

Masonry Hangers

The HJHMI range of joist hangers can be used to connect solid sawn joists, trusses, and engineered joists to masonry walls or steel beams.

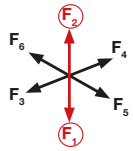
- Top flange provides widest area in contact with masonry support allowing superior performance.
- HJHM/HJHMI side flange on deeper hangers is much higher than traditional style, providing greatly enhanced resistance to joist rotation.

Material: Pre-galvanised mild steel.



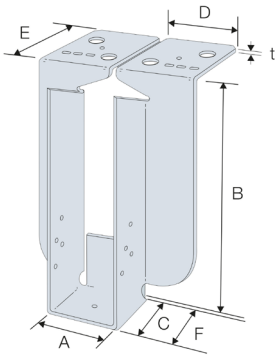
Performance Values

Model No.	A	Joist Fasteners		Safe Working Loads [kN]				Characteristic Capacity [kN]			
		Qty	Type	$R_{1,SWL}$ 2.8N/mm² Solid AAC	$R_{1,SWL}$ 3.5N/mm² Solid AAC	$R_{1,SWL}$ 7.0N/mm² Solid DAC	$R_{2,SWL,Short\ Term}$	$R_{2,k}$ 2.8N/mm² Solid AAC	$R_{2,k}$ 3.5N/mm² Solid AAC	$R_{2,k}$ 7.0N/mm² Solid DAC	$R_{2,k}$
HJHM/HJHMI	40 - 74	2	N3.75 x 30	8.0	8.0	15.0	1.0	16.0	16.0	30.0	1.8
HJHM/HJHMI	75 - 200	2	N3.75 x 30	8.0	14.8	15.0	1.0	16.0	29.7	30.0	1.8
HJHM/HJHMI	201 - 300	2	N3.75 x 30	8.2	8.2	21.5	1.0	15.1	15.1	37.6	1.8
HJHM/HJHMI	91 - 200	8	N4.0 x 90	8.0	14.8	20.9	1.0	16.0	29.7	41.8	1.8



Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Tri
HJHM100/38	38	100	75	90	90	78	3	2	8
HJHM125/38	38	125	75	90	90	78	3	2	8
HJHM150/38	38	140	75	90	90	78	3	2	8
HJHM175/38	38	165	75	90	90	78	3	2	8
HJHM200/38	38	190	75	90	90	78	3	2	8
HJHM225/38	38	215	75	90	90	78	3	2	8
HJHM250/38	38	240	75	90	90	78	3	2	8
HJHM300/38	38	290	75	90	90	78	3	2	8
HJHM100/44	44	100	75	90	90	78	3	2	8
HJHM125/44	44	125	75	90	90	78	3	2	8
HJHM150/44	44	140	75	90	90	78	3	2	8
HJHM175/44	44	165	75	90	90	78	3	2	8
HJHM200/44	44	190	75	90	90	78	3	2	8
HJHM225/44	44	215	75	90	90	78	3	2	8
HJHM250/44	44	240	75	90	90	78	3	2	8
HJHM300/44	44	290	75	90	90	78	3	2	8
HJHM100/47	47	100	75	90	90	78	3	2	8
HJHM125/47	47	125	75	90	90	78	3	2	8
HJHM150/47	47	140	75	90	90	78	3	2	8
HJHM175/47	47	165	75	90	90	78	3	2	8
HJHM200/47	47	190	75	90	90	78	3	2	8
HJHM225/47	47	215	75	90	90	78	3	2	8
HJHM250/47	47	240	75	90	90	78	3	2	8
HJHM300/47	47	290	75	90	90	78	3	2	8
HJHM100/50	50	100	75	90	90	78	3	2	8
HJHM125/50	50	125	75	90	90	78	3	2	8
HJHM150/50	50	140	75	90	90	78	3	2	8
HJHM175/50	50	165	75	90	90	78	3	2	8
HJHM200/50	50	190	75	90	90	78	3	2	8
HJHM225/50	50	215	75	90	90	78	3	2	8
HJHM250/50	50	240	75	90	90	78	3	2	8
HJHM300/50	50	290	75	90	90	78	3	2	8
HJHM100/63	63	100	75	90	90	78	3	2	8
HJHM125/63	63	125	75	90	90	78	3	2	8
HJHM150/63	63	140	75	90	90	78	3	2	8
HJHM175/63	63	165	75	90	90	78	3	2	8
HJHM200/63	63	190	75	90	90	78	3	2	8
HJHM225/63	63	215	75	90	90	78	3	2	8
HJHM250/63	63	240	75	90	90	78	3	2	8
HJHM300/63	63	290	75	90	90	78	3	2	8
HJHM100/75	75	100	80	110	92.5	92.5	3	2	8
HJHM125/75	75	125	80	110	92.5	92.5	3	2	8
HJHM150/75	75	140	80	110	92.5	92.5	3	2	8
HJHM175/75	75	165	80	110	92.5	92.5	3	2	8
HJHM200/75	75	190	80	110	92.5	92.5	3	2	8
HJHM225/75	75	215	80	110	92.5	92.5	3	2	8
HJHM250/75	75	240	80	110	92.5	92.5	3	2	8
HJHM300/75	75	290	80	110	92.5	92.5	3	2	8

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Tri
HJHM100/91	91	100	80	110	92.5	92.5	3	2	8
HJHM125/91	91	125	80	110	92.5	92.5	3	2	8
HJHM150/91	91	140	80	110	92.5	92.5	3	2	8
HJHM175/91	91	165	80	110	92.5	92.5	3	2	8
HJHM200/91	91	190	80	110	92.5	92.5	3	2	8
HJHM225/91	91	215	80	110	92.5	92.5	3	2	8
HJHM250/91	91	240	80	110	92.5	92.5	3	2	8
HJHM300/91	91	290	80	110	92.5	92.5	3	2	8
HJHM100/96	96	100	80	110	92.5	92.5	3	2	8
HJHM125/96	96	125	80	110	92.5	92.5	3	2	8
HJHM150/96	96	140	80	110	92.5	92.5	3	2	8
HJHM175/96	96	165	80	110	92.5	92.5	3	2	8
HJHM200/96	96	190	80	110	92.5	92.5	3	2	8
HJHM225/96	96	215	80	110	92.5	92.5	3	2	8
HJHM250/96	96	240	80	110	92.5	92.5	3	2	8
HJHM300/96	96	290	80	110	92.5	92.5	3	2	8
HJHM100/100	100	100	80	110	92.5	92.5	3	2	8
HJHM125/100	100	125	80	110	92.5	92.5	3	2	8
HJHM150/100	100	140	80	110	92.5	92.5	3	2	8
HJHM175/100	100	165	80	110	92.5	92.5	3	2	8
HJHM200/100	100	190	80	110	92.5	92.5	3	2	8
HJHM225/100	100	215	80	110	92.5	92.5	3	2	8
HJHM250/100	100	240	80	110	92.5	92.5	3	2	8
HJHM300/100	100	290	80	110	92.5	92.5	3	2	8
HJHM100/116	116	100	80	110	92.5	92.5	3	2	8
HJHM125/116	116	125	80	110	92.5	92.5	3	2	8
HJHM150/116	116	140	80	110	92.5	92.5	3	2	8
HJHM175/116	116	165	80	110	92.5	92.5	3	2	8
HJHM200/116	116	190	80	110	92.5	92.5	3	2	8
HJHM225/116	116	215	80	110	92.5	92.5	3	2	8
HJHM250/116	116	240	80	110	92.5	92.5	3	2	8
HJHM300/116	116	290	80	110	92.5	92.5	3	2	8
HJHM100/125	125	100	80	110	92.5	92.5	3	2	8
HJHM125/125	125	125	80	110	92.5	92.5	3	2	8
HJHM150/125	125	140	80	110	92.5	92.5	3	2	8
HJHM175/125	125	165	80	110	92.5	92.5	3	2	8
HJHM200/125	125	190	80	110	92.5	92.5	3	2	8
HJHM225/125	125	215	80	110	92.5	92.5	3	2	8
HJHM250/125	125	240	80	110	92.5	92.5	3	2	8
HJHM300/125	125	290	80	110	92.5	92.5	3	2	8
HJHM100/135	135	100	80	110	92.5	92.5	3	2	8
HJHM125/135	135	125	80	110	92.5	92.5	3	2	8
HJHM150/135	135	140	80	110	92.5	92.5	3	2	8
HJHM175/135	135	165	80	110	92.5	92.5	3	2	8
HJHM200/135	135	190	80	110	92.5	92.5	3	2	8
HJHM225/135	135	215	80	110	92.5	92.5	3	2	8
HJHM250/135	135	240	80	110	92.5	92.5	3	2	8
HJHM300/135	135	290	80	110	92.5	92.5	3	2	8



Installation:

- Set the hanger back flange tight against the block wall when built to desired level, then continue with additonal courses to complete wall height. Joist should be tight into the back of the hanger. Maximum gap permitted is 6mm.
- Use all specified fasteners.
- A minimum 3 courses of solid block work (675mm masonry) is required above the hanger top flange, with mortar fully cured before applying load.
- Do not stack blocks or heavy loads on the joists during construction unless the joists have additonal support to take the full load of the blocks vertically and horizontally.
- The shot-fired pins must be installed by a qualified person in accordance with the manufacturer's installation requirements.

HJHM/HJHMI

Product Dimensions

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Tri
HJHM100/142	142	100	80	110	92.5	92.5	3	2	8
HJHM125/142	142	125	80	110	92.5	92.5	3	2	8
HJHM150/142	142	140	80	110	92.5	92.5	3	2	8
HJHM175/142	142	165	80	110	92.5	92.5	3	2	8
HJHM200/142	142	190	80	110	92.5	92.5	3	2	8
HJHM225/142	142	215	80	110	92.5	92.5	3	2	8
HJHM250/142	142	240	80	110	92.5	92.5	3	2	8
HJHM300/142	142	290	80	110	92.5	92.5	3	2	8
HJHM100/146	146	100	80	110	92.5	92.5	3	2	8
HJHM125/146	146	125	80	110	92.5	92.5	3	2	8
HJHM150/146	146	140	80	110	92.5	92.5	3	2	8
HJHM175/146	146	165	80	110	92.5	92.5	3	2	8
HJHM200/146	146	190	80	110	92.5	92.5	3	2	8
HJHM225/146	146	215	80	110	92.5	92.5	3	2	8
HJHM250/146	146	240	80	110	92.5	92.5	3	2	8
HJHM300/146	146	290	80	110	92.5	92.5	3	2	8
HJHM100/150	150	100	80	110	92.5	92.5	3	2	8
HJHM125/150	150	125	80	110	92.5	92.5	3	2	8
HJHM150/150	150	140	80	110	92.5	92.5	3	2	8
HJHM175/150	150	165	80	110	92.5	92.5	3	2	8
HJHM200/150	150	190	80	110	92.5	92.5	3	2	8
HJHM225/150	150	215	80	110	92.5	92.5	3	2	8
HJHM250/150	150	240	80	110	92.5	92.5	3	2	8
HJHM300/150	150	290	80	110	92.5	92.5	3	2	8
HJHM100/180	180	100	80	110	92.5	92.5	3	2	8
HJHM125/180	180	125	80	110	92.5	92.5	3	2	8
HJHM150/180	180	140	80	110	92.5	92.5	3	2	8
HJHM175/180	180	165	80	110	92.5	92.5	3	2	8
HJHM200/180	180	190	80	110	92.5	92.5	3	2	8
HJHM225/180	180	215	80	110	92.5	92.5	3	2	8
HJHM250/180	180	240	80	110	92.5	92.5	3	2	8
HJHM300/180	180	290	80	110	92.5	92.5	3	2	8
HJHM100/190	190	100	80	110	92.5	92.5	3	2	8
HJHM125/190	190	125	80	110	92.5	92.5	3	2	8
HJHM150/190	190	140	80	110	92.5	92.5	3	2	8
HJHM175/190	190	165	80	110	92.5	92.5	3	2	8
HJHM200/190	190	190	80	110	92.5	92.5	3	2	8
HJHM225/190	190	215	80	110	92.5	92.5	3	2	8
HJHM250/190	190	240	80	110	92.5	92.5	3	2	8
HJHM300/190	190	290	80	110	92.5	92.5	3	2	8
HJHM100/200	200	100	80	110	92.5	92.5	3	2	8
HJHM125/200	200	125	80	110	92.5	92.5	3	2	8
HJHM150/200	200	140	80	110	92.5	92.5	3	2	8
HJHM175/200	200	165	80	110	92.5	92.5	3	2	8
HJHM200/200	200	190	80	110	92.5	92.5	3	2	8
HJHM225/200	200	215	80	110	92.5	92.5	3	2	8
HJHM250/200	200	240	80	110	92.5	92.5	3	2	8
HJHM300/200	200	290	80	110	92.5	92.5	3	2	8
HJHM100/225	225	100	80	110	92.5	92.5	3	2	8
HJHM125/225	225	125	80	110	92.5	92.5	3	2	8
HJHM150/225	225	140	80	110	92.5	92.5	3	2	8
HJHM175/225	225	165	80	110	92.5	92.5	3	2	8
HJHM200/225	225	190	80	110	92.5	92.5	3	2	8
HJHM225/225	225	215	80	110	92.5	92.5	3	2	8
HJHM250/225	225	240	80	110	92.5	92.5	3	2	8
HJHM300/225	225	290	80	110	92.5	92.5	3	2	8
HJHM100/300	300	100	80	110	92.5	92.5	3	2	8
HJHM125/300	300	125	80	110	92.5	92.5	3	2	8
HJHM150/300	300	140	80	110	92.5	92.5	3	2	8
HJHM175/300	300	165	80	110	92.5	92.5	3	2	8
HJHM200/300	300	190	80	110	92.5	92.5	3	2	8
HJHM225/300	300	215	80	110	92.5	92.5	3	2	8
HJHM250/300	300	240	80	110	92.5	92.5	3	2	8
HJHM300/300	300	290	80	110	92.5	92.5	3	2	8

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Tri
HJHMI195/40	40	195	75	90	90	78	3	2	8
HJHMI200/40	40	200	75	90	90	78	3	2	8
HJHMI220/40	40	220	75	90	90	78	3	2	8
HJHMI225/40	40	225	75	90	90	78	3	2	8
HJHMI235/40	40	235	75	90	90	78	3	2	8
HJHMI240/40	40	240	75	90	90	78	3	2	8
HJHMI245/40	40	245	75	90	90	78	3	2	8
HJHMI300/40	40	300	75	90	90	78	3	2	8
HJHMI356/40	40	356	75	90	90	78	3	2	8
HJHMI360/40	40	360	75	90	90	78	3	2	8
HJHMI400/40	40	400	75	90	90	78	3	2	8
HJHMI195/47	47	195	75	90	90	78	3	2	8
HJHMI200/47	47	200	75	90	90	78	3	2	8
HJHMI220/47	47	220	75	90	90	78	3	2	8
HJHMI225/47	47	225	75	90	90	78	3	2	8
HJHMI235/47	47	235	75	90	90	78	3	2	8
HJHMI240/47	47	240	75	90	90	78	3	2	8
HJHMI245/47	47	245	75	90	90	78	3	2	8
HJHMI300/47	47	300	75	90	90	78	3	2	8
HJHMI350/47	47	350	75	90	90	78	3	2	8
HJHMI356/47	47	356	75	90	90	78	3	2	8
HJHMI360/47	47	360	75	90	90	78	3	2	8
HJHMI400/47	47	400	75	90	90	78	3	2	8
HJHMI195/50	50	195	75	90	90	78	3	2	8
HJHMI220/50	50	220	75	90	90	78	3	2	8
HJHMI235/50	50	235	75	90	90	78	3	2	8
HJHMI240/50	50	240	75	90	90	78	3	2	8
HJHMI245/50	50	245	75	90	90	78	3	2	8
HJHMI300/50	50	300	75	90	90	78	3	2	8
HJHMI200/56	56	200	75	90	90	78	3	2	8
HJHMI220/56	56	220	75	90	90	78	3	2	8
HJHMI240/56	56	240	75	90	90	78	3	2	8
HJHMI300/56	56	300	75	90	90	78	3	2	8
HJHMI360/56	56	360	75	90	90	78	3	2	8
HJHMI400/56	56	400	75	90	90	78	3	2	8
HJHMI200/63	63	200	75	90	90	78	3	2	8
HJHMI220/63	63	220	75	90	90	78	3	2	8
HJHMI240/63	63	240	75	90	90	78	3	2	8
HJHMI300/63	63	300	75	90	90	78	3	2	8
HJHMI350/63	63	350	75	90	90	78	3	2	8
HJHMI360/63	63	360	75	90	90	78	3	2	8
HJHMI400/63	63	400	75	90	90	78	3	2	8
HJHMI220/66	66	220	75	90	90	78	3	2	8
HJHMI235/66	66	235	75	90	90	78	3	2	8
HJHMI245/66	66	245	75	90	90	78	3	2	8
HJHMI300/66	66	300	75	90	90	78	3	2	8
HJHMI200/72	72	200	75	90	90	78	3	2	8
HJHMI220/72	72	220	75	90	90	78	3	2	8
HJHMI240/72	72	240	75	90	90	78	3	2	8
HJHMI300/72	72	300	75	90	90	78	3	2	8
HJHMI360/72	72	360	75	90	90	78	3	2	8
HJHMI400/72	72	400	75	90	90	78	3	2	8
HJHMI195/75	75	195	80	110	92.5	92.5	3	2	8
HJHMI200/75	75	200	80	110	92.5	92.5	3	2	8
HJHMI220/75	75	220	80	110	92.5	92.5	3	2	8
HJHMI225/75	75	225	80	110	92.5	92.5	3	2	8
HJHMI235/75	75	235	80	110	92.5	92.5	3	2	8
HJHMI245/75	75	245	80	110	92.5	92.5	3	2	8
HJHMI253/75	75	253	80	110	92.5	92.5	3	2	8
HJHMI300/75	75	300	80	110	92.5	92.5	3	2	8
HJHMI304/75	75	304	80	110	92.5	92.5	3	2	8
HJHMI350/75	75	350	80	110	92.5	92.5	3	2	8
HJHMI356/75	75	356	80	110	92.5	92.5	3	2	8
HJHMI373/75	75	373	80	110	92.5	92.5	3	2	8
HJHMI400/75	75	400	80	110	92.5	92.5	3	2	8
HJHMI417/75	75	417	80	110	92.5	92.5	3	2	8
HJHMI421/75	75	421	80	110	92.5	92.5	3	2	8
HJHMI424/75	75	424	80	110	92.5	92.5	3	2	8
HJHMI195/78	78	195	80	110	92.5	92.5	3	2	8
HJHMI200/78	78	200	80	110	92.5	92.5	3	2	8

HJHM/HJHMI

Product Dimensions

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Tri
HJHMI200/78	78	200	80	110	92.5	92.5	3	2	8
HJHMI220/78	78	220	80	110	92.5	92.5	3	2	8
HJHMI225/78	78	225	80	110	92.5	92.5	3	2	8
HJHMI235/78	78	235	80	110	92.5	92.5	3	2	8
HJHMI240/78	78	240	80	110	92.5	92.5	3	2	8
HJHMI245/78	78	245	80	110	92.5	92.5	3	2	8
HJHMI300/78	78	300	80	110	92.5	92.5	3	2	8
HJHMI356/78	78	356	80	110	92.5	92.5	3	2	8
HJHMI360/78	78	360	80	110	92.5	92.5	3	2	8
HJHMI400/78	78	400	80	110	92.5	92.5	3	2	8
HJHMI195/91	91	195	80	110	92.5	92.5	3	2	8
HJHMI200/91	91	200	80	110	92.5	92.5	3	2	8
HJHMI220/91	91	220	80	110	92.5	92.5	3	2	8
HJHMI225/91	91	225	80	110	92.5	92.5	3	2	8
HJHMI235/91	91	235	80	110	92.5	92.5	3	2	8
HJHMI240/91	91	240	80	110	92.5	92.5	3	2	8
HJHMI245/91	91	245	80	110	92.5	92.5	3	2	8
HJHMI300/91	91	300	80	110	92.5	92.5	3	2	8
HJHMI350/91	91	350	80	110	92.5	92.5	3	2	8
HJHMI356/91	91	356	80	110	92.5	92.5	3	2	8
HJHMI360/91	91	360	80	110	92.5	92.5	3	2	8
HJHMI400/91	91	400	80	110	92.5	92.5	3	2	8
HJHMI406/91	91	406	80	110	92.5	92.5	3	2	8
HJHMI450/91	91	450	80	110	92.5	92.5	3	2	8
HJHMI457/91	91	457	80	110	92.5	92.5	3	2	8
HJHMI195/96	96	195	80	110	92.5	92.5	3	2	8
HJHMI220/96	96	220	80	110	92.5	92.5	3	2	8
HJHMI235/96	96	235	80	110	92.5	92.5	3	2	8
HJHMI240/96	96	240	80	110	92.5	92.5	3	2	8
HJHMI245/96	96	245	80	110	92.5	92.5	3	2	8
HJHMI300/96	96	300	80	110	92.5	92.5	3	2	8
HJHMI195/99	99	195	80	110	92.5	92.5	3	2	8
HJHMI200/99	99	200	80	110	92.5	92.5	3	2	8
HJHMI220/99	99	220	80	110	92.5	92.5	3	2	8
HJHMI225/99	99	225	80	110	92.5	92.5	3	2	8
HJHMI235/99	99	235	80	110	92.5	92.5	3	2	8
HJHMI240/99	99	240	80	110	92.5	92.5	3	2	8
HJHMI245/99	99	245	80	110	92.5	92.5	3	2	8
HJHMI253/99	99	253	80	110	92.5	92.5	3	2	8
HJHMI300/99	99	300	80	110	92.5	92.5	3	2	8
HJHMI304/99	99	304	80	110	92.5	92.5	3	2	8
HJHMI350/99	99	350	80	110	92.5	92.5	3	2	8
HJHMI356/99	99	356	80	110	92.5	92.5	3	2	8
HJHMI360/99	99	360	80	110	92.5	92.5	3	2	8
HJHMI373/99	99	373	80	110	92.5	92.5	3	2	8
HJHMI400/99	99	400	80	110	92.5	92.5	3	2	8
HJHMI417/99	99	417	80	110	92.5	92.5	3	2	8
HJHMI421/99	99	421	80	110	92.5	92.5	3	2	8
HJHMI424/99	99	424	80	110	92.5	92.5	3	2	8
HJHMI450/99	99	450	80	110	92.5	92.5	3	2	8
HJHMI200/109	109	200	80	110	92.5	92.5	3	2	8
HJHMI220/109	109	220	80	110	92.5	92.5	3	2	8
HJHMI240/109	109	240	80	110	92.5	92.5	3	2	8
HJHMI300/109	109	300	80	110	92.5	92.5	3	2	8
HJHMI360/109	109	360	80	110	92.5	92.5	3	2	8
HJHMI400/109	109	400	80	110	92.5	92.5	3	2	8
HJHMI200/122	122	200	80	110	92.5	92.5	3	2	8
HJHMI220/122	122	220	80	110	92.5	92.5	3	2	8
HJHMI240/122	122	240	80	110	92.5	92.5	3	2	8
HJHMI300/122	122	300	80	110	92.5	92.5	3	2	8
HJHMI350/122	122	350	80	110	92.5	92.5	3	2	8
HJHMI360/122	122	360	80	110	92.5	92.5	3	2	8
HJHMI400/122	122	400	80	110	92.5	92.5	3	2	8
HJHMI195/125	125	195	80	110	92.5	92.5	3	2	8
HJHMI220/125	125	220	80	110	92.5	92.5	3	2	8
HJHMI253/125	125	253	80	110	92.5	92.5	3	2	8
HJHMI304/125	125	304	80	110	92.5	92.5	3	2	8
HJHMI417/125	125	417	80	110	92.5	92.5	3	2	8
HJHMI220/128	128	220	80	110	92.5	92.5	3	2	8
HJHMI235/128	128	235	80	110	92.5	92.5	3	2	8
HJHMI245/128	128	245	80	110	92.5	92.5	3	2	8
HJHMI300/128	128	300	80	110	92.5	92.5	3	2	8

Model No.	Dimensions [mm]							Joist Holes	
	A	B	C	D	E	F	t	Ø4x6 Obround	Tri
HJHMI200/142	142	200	80	110	92.5	92.5	3	2	8
HJHMI220/142	142	220	80	110	92.5	92.5	3	2	8
HJHMI240/142	142	240	80	110	92.5	92.5	3	2	8
HJHMI300/142	142	300	80	110	92.5	92.5	3	2	8
HJHMI360/142	142	360	80	110	92.5	92.5	3	2	8
HJHMI400/142	142	400	80	110	92.5	92.5	3	2	8
HJHMI195/146	146	195	80	110	92.5	92.5	3	2	8
HJHMI200/146	146	200	80	110	92.5	92.5	3	2	8
HJHMI220/146	146	220	80	110	92.5	92.5	3	2	8
HJHMI225/146	146	225	80	110	92.5	92.5	3	2	8
HJHMI235/146	146	235	80	110	92.5	92.5	3	2	8
HJHMI245/146	146	245	80	110	92.5	92.5	3	2	8
HJHMI253/146	146	253	80	110	92.5	92.5	3	2	8
HJHMI300/146	146	300	80	110	92.5	92.5	3	2	8
HJHMI304/146	146	304	80	110	92.5	92.5	3	2	8
HJHMI350/146	146	350	80	110	92.5	92.5	3	2	8
HJHMI356/146	146	356	80	110	92.5	92.5	3	2	8
HJHMI373/146	146	373	80	110	92.5	92.5	3	2	8
HJHMI400/146	146	400	80	110	92.5	92.5	3	2	8
HJHMI417/146	146	417	80	110	92.5	92.5	3	2	8
HJHMI421/146	146	421	80	110	92.5	92.5	3	2	8
HJHMI424/146	146	424	80	110	92.5	92.5	3	2	8
HJHMI195/150	150	195	80	110	92.5	92.5	3	2	8
HJHMI220/150	150	220	80	110	92.5	92.5	3	2	8
HJHMI253/150	150	253	80	110	92.5	92.5	3	2	8
HJHMI304/150	150	304	80	110	92.5	92.5	3	2	8
HJHMI417/150	150	417	80	110	92.5	92.5	3	2	8
HJHMI195/182	182	195	80	110	92.5	92.5	3	2	8
HJHMI200/182	182	200	80	110	92.5	92.5	3	2	8
HJHMI220/182	182	220	80	110	92.5	92.5	3	2	8
HJHMI225/182	182	225	80	110	92.5	92.5	3	2	8
HJHMI235/182	182	235	80	110	92.5	92.5	3	2	8
HJHMI240/182	182	240	80	110	92.5	92.5	3	2	8
HJHMI245/182	182	245	80	110	92.5	92.5	3	2	8
HJHMI300/182	182	300	80	110	92.5	92.5	3	2	8
HJHMI350/182	182	350	80	110	92.5	92.5	3	2	8
HJHMI356/182	182	356	80	110	92.5	92.5	3	2	8
HJHMI360/182	182	360	80	110	92.5	92.5	3	2	8
HJHMI400/182	182	400	80	110	92.5	92.5	3	2	8
HJHMI406/182	182	406	80	110	92.5	92.5	3	2	8
HJHMI450/182	182	450	80	110	92.5	92.5	3	2	8
HJHMI195/196	196	195	80	110	92.5	92.5	3	2	8
HJHMI200/196	196	200	80	110	92.5	92.5	3	2	8
HJHMI220/196	196	220	80	110	92.5	92.5	3	2	8
HJHMI225/196	196	225	80	110	92.5	92.5	3	2	8
HJHMI235/196	196	235	80	110	92.5	92.5	3	2	8
HJHMI240/196	196	240	80	110	92.5	92.5	3	2	8
HJHMI245/196	196	245	80	110	92.5	92.5	3	2	8
HJHMI253/196	196	253	80	110	92.5	92.5	3	2	8
HJHMI300/196	196	300	80	110	92.5	92.5	3	2	8
HJHMI304/196	196	304	80	110	92.5	92.5	3	2	8
HJHMI350/196	196	350	80	110	92.5	92.5	3	2	8
HJHMI356/196	196	356	80	110	92.5	92.5	3	2	8
HJHMI360/196	196	360	80	110	92.5	92.5	3	2	8
HJHMI373/196	196	373	80	110	92.5	92.5	3	2	8
HJHMI400/196	196	400	80	110	92.5	92.5	3	2	8
HJHMI417/196	196	417	80	110	92.5	92.5	3	2	8
HJHMI421/196	196	421	80	110	92.5	92.5	3	2	8
HJHMI424/196	196	424	80	110	92.5	92.5	3	2	8
HJHMI195/246	246	195	80	110	92.5	92.5	3	2	8
HJHMI220/246	246	220	80	110	92.5	92.5	3	2	8
HJHMI253/246	246	253	80	110	92.5	92.5	3	2	8
HJHMI304/246	246	304	80	110	92.5	92.5	3	2	8
HJHMI195/296	296	195	80	110	92.5	92.5	3	2	8
HJHMI220/296	296	220	80	110	92.5	92.5	3	2	8
HJHMI253/296	296	253	80	110	92.5	92.5	3	2	8
HJHMI304/296	296	304	80	110	92.5	92.5	3	2	8

RHMSK

Skewed Masonry Hanger

The RHMSK is designed to support solid timber joists, I-Joists or metal web joists from masonry walls.

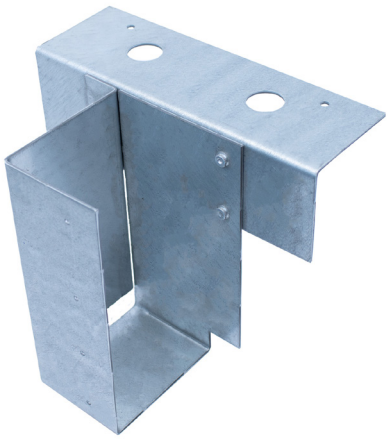
- Hanger design enables skew angles from 5˚-90˚ left or right.
- Full 90˚ skew option replaces the trimming detail around soil pipes.

Material: Pre-galvanised mild steel.

How to Order:

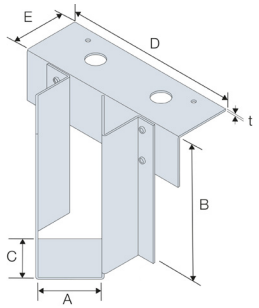
Specify hanger finished height, width, skew angle and direction.

Example:
For joist 200mm deep by 100mm wide with a right directional skew of 45˚ the code to order would be:
SPEC E RHMSK200 100 SKR45.



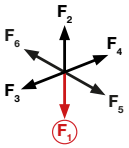
Product Dimensions

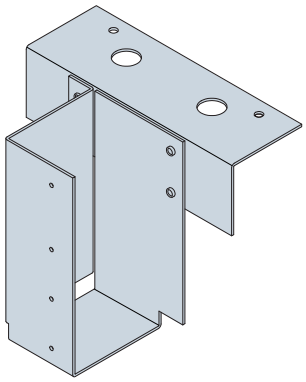
Model No.	Joist [mm]		Dimensions [mm]							Joist Holes
	Width	Height	A	B	C	D	E	t	Skew	Ø4.1
SPEC E RHMSK	61-150	100-400	61-150	100-400	75	240	75	2.5	5 - 85	4
RHMSK90RH	100	100-400	100	100-400	75	240	75	2.5	90	4
RHMSK90LH										



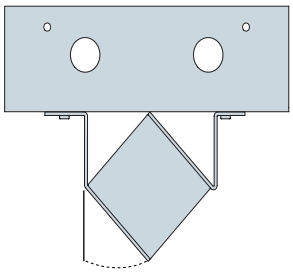
Product Performance

Model No	Joist Fasteners		Safe Working Loads [kN]		Characteristic Capacity [kN]	
			$R_{1,SWL}$		$R_{1,k}$	
	Qty	Type	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC	3.5N/mm² Solid AAC	7.0N/mm² Solid DAC
SPEC E RHMSK	4	N3.75x30	6.5	7.5	13.0	14.0
RHMSK90RH	4	N3.75x30	3.0	3.0	6.0	6.0
RHMSK90LH						

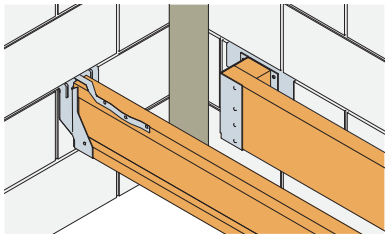




90° Skewed Right



SKR



Above left: JHMI supporting an I-Joist.
Above right: RHMSK supporting solid joist at 90˚ angle to the block wall.

Installation:
Build the masonry to the required level and leave to cure.

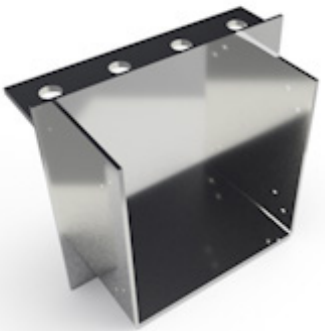
- Place hangers onto supporting block work, ensuring the hanger back flange is tight against the face of the block work.
- Continue with masonry above hanger ensuring a minimum of 675mm of masonry is above the hanger top flange and leave to cure. Mortar must be fully cured before any load is applied to the hanger.
- Install the joist into the hanger. The joist should be tight into the back of the hanger. A maximum gap of 6mm is permitted.
- Fix the joist to the hanger using all specified fasteners.
- If installing I-joists, web stiffeners are required. Web stiffeners should be installed in accordance with I-Joist manufacturers recommendations.
- Where the 90˚ skewed variant is used to frame around soil vent pipes, a solid blocking piece is to be fitted between the joist and hanger back flange so the joist is positioned 50mm from the face of the masonry wall.
  The blocking piece must be fitted to the joist prior to installing into the hanger. The blocking piece must be the same depth as the joist, the width to suit the remaining gap, and be at least 100mm long.

VHJHM

Very Heavy Masonry Hanger

The VHJHM is a heavy duty masonry hanger intended for supporting timber joists, beams and trussed rafters from a padstone in a masonry wall.

- The top flange provides the widest area of contact with the concrete padstone support.
- Superior performance.
- Skewed options available - up to 67.5° left or right.



Material: Mild steel - hot dip galvanised.

How to Order:

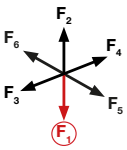
Specify hanger finished height, width, and if applicable, skew angle and direction.

Example:
For joist 200mm deep by 100mm wide with a right directional skew of 45°, the code to order would be:
SPEC E VHJHM200/100 SKR45.

CE

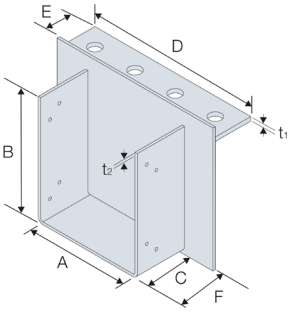
Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]							Joist Holes
	Width	Height	A	B	C	D	E	t_1	t_2	Ø6
SPEC E VHJHM	38 - 300	100 - 450	40 - 300	100 - 450	75	240	75	8.0	5.0	8



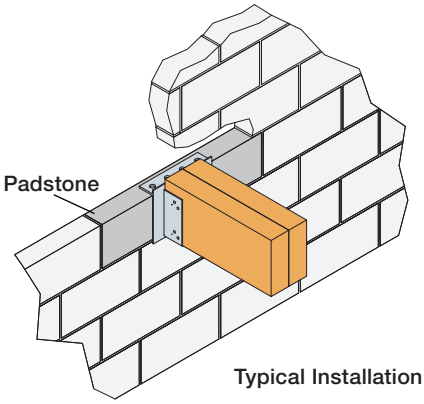
Performance Values

Model No.	Joist Fasteners		Safe Working Loads [kN]	Characteristic Capacity [kN]
			$R_{1,SWL}$	$R_{1,k}$
	Qty	Type	C30 Concrete Padstone	C30 Concrete Padstone
SPEC E VHJHM	8	N3.75x30	58.0	101.0

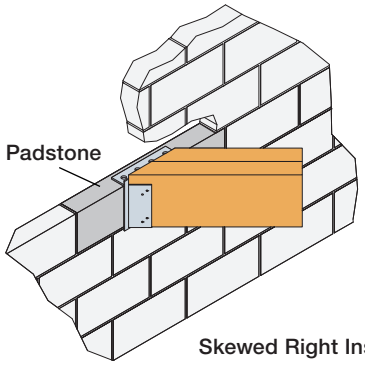


Installation:

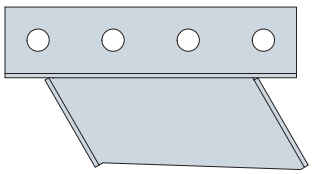
- The hanger top flange should be positioned centrally along the length of the concrete padstone. The padstone should be a minimum of 600mm long.
- Set the hanger back flange tight against the block wall when built to desired level, then continue with additonal courses to complete wall height. Joist should be tight into the back of the hanger. Maximum gap permitted is 6mm.
- Use all specified fasteners.
- A minimum 3 courses of solid block work (675mm masonry) is required above the hanger top flange, with mortar fully cured before applying load.
- Do not stack blocks or heavy loads on the joists during construction unless the joists have additonal support to take the full load of the blocks vertically and horizontally.



Typical Installation



Skewed Right Installation



VHJHM Top View
Skewed Right

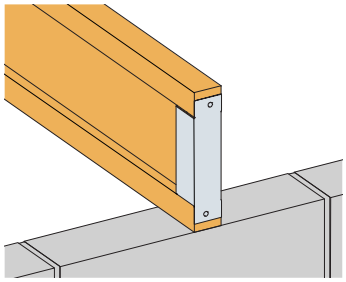
Simpson End Seal

Simpson End Seal: One solution for air leakage and sound transference requirements. The SES Simpson End Seal provides a fast and effective solution to reduce air leakage through 'pocket masonry' in block walls. Once installed, it removes the need for mastic sealant around the perimeter of joists (subject to good workmanship when mortar keying).

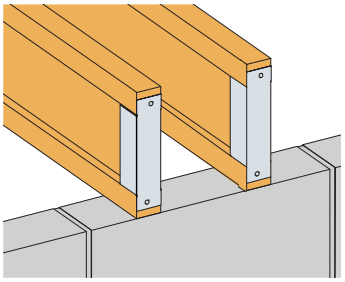
The SES is a cost effective way to help comply with the requirements of Part L (reduced air leakage) and Part E (reduced sound transference).

The SES allows for a full 100mm bearing of joist onto masonry walls.

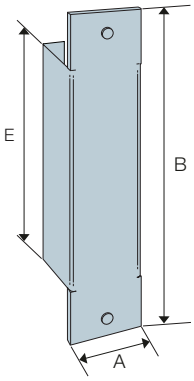
- Air leakage - reduces air leakage without the need for mastic sealant.
- Sound - meets the sound requirements of a proprietary joist cap as specified by Appendix A, Robust Details Part E Handbook.
- Fire - provides 1 hour of fire resistance (in compliance with Approved Document B part of the building regulations).
- Can be used on external and party walls.
- Meets the NHBC Technical requirements.
- Secure fixing - provided by 30mm square twist nails.

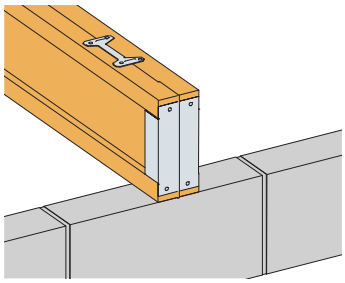


Step 1: Prepare block work to accept floor joists - no need for mortar on top. Position floor joists onto wall (only one joist shown for clarity). Fit the End Seal to the end of the joist as shown. Ensure that the End Seal is tight against the joist end and secure with two 3.75x30 square twist nails.

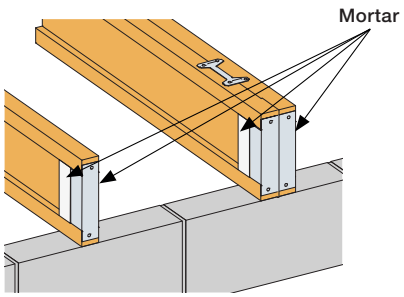


Step 2: When preparing a double joist, repeat installation step 1 on the second I-Joist.

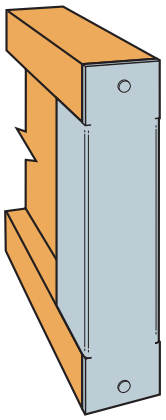


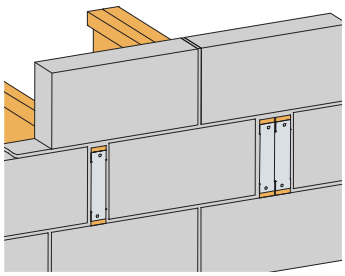


Step 3: Join the I-joists together, use mastic or expanding foam between the two joists to ensure air tight seal. It is recommended that the I-joists are joined together using 2 MJC (multi joist connector), one on top and one on the bottom of the I-joist at 200mm from the bearing point (SDW screws can be used as an alternative to MJC). Check with I-Joist manufacturer.



Step 4: Apply mortar to the void between the top and bottom chords of the I-joist on both sides of a single joist and to the outsides of a double joist, ensuring the mortar is packed against the End Seal.





Step 5: Lay a bed of mortar onto the top of the blocks ensuring mortar is laid tight up against the joist end. Lay blocks either side of the joist, ensuring mortar is applied to the block ends, completely fill all joints.

Lay the next bed of mortar on top of the blocks. Continue to build the wall as normal.

SES

I-Joist Manufacturer	I-Joist	Dimensions [mm]			Model No.	Dimensions [mm]		
		Height	Width	Flange Depth		A	B	E
MetsaWood	FJI 200/45-36	200	45	36	SES118/45	45	174	118
	FJI 220/45-36	220	45	36	SES138/45	45	194	138
	FJI 240/45-36	240	45	36	SES151/45	45	207	151
	FJI 300/45-36	300	45	36	SES218/45	45	274	218
	FJI 360/45-36	360	45	36	SES278/45	45	334	278
	FJI 400/45-36	400	45	36	SES318/45	45	374	318
	FJI 200/53-36	200	53	36	SES118/45	45	174	118
	FJI 220/53-36	220	53	36	SES138/45	45	194	138
	FJI 240/53-36	240	53	36	SES151/45	45	207	151
	FJI 300/53-36	300	53	36	SES218/45	45	274	218
	FJI 360/53-36	360	53	36	SES278/45	45	334	278
	FJI 400/53-36	400	53	36	SES318/45	45	374	318
	FJI 200/69-36	200	69	36	SES122/69	69	178	122
	FJI 220/69-36	220	69	36	SES138/69	69	194	138
	FJI 240/69-36	240	69	36	SES151/69	69	207	151
	FJI 300/69-36	300	69	36	SES218/69	69	274	218
	FJI 360/69-36	360	69	36	SES278/69	69	334	278
	FJI 400/69-36	400	69	36	SES318/69	69	374	318
	FJI 200/96-39	200	96	39	SES118/90	90	174	118
	FJI 220/96-39	220	96	39	SES138/90	90	194	138
	FJI 240/96-39	240	96	39	SES151/90	90	207	151
	FJI 300/96-39	300	96	39	SES218/90	90	274	218
	FJI 360/96-39	360	96	39	SES278/90	90	334	278
	FJI 400/96-39	400	96	39	SES318/90	90	374	318

I-Joist Manufacturer	I-Joist	Dimensions [mm]			Model No.	Product Dimensions [mm]		
		Height	Width	Flange Depth		A	B	E
James Jones	JJI 195/47-45	195	47	45	SES101/45	45	157	101
	JJI 220/47-45	220	47	45	SES122/45	45	178	122
	JJI 235/47-45	235	47	45	SES138/45	45	194	138
	JJI 245/47-45	245	47	45	SES151/45	45	207	151
	JJI 300/47-45	300	47	45	SES202/45	45	258	202
	JJI 220/63-45	220	63	45	SES122/60	60	178	122
	JJI 235/63-45	235	63	45	SES138/60	60	194	138
	JJI 245/63-45	245	63	45	SES151/60	60	207	151
	JJI 300/63-45	300	63	45	SES202/60	60	258	202
	JJI 195/72-45	195	72	45	SES101/69	69	157	101
	JJI 220/72-45	220	72	45	SES122/69	69	178	122
	JJI 235/72-45	235	72	45	SES138/69	69	194	138
	JJI 245/72-45	245	72	45	SES151/69	69	207	151
	JJI 300/72-45	300	72	45	SES202/69	69	258	202
	JJI 350/72-45	350	72	45	SES252/69	69	308	252
	JJI 400/72-45	400	72	45	SES302/69	69	358	302
	JJI 220/97-45	220	97	45	SES122/90	90	178	122
	JJI 235/97-45	235	97	45	SES138/90	90	194	138
	JJI 245/97-45	245	97	45	SES151/90	90	207	151
	JJI 300/97-45	300	97	45	SES202/90	90	258	202
	JJI 350/97-45	350	97	45	SES252/69	90	308	252
	JJI 400/97-45	400	97	45	SES302/90	90	358	302

I-Joist Manufacturer	I-Joist	Dimensions [mm]			Model No.	Product Dimensions [mm]		
		Height	Width	Flange Depth		A	B	E
Steico	S 200/45-39	200	45	39	SES118/45	45	174	118
	S 220/45-39	220	45	39	SES138/45	45	194	138
	S 240/45-39	240	45	39	SES151/45	45	207	151
	S 300/45-39	300	45	39	SES218/45	45	274	218
	S 360/45-39	360	45	39	SES278/45	45	334	278
	S 400/45-39	400	45	39	SES318/45	45	374	318
	S 200/60-39	200	60	39	SES118/60	60	174	118
	S 220/60-39	220	60	39	SES138/60	60	194	138
	S 240/60-39	240	60	39	SES151/60	60	207	151
	S 300/60-39	300	60	39	SES218/60	60	274	218
	S 360/60-39	360	60	39	SES278/60	60	334	278
	S 400/60-39	400	60	39	SES318/60	60	374	318
	S 200/90-39	200	90	39	SES118/90	90	174	118
	S 220/90-39	220	90	39	SES138/90	90	194	138
	S 240/90-39	240	90	39	SES151/90	90	207	151
	S 300/90-39	300	90	39	SES218/90	90	274	218
	S 360/90-39	360	90	39	SES278/90	90	334	278
	S 400/90-39	400	90	39	SES318/90	90	374	318

I-Joist Manufacturer	I-Joist	Dimensions [mm]			Model No.	Product Dimensions [mm]		
		Height	Width	Flange Depth		A	B	E
Masonite	M 220/47-47	220	47	47	SES122/45	45	178	122
	M 240/47-47	240	47	47	SES138/45	45	194	138
	M 300/47-47	300	47	47	SES202/45	45	258	202
	M 220/60-47	220	60	47	SES122/60	60	178	122
	M 240/60-47	240	60	47	SES138/60	60	194	138
	M 300/60-47	300	60	47	SES202/60	60	258	202
	M 350/60-47	350	60	47	SES252/60	60	308	252
	M 400/60-47	400	60	47	SES302/60	60	358	302
	M 220/70-47	220	70	47	SES122/69	69	178	122
	M 240/70-47	240	70	47	SES138/69	69	194	138
	M 300/70-47	300	70	47	SES202/69	69	258	202
	M 220/97-47	220	97	47	SES122/90	90	178	122
	M 240/97-47	240	97	47	SES138/90	90	194	138
	M 300/97-47	300	97	47	SES202/90	90	258	202
	M 350/97-47	350	97	47	SES252/90	90	308	252
	M 400/97-47	400	97	47	SES302/90	90	358	302

SFJC

Safety Fast Joist Cap

The SFJC is an innovative product which enables a safe, practical and robust solution that satisfies the requirements of 'Approved Document B & L' of the Building Regulations.

The SFJC is designed to be used where timber joists are built into a masonry external wall, and eliminates the air leakage problems associated with shrinkage of timber joists. It also provides resistance to fire for up to 60 minutes when gaps are filled with mineral wool.

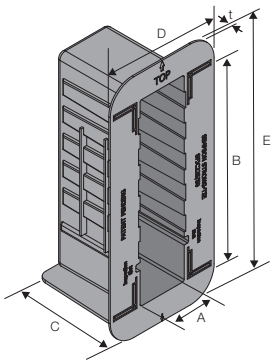
Material: Black polypropylene.

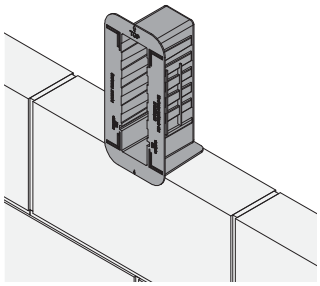
Benefits:

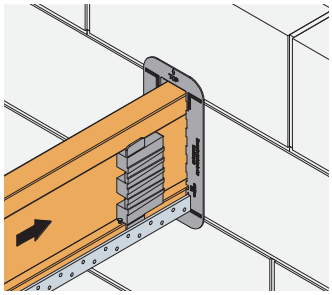
- SFJC225/50 specifically designed for up to 50mm wide solid joists and I-Joists, up to 225mm deep.
- SFJC305/50, SFJC305/100 and SFJC225/100 models accommodate a large range of joists types and sizes.
- Air leakage around the joist end is eliminated.
- Wide face flanges provide an air tight seal.
- Black polypropylene is recycable.

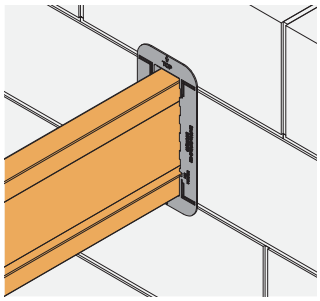
Product Dimensions

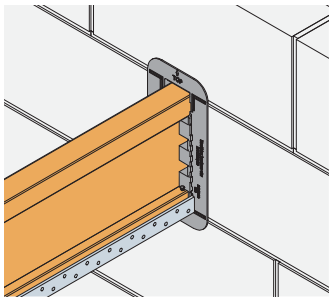
Model No.	Joist [mm]		Dimensions [mm]					
	Width	Height	A	B	C	D	E	t
SFJC225/50	38 - 50	up to 225	50	225	107	132	287	2.0
SFJC225/100	51 - 100	up to 225	100	225	107	182	287	2.0
SFJC305/50	38 - 50	up to 305	50	305	107	132	365	2.0
SFJC305/100	51 - 100	up to 305	100	305	107	182	365	2.0

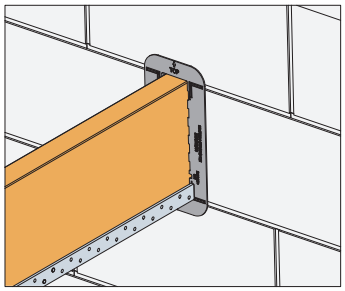












The SFJC does not provide any lateral stability to the joists during construction phase. It is therefore necessary to install temporary bracing in accordance with the joist manufacturers instructions and/or standard construction practice, to ensure temporary stability of the floor joists.

- Place the I-Joist onto wall and adjust to ensure correct bearing at each end.
- Lift the floor joist and install SFJC over the end of the joist, ensuring the SFJC face flanges are tight against the inner face on the masonry wall.
- I-Joists up to 50mm wide and 225/300mm high can be installed directly into the SFJC225/50 or SFJC305/50. For narrower joist widths use the wedge cut outs to pack the joist.
- SFJC225/100 & SFJC305/100 are for use with double I-joists up to 300mm high.
- Steel joist plates slide into the slots with the SFJC and are fixed to the top and bottom o the floor joists.
- Nail in place with two no N3.75x30mm square twist nails per plate.
- Install horizontal restraint straps at maximum 2m centres and nail to the timber joists with eight No N3.75x30mm square twist nails.
- Build up masonry between SFJC and continue with wall construction.
- Ensure all joints between the masonry and SFJC are fully filled with mortar.
- Also if necessary, fill the void around the joist wth mineral wool or expanding foam.

Insulated Concrete Form Hanger

The ICFLC and ICFVL-CW ledger connector system is engineered to solve the challenges of mounting steel or wood ledgers on insulated concrete walls.

The ledger connector system is easy, quick and versatile to use.
The perforations in the embedded leg of the ICFCL permit the concrete to flow around it, anchoring the ICFLC securely within the wall. The exposed flange provides a structural surface for mounting either a wood or a steel ledger.

Material: Pre-galvanised mild steel.

General Notes:

- Spacings shown apply to vertical loads only.
- No load duration increase is allowed.
- Minimum concrete grade C20/25.
- Do not splice ledger at ICFLC location.
- ICFVL-CW and ICFLC sold separately.

Product Dimensions

Model No.	Dimensions [mm]				Joist Holes
	A	B	C	D	Ø6.3
ICFLC	57	264	151	2.0	-
ICFVL-CW	178	184	46	1.6	8

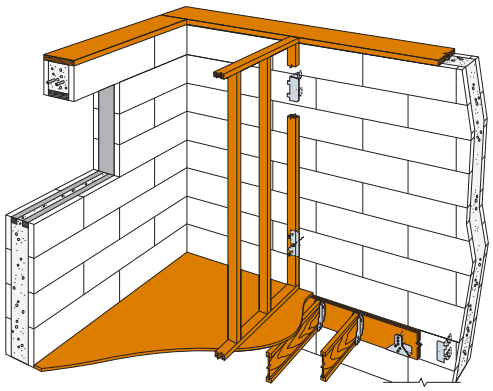
WARNING: Industry studies show that hardened fasteners can experience performance problems in wet environments. Accordingly, use this product in dry, interior applications only.

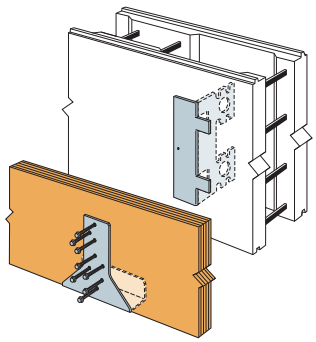
Product Values ICFLC and ICFVL-CW

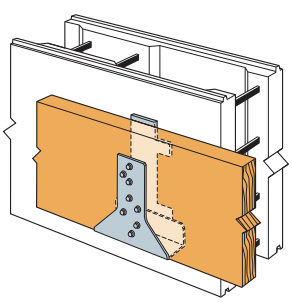
Ledger Type	Ledger Thickness [mm]	Maximum Connector Spacings [mm]	Fasteners	Safe Working Loads [kN]
				Download
Timber	45	1200	8 x ICF - D3.25[1]	8.5
Steel	1.6	350	4 x #14 x 3/4" [2][3]	7.3

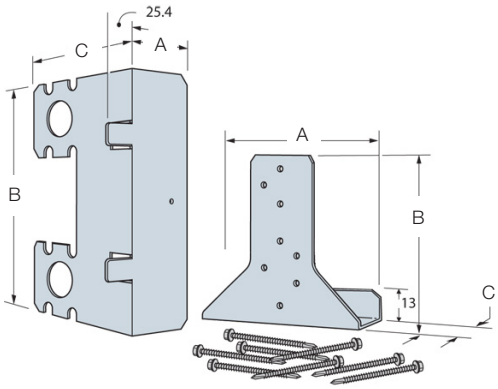
1. Screws provided.
2. 1/4 x 3/4" drill point screws not provided.
3. Minimum screw shear capacity is 3.3kN.
4. Minimum timber ledger is C16. Steel ledger specification A653SS Grade 50.

- Attach interior partition walls with suitable drill point screws into ICFLC where needed.
- Use ICFCL to connect to the concrete wall through the ICF.
- Use ICFVL-CW to attach ledger to ICF wall.
- Use a face fix hanger for I-Joist floor system.









Joist Hanger with Adjustable Height Strap

The JHA is a height adjustable joist hanger for supporting timber joists from timber members.

- A galvanised joist hanger that provides great support with ease of installation.
- Published performance values are based upon 3.75 x 30mm square twist nails being used throughout.
- Wider strap provides more surface area on the supporting timber and allows increased nail spacing, enhancing the performance of the critical hanger-to-support part of the connection.
- Minimum and maximum nailing schedules are stamped into the strap providing correct installation information for site operatives.
- Speed-prongs hold the hanger in position to allow easier attachment. The installer no longer has to try to hold hanger, joist and nail with one hand and swing a hammer with the other!
- JHA270 range features a location tab which allows easier alignment of the hanger.
- The model number and size is stamped into the seat of the hanger for easy identification, even after installation.

Material:
Pre-galvanised mild steel.

Installation:
Alternative installation methods are available depending on the availability of nailing surface.

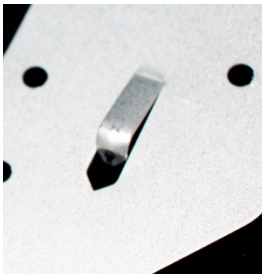
Maximum Nailing: All nails must be applied according to the table.

Minimum Nailing: For a lower installed cost, the minimum nailing schedule can be used. A minimum wrap over of 45mm is required.

Loft Conversions (JHA450 range): For applications where the hanger extends below the support. Install top, face, and joist nails according to the table.

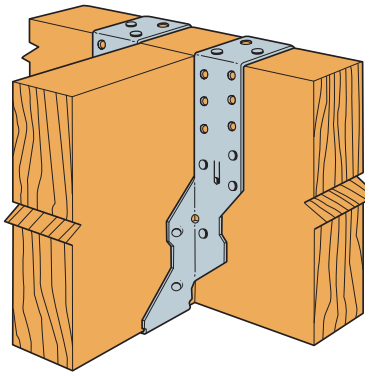
A minimum wrap over of 45mm is required or maximum nailing.

Options:
Because these hangers are fully die-formed they cannot be modified.

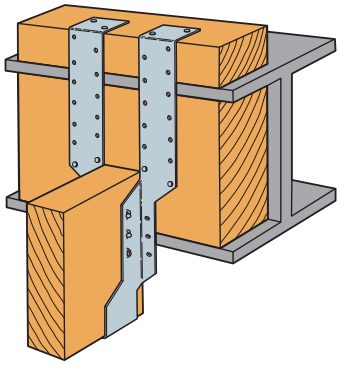


Speed Prongs (JHA270)

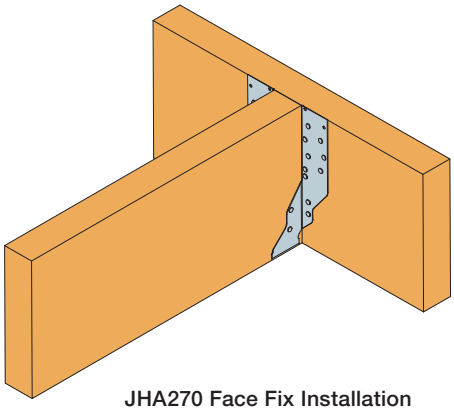
Location Tab (JHA270)



JHA270 Installation Wrap Over



JHA450 Below Support Installation

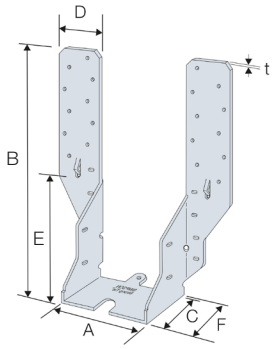


JHA270 Face Fix Installation

JHA

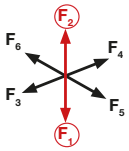
Product Dimensions

Model No.	Dimensions [mm]							Header Holes	Joist Holes
	A	B	C	D	E	F	t	Ø4	Ø6x4 Oblong
JHA270/38	38	241	50	49	106	52	0.9	22	4
JHA270/44	44	238	50	49	103	52	0.9	22	4
JHA270/47	47	237	50	49	102	52	0.9	24	4
JHA270/50	50	235	50	49	100	52	0.9	24	4
JHA270/63	63	249	50	49	114	52	0.9	22	4
JHA270/75	75	243	50	49	108	52	0.9	22	4
JHA270/91	91	234	50	49	100	52	0.9	22	4
JHA270/100	100	230	50	49	95	52	0.9	22	4
JHA450/38	38	481	50	52	191	62	1.5	38	6
JHA450/44	44	478	50	52	188	62	1.5	38	6
JHA450/47	47	477	50	52	187	62	1.5	38	6
JHA450/50	50	475	50	52	185	62	1.5	38	6
JHA450/63	63	469	50	52	179	62	1.5	38	6
JHA450/75	75	463	50	52	173	62	1.5	38	6
JHA450/91	91	455	50	52	165	62	1.5	38	6
JHA450/100	100	450	50	52	160	62	1.5	38	6
JHA450/125	125	453	63	52	163	65	1.5	38	6
JHA450/137	137	447	63	52	157	65	1.5	38	6
JHA450/150	150	440	63	52	150	65	1.5	38	6



Performance Values

Model No.	Installation	Header Member Depth [mm]	Fasteners			Safe Working Loads [kN]			Characteristic Capacities [kN]	
			Header Qty		Joist	$R_{1,SWL,Long\ term}$	$R_{1,SWL,Med\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
			Face	Top	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
JHA270/38	Wrap Over	125 - 200	8	4	4	4.2	4.8	1.1	10.0	2.1
JHA270/38	Face Fix	200 - 250	20	-	4	3.2	3.6	1.1	7.6	2.1
JHA270/44	Wrap Over	125 - 200	8	4	4	4.8	5.5	1.1	11.6	2.1
JHA270/44	Face Fix	200 - 250	20	-	4	3.2	3.6	1.1	7.6	2.1
JHA270/47	Wrap Over	125 - 200	8	4	4	5.2	5.9	1.1	12.4	2.1
JHA270/47	Face Fix	200 - 250	20	-	4	3.2	3.6	1.1	7.6	2.1
JHA270/50-100	Wrap Over	125 - 200	8	4	4	5.5	6.2	1.1	13.1	2.1
JHA270/50-100	Face Fix	200 - 250	20	-	4	3.2	3.6	1.1	7.6	2.1
JHA450/38	Wrap Over	200 - 300	8	4	6	4.2	4.8	1.6	10.0	3.1
JHA450/38	Face Fix	200 - 300	20	-	6	4.2	4.8	1.6	10.0	3.1
JHA450/44	Wrap Over	200 - 300	8	4	6	4.8	5.5	1.6	11.6	3.1
JHA450/44	Face Fix	200 - 300	20	-	6	4.4	5.1	1.6	10.6	3.1
JHA450/47	Wrap Over	200 - 300	8	4	6	5.2	5.9	1.6	12.4	3.1
JHA450/47	Face Fix	200 - 300	20	-	6	4.4	5.1	1.6	10.6	3.1
JHA450/50-100	Wrap Over	200 - 300	8	4	6	5.5	6.3	1.6	13.2	3.1
JHA450/50-100	Face Fix	200 - 300	20	-	6	4.4	5.1	1.6	10.6	3.1
JHA450/125-150	Wrap Over	175 - 300	8	4	6	5.7	6.5	1.6	13.6	3.1
JHA450/125-150	Face Fix	175 - 300	20	-	6	4.8	5.5	1.6	11.6	3.1
JHA450/(38-100)	Below Support	200 - 300	4	4	6	4.0	4.6	-	9.6	-
JHA450/(125-150)	Below Support	175 - 300	4	4	6	4.2	4.8	-	10.1	-



Concealed Flange Face Fix Hanger

The IUC is a face mounted concealed flange hanger for solid timber sections or engineered joists.

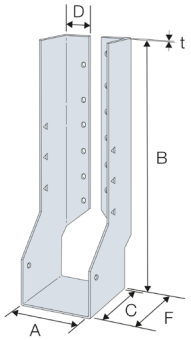
Material: Pre-galvanised mild steel.

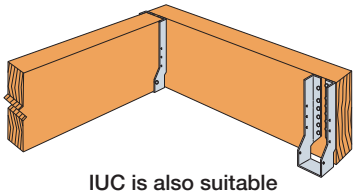
Installation: Use all specified fasteners (see table below). Verify that the header can take the fasteners specified in the table. Web stiffeners are not required with I-Joists when the top flange is laterally supported by both sides of the hanger.

Options: These hangers cannot be skewed but will normally accomodate a skew of up to 5°. For concealed flange hangers with widths greater than 91mm see SAI hanger catalogue page.

Product Dimensions

Model No.	Joist [mm]				Dimensions [mm]						Header Holes	Joist Holes	
	Width		Height										
	Min	Max.	Min	Max.	A	B	C	D	F	t	Ø4	Ø6x4 Oblong	Tri
IUC142/40	38	40	145	175	40	142	51	19	57	1.2	6	2	6
IUC192/40	38	40	195	220	40	192	51	19	57	1.2	10	2	6
IUC217/40	38	40	220	245	40	217	51	19	57	1.2	12	2	6
IUC142/47	45	47	145	175	47	142	51	19	57	1.2	6	2	6
IUC192/47	45	47	195	220	47	192	51	19	57	1.2	10	2	6
IUC217/47	45	47	220	245	47	217	51	19	57	1.2	12	2	6
IUC192/50	47	50	195	220	50	192	51	19	57	1.2	10	2	6
IUC217/50	47	50	220	245	50	217	51	19	57	1.2	12	2	6
IUC192/53	51	53	195	220	53	192	51	19	57	1.2	10	2	6
IUC217/53	51	53	220	245	53	217	51	19	57	1.2	12	2	6
IUC192/61	59	61	195	220	61	192	51	19	57	1.2	10	2	6
IUC217/61	59	61	220	245	61	217	51	19	57	1.2	12	2	6
IUC192/66	63	66	195	220	66	192	51	19	57	1.2	10	2	6
IUC217/66	63	66	220	245	66	217	51	19	57	1.2	12	2	6
IUC192/72	70	72	195	220	72	192	51	19	57	1.2	10	2	6
IUC217/72	70	72	220	245	72	217	51	19	57	1.2	12	2	6
IUC192/75	72	75	195	220	75	192	51	19	57	1.2	10	2	6
IUC217/75	72	75	220	245	75	217	51	19	57	1.2	12	2	6
IUC192/91	89	91	195	220	91	192	51	19	57	1.2	10	2	6
IUC217/91	89	91	220	245	91	217	51	19	57	1.2	12	2	6





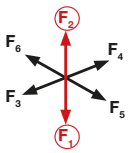
IUC is also suitable for I-joist installations provided backer blocks are used.

Performance Values

Model No.	Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]		
	Header	Joist	$R_{1,k}$ C16 or I Joist Header	$R_{1,k}$ C24 or LVL Header	$R_{2,K\ Short\ Term}$	$R_{1,k}$ C16 or I Joist Header	$R_{1,k}$ C24 or LVL Header	$R_{2,k}$
	Qty	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
IUC142	6	2	2.1	2.4	0.9	3.8	8.1	1.8
IUC192	10	2	3.5	4.1	0.9	7.5	13.5	1.8
IUC217	12	2	4.2	4.9	0.9	10.0	16.2	1.8

Performance Values

Model No.	Fasteners[1]		Safe Working Loads [kN]			Characteristic Capacities [kN]		
	Header	Joist	$R_{1,k}$ C16 or I Joist Header	$R_{1,k}$ C24 or LVL Header	$R_{2,k\ Short\ Term}$	$R_{1,k}$ C16 or I Joist Header	$R_{1,k}$ C24 or LVL Header	$R_{2,k}$
	Qty	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
IUC142	6	2	2.6	3.0	0.9	7.9	10.7	1.8
IUC192	10	2	4.3	5.0	0.9	13.1	17.8	1.8
IUC217	12	2	5.1	5.9	0.9	15.7	21.4	1.8



Face Fix Hangers

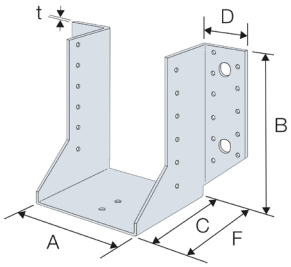
The SAE and SAI ranges are heavy-duty hangers designed for timber to timber applications requiring additional strength.

- The hanger depth is to be at least 60% of the carried member depth to prevent rotation, unless additional lateral restraint is added to the top of the carried member.
- SAE hangers have bolt holes for 12mm fasteners if required.
- SAE timber bolted capacity to be determined according to the relevant standards.
- SAI hangers are not recommended for bolted applications.
- SAI minimum width is 91mm. For small widths of internal flange hangers see IUC.

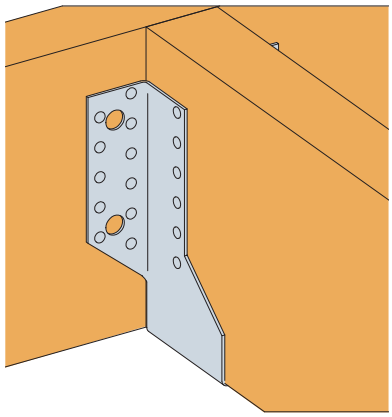
Material: Pre-galvanised mild steel.

Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]						Header Holes			Joist Holes
	Min	Max	A	B	C	D	F	t	Ø5	Ø11	Ø13	Ø5
SAE200/38/2	35	38	38	81	84	42	86	2	8	2	-	5
SAE250/38/2	35	38	38	106	84	42	86	2	12	2	-	7
SAE380/38/2/25	35	38	38	171	84	42	86	2	20	-	4	10
SAE500/38/2	35	38	38	231	84	42	86	2	32	-	6	16
SAE600/38/2	35	38	38	281	88	36	90	2	36	-	4	20
SAE200/40/2	37	40	40	80	84	42	86	2	8	2	-	5
SAE250/40/2	37	40	40	105	84	42	86	2	12	2	-	7
SAE380/40/2/25	37	40	40	170	84	42	86	2	20	-	4	10
SAE500/40/2	37	40	40	230	84	42	86	2	32	-	6	16
SAE600/40/2	37	40	40	280	88	36	90	2	36	-	4	20
SAE200/47/2	44	47	47	77	88	42	90	2	8	2	-	5
SAE250/47/2	44	47	47	102	88	42	90	2	12	2	-	7
SAE380/47/2/25	44	47	47	167	84	42	86	2	20	-	4	10
SAE500/47/2	44	47	47	227	84	42	86	2	32	-	6	16
SAE600/47/2	44	47	47	277	88	36	90	2	36	-	4	20
SAE200/50/2	47	50	50	75	84	42	86	2	8	2	-	5
SAE250/50/2	47	50	50	100	84	42	86	2	12	2	-	7
SAE380/50/2/25	47	50	50	165	84	42	86	2	20	-	4	10
SAE500/50/2	47	50	50	225	84	42	86	2	32	-	6	16
SAE600/50/2	47	50	50	275	88	36	90	2	36	-	4	20
SAE380/56/2/25	53	56	56	162	84	42	86	2	20	-	4	10
SAE500/56/2	53	56	56	222	84	42	86	2	32	-	6	16
SAE600/56/2	53	56	56	272	88	36	90	2	36	-	4	20
SAE380/63/2/25	60	63	63	159	84	42	86	2	20	-	4	10
SAE500/63/2	60	63	63	219	84	42	86	2	32	-	6	16
SAE600/63/2	60	63	63	269	88	36	90	2	36	-	4	20
SAE380/66/2/25	63	66	66	157	84	42	86	2	20	-	4	10
SAE500/66/2	63	66	66	217	84	42	86	2	32	-	6	16
SAE600/66/2	63	66	66	267	88	36	90	2	36	-	4	20
SAE380/72/2/25	69	72	72	154	84	42	86	2	20	-	4	10
SAE500/72/2	69	72	72	214	84	42	86	2	32	-	6	16
SAE600/72/2	69	72	72	264	88	36	90	2	36	-	4	20
SAE250/75/2	72	75	75	88	84	42	86	2	8	2	-	5
SAE380/75/2/25	72	75	75	153	84	42	86	2	20	-	4	10
SAE500/75/2	72	75	75	213	84	42	86	2	32	-	6	16
SAE600/75/2	72	75	75	263	88	36	90	2	36	-	4	20
SAE380/78/2/25	75	78	78	151	84	42	86	2	20	-	4	10
SAE500/78/2	75	78	78	211	84	42	86	2	32	-	6	16
SAE600/78/2	75	78	78	261	88	36	90	2	36	-	4	20



SAE

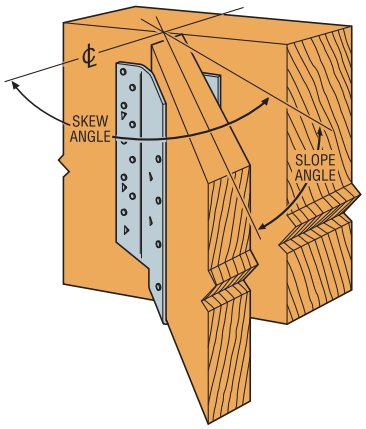


Typical SAE Installation

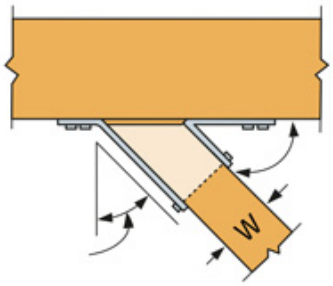
SAE/SAI

Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]						Header Holes			Joist Holes
	Min	Max	A	B	C	D	F	t	Ø5	Ø11	Ø13	Ø5
SAE380/91/2/25	88	91	91	145	84	42	86	2	20	-	4	10
SAE500/91/2	88	91	91	205	84	42	86	2	32	-	6	16
SAE600/91/2	88	91	91	255	88	36	90	2	36	-	4	20
SAE380/96/2/25	93	96	96	142	84	42	86	2	20	-	4	10
SAE500/96/2	93	96	96	202	84	42	86	2	32	-	6	16
SAE600/96/2	93	96	96	252	88	36	90	2	36	-	4	20
SAE380/99/2/25	96	99	99	141	84	42	86	2	20	-	4	10
SAE500/99/2	96	99	99	201	84	42	86	2	32	-	6	16
SAE600/99/2	96	99	99	251	88	36	90	2	36	-	4	20
SAE380/109/2/25	106	109	109	136	84	42	86	2	20	-	4	10
SAE500/109/2	106	109	109	196	84	42	86	2	32	-	6	16
SAE600/109/2	106	109	109	246	88	36	90	2	36	-	4	20
SAE500/118/2	115	118	118	50	84	42	86	2	32	-	6	16
SAE600/118/2	115	118	118	241	88	36	90	2	36	-	4	20
SAE500/122/2	119	122	122	189	84	42	86	2	32	-	6	16
SAE600/122/2	119	122	122	239	88	36	90	2	36	-	4	20
SAE500/125/2	122	125	125	188	84	42	86	2	32	-	6	16
SAE600/125/2	122	125	125	238	88	36	90	2	36	-	4	20
SAE500/128/2	125	128	128	186	84	42	86	2	32	-	6	16
SAE600/128/2	125	128	128	236	88	36	90	2	36	-	4	20
SAE500/135/2	133	135	135	183	84	42	86	2	32	-	6	16
SAE600/135/2	133	135	135	233	88	36	90	2	36	-	4	20
SAE500/142/2	139	142	142	179	84	42	86	2	32	-	6	16
SAE600/142/2	139	142	142	229	88	36	90	2	36	-	4	20
SAE500/146/2	143	146	146	177	84	42	86	2	32	-	6	16
SAE600/146/2	143	146	146	227	88	36	90	2	36	-	4	20
SAEL500/150/2	147	150	150	175	84	42	86	2	32	-	6	16
SAE600/150/2	147	150	150	225	88	36	90	2	36	-	4	20
SAE500/182/2	179	182	182	159	84	42	86	2	32	-	6	16
SAE600/182/2	179	182	182	220	88	36	90	2	36	-	4	20
SAE720/182/2	179	182	182	269	75	38	77	2	38	-	6	20
SAE600/196/2	193	196	196	220	88	42	90	2	36	-	4	20
SAE720/196/2	193	196	196	262	75	38	77	2	38	-	6	20
SAE590/200/2	197	200	200	195	88	42	90	2	30	-	6	20
SAE690X	201	300	200 - 300	195	88	42	90	2	30	-	6	20



Typical SAE(X) Sloped down, skewed right installation (no bolt holes)



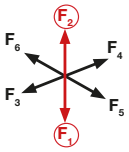
Top view SAE(X) Hanger Skewed right (no bolt holes)

Performance Values

Model No.	Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]		
	Header	Joist	$R_{1,SWL}$ C16 or I Joist Header	$R_{1,SWL}$ C24 or LVL Header	$R_{2,SWL,Short\ Term}$	$R_{1,k}$ C16 or I Joist Header	$R_{1,k}$ C24 or LVL Header	$R_{2,k}$
	Qty	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
SAE200	8	5	3.2	3.4	2.1	7.6	8.1	4.2
SAE250	12	7	5.3	5.6	3.0	12.7	13.5	5.9
SAE380	20	10	7.6	8.1	4.2	18.2	19.4	8.5
SAE500	32	16	13.9	14.8	6.1	33.3	35.6	12.2
SAE600	36	20	17.6	18.8	8.4	42.2	45.1	15.9
SAE720	38	20	18.6	19.8	8.4	44.6	47.6	16.7
SAE590	30	20	10.7	13.2	8.4	25.8	26.5	16.7
SAE690X	30	20	10.7	13.2	8.4	25.8	26.5	16.7

SAE(X) Made to Order Specials Performance Values

Model No.	Dimensions [mm]			Fasteners		Safe Working Load [kN]
	A	B	C	Header	Joist	$R_{1,SWL,Long\ Term}$ C16 Header
				Qty	Qty	N3.75x30
SAE250X	40-76	87 -105	64	6	4	2.3
SAE380X	38-150	140 - 175	64	14	6	5.4
SAE500X	38-150	175 - 235	64	18	8	6.9
SAE600X	38-150	235 - 290	64	28	10	10.8
SAE720X	40-182	269 - 340	64	28	10	10.8



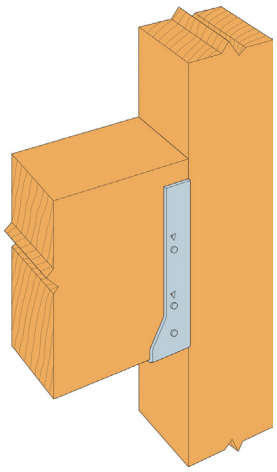
SAE/SAI

Product Dimensions

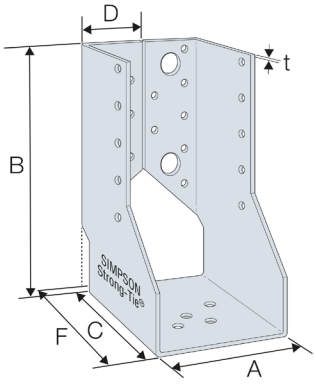
Model No.	Joist [mm]		Dimensions [mm]						Header Holes		Joist Holes
	Min	Max	A	B	C	D	F	t	Ø5	Ø13	Ø5
SAI380/91/2	88	91	91	145	76	34	82	2	20	4	10
SAI500/91/2	88	91	91	205	76	34	82	2	32	6	16
SAI600/91/2	88	91	91	265	90	38	94	2	36	4	20
SAI380/99/2	96	99	99	141	76	34	82	2	20	4	10
SAI500/99/2	96	99	99	201	76	34	82	2	32	6	16
SAI600/99/2	96	99	99	251	90	38	94	2	36	4	20
SAI500/118/2	115	118	118	191	76	34	82	2	32	6	16
SAI600/118/2	115	118	118	241	90	38	94	2	36	4	20
SAI500/125/2	122	125	125	188	76	34	82	2	32	6	16
SAI600/125/2	122	125	125	238	90	38	94	2	36	4	20
SAI500/150/2	147	150	150	175	76	34	82	2	32	6	16
SAI600/150/2	147	150	150	225	90	38	94	2	36	4	20
SAI600/182/2	179	182	182	220	90	38	94	2	36	4	20
SAI720/182/2	179	182	182	269	72	40	76	2	38	8	20
SAI600/196/2	193	196	182	220	90	38	94	2	36	4	20
SAI720/196/2	193	196	182	262	72	40	76	2	38	8	20
SAI590/200/2	197	200	200	195	78	42	84	2	30	6	20
SAI690X	201	300	200 - 300	195	78	42	84	2	30	6	20

Performance Values

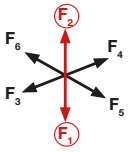
Model No.	Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]		
	Header	Joist	$R_{1,SWL}$ C16 or I Joist Header	$R_{1,SWL}$ C24 or LVL Header	$R_{2,SWL,Short\ Term}$	$R_{1,k}$ C16 or I Joist Header	$R_{1,k}$ C24 or LVL Header	$R_{2,k}$
	Qty	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
SAI380	20	10	7.6	8.1	4.2	18.2	19.4	8.5
SAI500	32	16	13.9	14.8	6.1	33.3	35.6	12.2
SAI600	36	20	17.6	18.8	8.4	42.2	45.1	15.9
SAI720	38	20	18.6	19.8	8.4	44.6	47.6	16.7
SAI590	30	20	10.7	13.2	8.4	25.8	26.5	16.7
SAI690X	30	20	10.7	13.2	8.4	25.8	26.5	16.7



Typical SAI Installation on a post



SAI



MHA

Mini Hanger

NEW

The MHA is a galvanised hanger available in a range of widths for small timber sections and timber members; such as trimmers and ceiling joists.

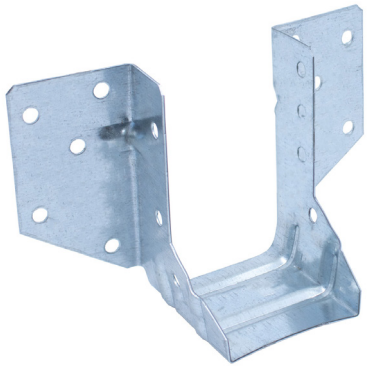
Material: Pre-galvanised mild steel.

Installation: For solid header fill all nail holes. For I-Joist headers fill the bottom two nail holes on each side.

- Hanger depth should be at least 60% of carried member depth to prevent rotation. If less than 60%, then additional lateral restraint to the top of the carried member is required.

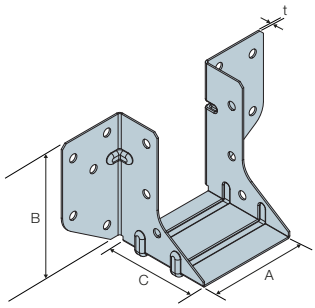
STN RECOMMENDED FIXINGS

CE



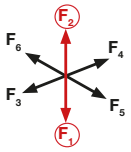
Product Dimensions

Model No.	Dimensions [mm]				Header Holes	Joist Holes
	A	B	C	t	Ø4.1	Ø4.1
MHA38	38	66	45	0.8	10	6
MHA44	44	63	45	0.8	10	6
MHA47	47	62	45	0.8	10	6
MHA50	50	60	45	0.8	10	6



Performance Values - Solid Sawn

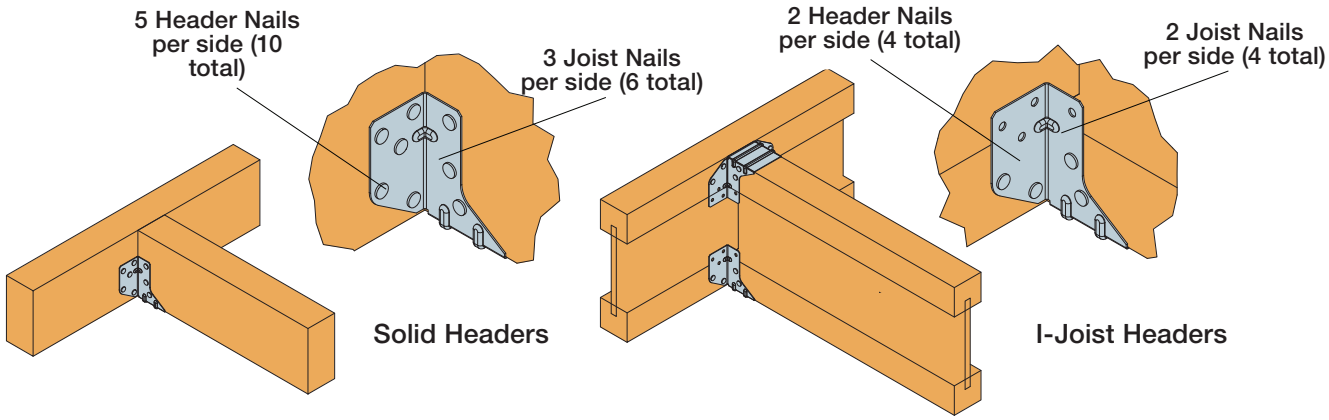
Model No.	Fasteners		Safe Working Loads [kN]				Characteristic Capacities [kN]			
			$R_{1,SWL,Long\ Term}$			Short Term (uplift)	$R_{1.k}$			$R_{2.k}$
	Header Qty	Joist Qty	C16 Header	C24 Header	TR26 Header	C16 Joist	C16 Header	C24 Header	TR26 Header	C16 Joist
			N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
MHA38	10	6	3.4	3.7	3.8	1.3	8.1	8.8	9.2	2.5
MHA44	10	6	3.4	3.7	3.8	1.3	8.1	8.8	9.2	2.5
MHA47	10	6	3.4	3.7	3.8	1.3	8.1	8.8	9.2	2.5
MHA50	10	6	3.4	3.7	3.8	1.3	8.1	8.8	9.2	2.5



Performance Values - I-Joists (based on a pair)

Model No.	Header Holes	Joist Holes	Safe Working Loads [kN]				Characteristic Capacities [kN]			
			$R_{1,SWL,Long\ Term}$		$R_{2,SWL,Long\ Term}$		$R_{1.k}$		$R_{2.k}$	
	Ø4.1	Ø4.1	C24 Flanges	LVL Flanges	C24 Flanges	LVL Flanges	C24 Flanges	LVL Flanges	C24 Flanges	LVL Flanges
			N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
MHA38	8	8	1.6	1.5	2.0	1.8	3.9	3.5	3.9	3.5
MHA44	8	8	1.6	1.5	2.0	1.8	3.9	3.5	3.9	3.5
MHA47	8	8	1.6	1.5	2.0	1.8	3.9	3.5	3.9	3.5
MHA50	8	8	1.6	1.5	2.0	1.8	3.9	3.5	3.9	3.5

Note: MHA hangers to be installed inpairs, as illustrated below, for I-Joist headers.



NOTE: The MHA replaces the existing LUP & MH range which will still be available until 4th Quarter 2019.

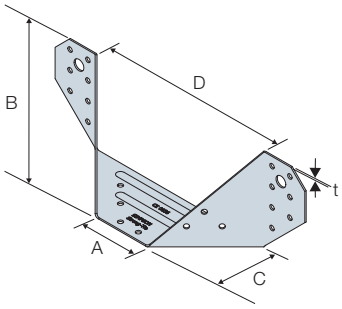
ET

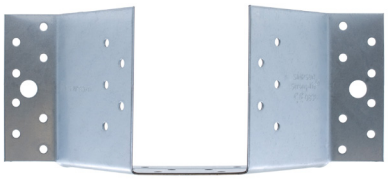
Skewed 45° Hanger

The ET is used for supporting skewed timber joists from timber members. This range is tested and standardised with a 45° skew angle left or right.

Material: Pre-galvanised mild steel.

Installation:
Use all specified fasteners. See General Notes. Verify that the header can take the required fasteners specified in the table.





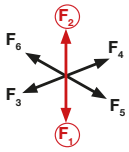
Product Dimensions

Model No.	Joist Size [mm]			Dimensions [mm]						Header Holes [mm]		Joist Holes [mm]
	Width	Height		A	B	C	D	F	t	Ø5	Ø11	Ø5
		Min	Max.									
ET248	38	97	145	59	92	65	189	46	1.5	14	2	6
ET260	47	97	145	67	95	55	177	35	1.5	16	2	10
ET301	2x38	97	145	108	95	55	218	35	1.5	16	2	16

- Use an LS skewable angle for extra stability if the joist height exceeds 195mm.

Performance Values

Model No.	Fasteners		Safe Working Loads [kN]	Characteristic Capacities [kN]
			$R_{1,SWL,Long\ Term}$ C24 Timber	$R_{1,k}$ C24 Timber
	Header Qty	Joist Qty	CNA4.0x35	CNA4.0x35
ET248	14	6	3.6	8.8
ET260	16	10	4.4	10.6
ET301	16	16	4.7	4.7



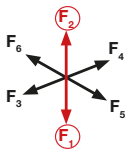
SDE

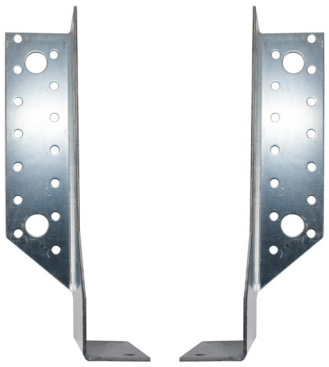
Width Adjustable Face Fix Hanger

The SDE is a two piece, width adjustable face fix hanger. The two separate components that make up the SDE system can be adjusted to suit a range of joist widths between 60mm to 120mm. Each SDE is supplied as a pair. Optional bolt holes (13mm diameter).

Material: Pre-galvanised mild steel.

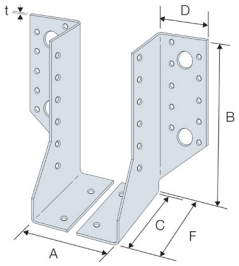
Installation:
- Use all fasteners as specified in the table below. Check that the header can accomodate the fasteners specified. Each SDE piece must also be nailed through the holes underneath the joist.

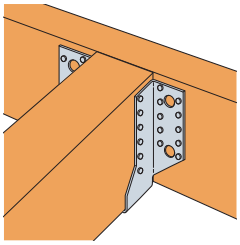




Product Dimensions

Model No.	Joise Size [mm]				Dimensions [mm]						Header Holes [mm]		Joist Holes [mm]
	Width		Height		A	B	C	D	F	t	Ø5	Ø13	Ø5
	Min	Max.	Min	Max.									
SDE300/30	60	160	120	177	60-120	118	84	42	86	2	18	4	14
SDE340/30	60	160	140	207	60-120	138	84	42	86	2	22	4	16
SDE380/30	60	160	160	237	60-120	158	84	42	86	2	22	4	16
SDE440/30	60	160	190	282	60-120	188	84	42	86	2	28	4	20





Performance Values (based on a pair)

Model No.	Fasteners		Safe Working Loads [kN]		Characteristic Capacities [kN]	
			$R_{2,SWL,Long\ Term}$ C24Header	$R_{2,\ Short\ Term}$	$R_{1,k}$ C24 Header	$R_{2,k}$
	Header Qty	Joist Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30
SDE300/30	18	14	3.0	4.5	1.3	2.3
SDE340/30	22	16	3.9	6.3	1.6	3.2
SDE380/30	22	16	11.5	6.3	4.8	3.2
SDE440/30	28	20	14.3	9.4	6.0	4.7

Performance Values (based on a pair)

Model No.	Fasteners		Safe Working Loads [kN]		Characteristic Capacities [kN]	
			$R_{1,SWL,Long\ Term}$ C24 Header	$R_{2,SWL,Short\ Term}$	$R_{1,k}$ C24 Header	$R_{2,k,}$
	Header Qty	Joist Qty	N4.0x100	N3.75x30	N4.0x100	N3.75x30
SDE300/30	18	14	9.6	9.6	4.0	4.8
SDE340/30	22	16	11.5	11.5	4.8	5.8
SDE380/30	22	16	11.5	11.5	4.8	5.8
SDE440/30	28	20	14.3	14.3	6.0	7.2

Concealed Beam Hanger

The TU galvanised steel, load rated hanger provides an aesthetically attractive connection for exposed beams. Mild steel dowels and screws are included.

Material: Pre-galvanised mild steel.
Dowels: Mild steel electroplated zinc coating.

Installation:

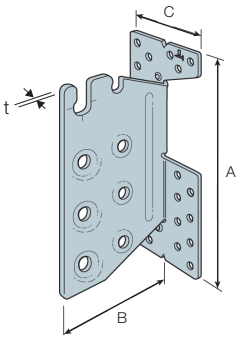
- Dowels aligned across the grain may cause splitting if the wood shrinks excessively. Use only in glulam, composite timber or well dried timber. Verify that the header can take the required fasteners specified in the table.
- Attach to the supporting beam with CSA 5.0 x 40mm screws (supplied).
- Specify dowel length and TU size to fit the application.
- Preparation of carried beam is best done off-site with cutting and boring tools.
- Holes in beam should be same diameter as dowel to ensure tight fit.
- Centre the TU within height of carried beam.
- Centre dowels within the width of the carried member
- For a sloped installation the TU hanger remains as standard and the timber is cut and angled to suit the slope.
- Recommended for internal dry environments (service class 1 & 2) only.

Options:

- The standard installation will leave a 5mm gap between carried and supporting beams.
- Pocket installation gives a fully concealed connection.
- Skewed installation up to 60°. Sloped installation maximum 45°.
- Options: Skewed TU available. (To be factory ordered.)
- Additional screws are available to order.

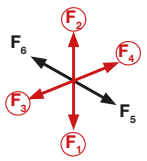
Product Dimensions

Model No.	Joist Size [mm]					Dimensions [mm]				Header Holes [mm]	Joist Holes [mm]	
	Width		Height									
	Min	Max.	Min Slope = 0	Min Slope > 0	Max.	A	B	C	t	Ø5	Ø8.5	Ø12.5
TU12	45	120	120	160	200	96	98	40	3.5	6	4	-
TU16	60	160	160	190	240	134	105	60	3.5	18	-	3
TU20	60	160	200	225	280	174	105	60	3.5	22	-	4
TU24	60	160	240	260	300	214	105	60	3.5	26	-	5
TU28	60	160	280	295	340	254	105	60	3.5	30	-	6



Performance Values

Model No.	Standard Installation - Slope = 0, Skew = 0															
	Fasteners				Characteristic Capacities - Timber C24 [kN]											
	Header		Joist		$R_{1,k}$				$R_{2,k}$				$R_{3,} = R_{4,k}$			
	Qty	Screw	Qty	Dowel	Dowel Length [mm]				Dowel Length [mm]				Dowel Length [mm]			
					60	80	100	120	60	80	100	120	60	80	100	120
TU12	6	CSA5.0x40	4	STD8	8.1	9.0	10.1	10.7	6.1	6.8	7.6	8.0	1.2	1.7	2.2	2.8
TU16	18	CSA5.0x40	3	STD12	17.5	18.1	19.2	20.5	11.7	12.1	12.8	13.7	1.6	2.2	2.9	3.6
TU20	22	CSA5.0x40	4	STD12	26.7	27.6	29.2	31.1	20.0	20.7	21.9	23.3	2.2	2.9	3.8	4.6
TU24	26	CSA5.0x40	5	STD12	36.6	37.7	39.8	42.5	29.3	30.2	31.8	34.0	2.7	3.6	4.7	5.8
TU28	30	CSA5.0x40	6	STD12	46.9	48.3	50.9	54.1	39.1	40.3	42.4	45.1	3.2	4.4	5.5	6.7



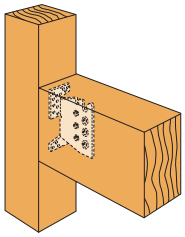
Performance Values

Model No.	Sloped Installation - Slope upto 45°, Skew = 0°															
	Fasteners				Characteristic Capacities - Timber C24 [kN]											
	Header		Joist		$R_{1,k}$ Slope β=15°				$R_{1,k}$ Slope β=30°				$R_{1,k}$ Slope β=45°			
	Qty	Screw	Qty	Dowel	Dowel Length [mm]				Dowel Length [mm]				Dowel Length [mm]			
					60	80	100	120	60	80	100	120	60	80	100	120
TU12	6	CSA5.0x40	4	STD8	8.1	9.0	10.1	10.7	8.1	9.0	10.1	10.7	8.1	9.0	10.1	10.7
TU16	18	CSA5.0x40	3	STD12	16.9	17.4	18.3	19.4	16.5	16.8	17.5	18.5	15.9	16.4	17.0	17.9
TU20	22	CSA5.0x40	4	STD12	25.8	26.4	27.8	29.5	25.1	25.6	26.7	28.1	24.4	25.1	26.1	27.4
TU24	26	CSA5.0x40	5	STD12	35.4	36.2	38.0	40.2	34.3	35.2	36.6	38.6	33.6	34.7	36.0	37.8
TU28	30	CSA5.0x40	6	STD12	45.5	46.4	48.6	51.4	44.0	45.3	47.1	49.5	43.4	44.9	46.5	48.7

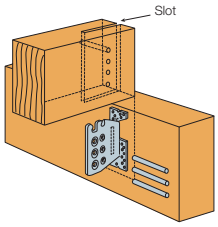
TU

Performance Values

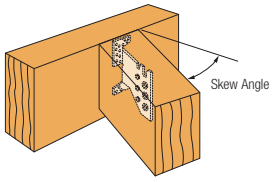
Model No.	Skewed: Sloped & Skewed Installation - Slope upto 45°, Skew upto = 60°																	
	Fasteners				Characteristic Capacities - Timber C24 [kN]													
	Header		Joist		$R_{1,k}$ Slope β=0°				$R_{1,k}$ Slope β=15°				$R_{1,k}$ Slope β=30°				$R_{1,k}$ Slope β=45°			
	Qty	Screw	Qty	Dowel	Dowel Length [mm]				Dowel Length [mm]				Dowel Length [mm]				Dowel Length [mm]			
					60	80	100	120	60	80	100	120	60	80	100	120	60	80	100	120
TUS12	6	CSA5.0x40	4	STD8	7.4	8.2	9.1	9.6	7.2	7.9	8.7	9.3	6.9	7.5	8.2	9.0	6.6	7.1	7.8	8.5
TUS16	18	CSA5.0x40	3	STD12	16.4	16.9	17.8	19.0	15.9	16.3	17.1	18.1	15.4	15.7	16.4	17.2	15.0	15.4	15.9	16.7
TUS20	22	CSA5.0x40	4	STD12	25.0	25.8	27.2	28.9	24.2	24.8	25.9	27.4	23.6	24.0	25.0	26.2	22.9	23.5	24.4	25.5
TUS24	26	CSA5.0x40	5	STD12	34.4	35.4	37.3	39.5	33.3	34.1	35.6	37.6	32.4	33.1	34.4	36.1	31.6	32.6	33.7	35.2
TUS28	30	CSA5.0x40	6	STD12	44.3	45.5	47.8	50.6	43.0	43.8	45.8	48.2	41.7	42.7	44.3	46.5	40.9	42.2	43.7	45.6



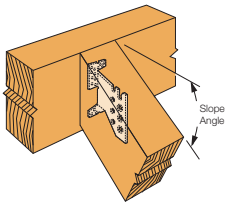
Beam-to-Post



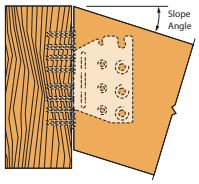
Beam-to-Beam



Skewed Beam-to-Beam



Sloped Beam-to-Beam



Sloped Beam-to-Beam

Installation Procedure for a TU Concealed Connector:

ATTACH CONNECTOR TO HEADER

- Position the connector at the pre-determined height and screw the connector to the header or post.
- Fill all holes with screws supplied.

PREPARE THE BEAM

- Cut the beam to the length specified.
- Cut a slot into the end of the beam. Slot width for TU12 is 6mm and 9mm for all other sizes.
- Cut the slot 3mm deeper than the TU and short of the beam height for concealed installation. This allows the connector to be hidden from below. Otherwise cut the slot 3mm deeper than the TU and through the entire beam height.
- Fully concealed only: Rout a pocket into the beam end. The pocket should be 6mm deep, enough to hide the thickness of the TU and the screw heads. This eliminates the gap between the beam & header (see Pocket Concealed installation example below).

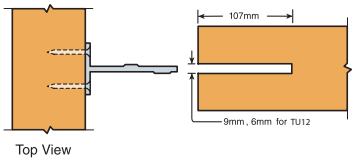
DRILL BEAM DOWEL HOLES

- Using the TU as a template, mark the hole positions, remove the TU and drill the holes.
- Drill the dowel holes to the required diameter. Dowel hole diameter for the TU12 is 8mm and 12mm for all other sizes.

INSTALL BEAMS

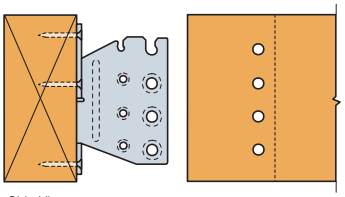
- Install top dowel into the carried beam first. Slip beam into place and install the remaining dowels working from the top downwards.
- Fully concealed only: To hide exposed dowel holes when the installation is complete, glue and plug the holes.

Standard Installation



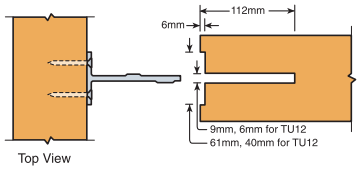
Top View

Cut a slot into the end of the beam



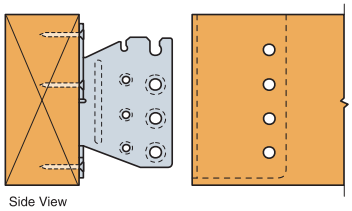
Side View

Pocket (Concealed) Installation



Top View

Cut a slot and rout a pocket into the end of the beam



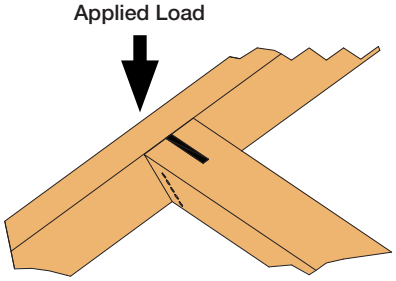
Side View

Performance Values

Model No.	Rotated Installation							
	Fasteners				Characteristic Capacities Timber C24 [kN]			
	Header		Joist		Dowel Length [mm]			
	Qty	Screw	Qty	Dowel	60	80	100	120
TU12	6	CSA5.0x40	4	STD8	1.5	2.0	2.5	3.0
TU16	18	CSA5.0x40	3	STD12	2.0	2.6	3.3	4.0
TU20	22	CSA5.0x40	4	STD12	2.7	3.5	4.4	5.1
TU24	26	CSA5.0x40	5	STD12	3.4	4.4	5.3	6.4
TU28	30	CSA5.0x40	6	STD12	4.3	5.3	6.4	7.7

$$\left(\frac{F_{1,d}}{R_{1,d}}\right)^2 + \left(\frac{F_{2,d}}{R_{2,d}}\right)^2 + \left(\frac{F_{3,d}}{R_{3,d}}\right)^2 \leq 1$$

Applied Load



TU Supporting Timber Rotated About Axis

For Rotated Installation

- Lateral loads can only be applied to connections with no slope or skew.
- The following design check must be completed if combined loads are applied at the same time.

CBH

Concealed Beam Hanger

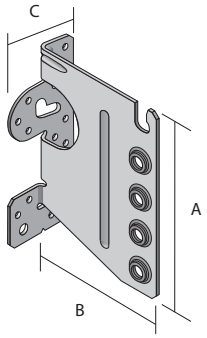
The CBH hanger is a development of the TU range. It allows for concealed timber to timber connections and can be face fixed or pocketed on to the header timber.

Material: Pre-galvanised mild steel.

Note: Order nails and dowels separately.

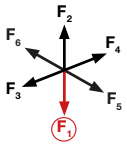
Product Dimensions

Model No.	Joist Size [mm]					Dimensions [mm]				Header Holes		Joist Holes
	Height	Width	Height									
	Min	Min	Min Slope=0	Min Slope>0	Max.	A	B	C	t	Ø11	Ø5	Ø10.5
CBH150/2,5	192	60	190	219	225	150	114	60	2.5	2	14	5
CBH180/2,5	222	60	220	249	270	180	114	60	2.5	2	16	6
CBH220/2,5	262	60	250	279	330	220	114	60	2.5	2	22	7

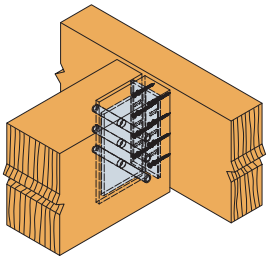


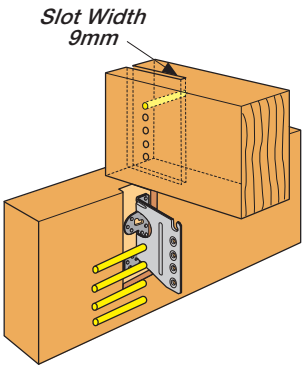
Performance Values

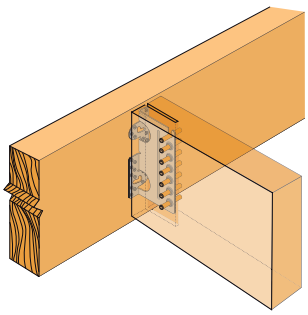
Model No.	Fasteners				Characteristic Capacities [kN]											
					$R_{1,k}$ Slope β=0°						$R_{1,k}$ Slope β>0°					
	Header		Joist		Dowels length [mm]						Dowels length [mm]					
	Qty	Nail	Qty	Dowel	60	80	100	120	140	160	60	80	100	120	140	160
CBH150/2,5	14	CNA4.0x60	5	STD10	18.0	18.6	20.7	22.4	24.0	24.0	16.4	16.7	18.0	19.3	20.6	21.9
CBH180/2,5	16	CNA4.0x60	6	STD10	25.0	26.5	29.5	32.1	32.6	32.6	22.5	23.4	25.6	27.6	29.7	30.1
CBH220/2,5	22	CNA4.0x60	7	STD10	32.6	34.2	37.9	41.1	42.8	42.8	29.8	30.8	33.3	35.7	38.3	39.5

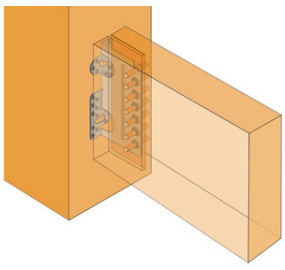


Note: Minimum carried member width 60mm.









BTALU

Concealed Beam Hanger

The BTALU concealed hanger is one solution to connecting timber members together without seeing the connector.

It is designed to be fixed to the header timber and then fully inserted into a slot in the in-coming beam, and held in place with dowels. Holes are drilled through the timber and fin of the BTALU, allowing accurate alignment. This method provides an aesthectically pleasing connection for feature beams.

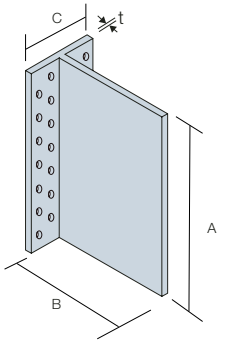
Material: Aluminium.

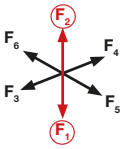
Note: Order nails and dowels separately.

Holes for the joist have to be site drilled in accordance to positions shown in diagram below.

Product Dimensions

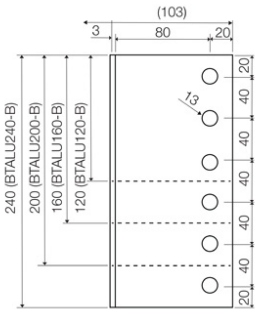
Model No.	Min Joist Height [mm]	Dimensions [mm]				Header Holes	Joist Holes	
		A	B	C	t	Ø5	Ø8	Ø12
BTALU90	142	86	109	62	6	16	4	-
BTALU120	172	116	109	62	6	20	-	3
BTALU160	212	156	109	62	6	28	-	4
BTALU200	252	196	109	62	6	36	-	5
BTALU240	292	236	109	62	6	44	-	6

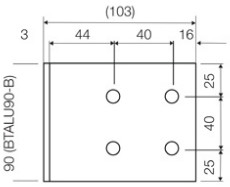




Performance Values

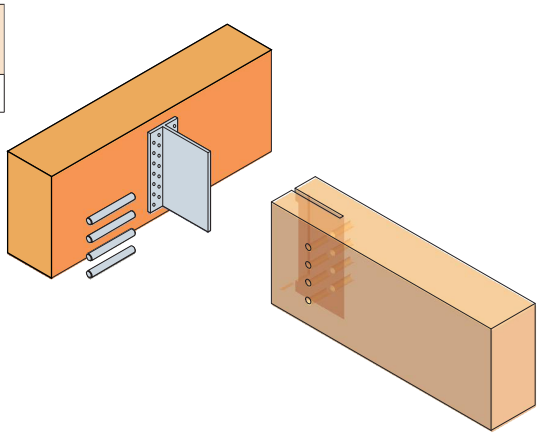
Model No.	Fasteners				Characteristic Capacities [kN] $R_{1,k} = R_{2,k}$ Dowels length [mm]					
	Header		Joist							
	Qty	Nail	Qty	Dowel	60	80	100	120	140	160
BTALU90	16	CNA4.0x50	4	STD8	10.8	11.8	12.9	13.7	13.7	13.7
BTALU120	20	CNA4.0x50	3	STD12	17.3	18.2	19.4	20.7	22.3	23.9
BTALU160	28	CNA4.0x50	4	STD12	28.0	29.5	31.2	33.3	35.7	38.2
BTALU200	36	CNA4.0x50	5	STD12	39.8	41.9	44.3	47.2	50.4	53.9
BTALU240	44	CNA4.0x50	6	STD12	52.2	54.9	57.9	61.7	65.9	70.3

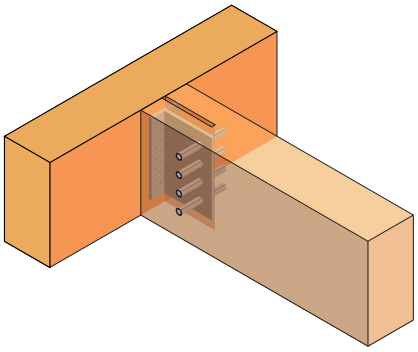




- The joist shall have a minimum width equal to the length of the steel dowel
- For Beams with a slope (*β*) the capacities shall be multiplied by the factors below

Slope *β*	0°	15°	30°	45°
factor	1.0	0.95	0.90	0.85





ATFN

Concealed Beam Hanger

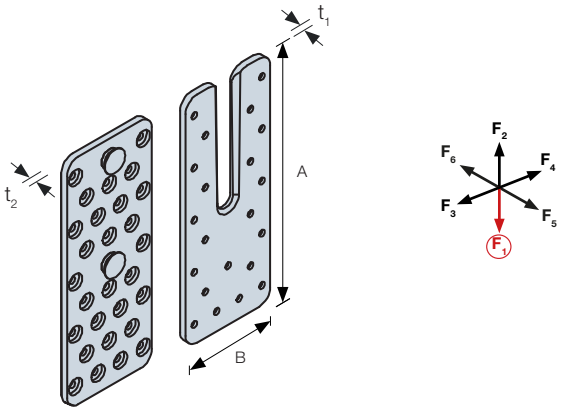
The ATFN is a two piece steel plate connector. The first part of the connector is fixed into a pocket on the header timber with nails and the second part is fitted on the end of the in-coming beam with screws. No slots or dowel holes are necessary, speeding up installation.

Material: Pre-galvanised mild steel.

Note: Order nails and dowels separately.

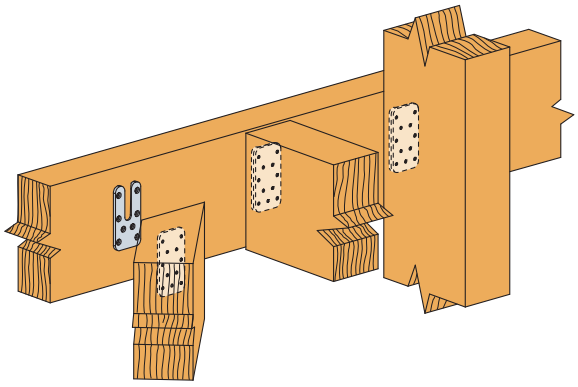
Product Dimensions

Model No.	Joist Size [mm]		Dimensions [mm]				Header Holes	Joist Holes
	Width	Height						
	Min	Min	A	B	t_1	t_2	Ø5	Ø5
ATFN55/110-B	80	140	110	55	5	5	8	11
ATFN55/150-B	80	180	150	55	5	5	11	15
ATFN55/190-B	80	220	190	55	5	5	14	21
ATFN75/150-B	100	180	150	75	5	5	17	22
ATFN75/190-B	100	220	190	75	5	5	21	28



Performance Values

Model No.	Fasteners				Characteristic Capacities [kN]
	Header		Joist		
	Qty	Type	Qty	Type	$R_{1,K}$
ATFN55/110-B	8	CSA5.0x50	11	CSA5.0x50	11.4
ATFN55/150-B	11	CSA5.0x50	15	CSA5.0x50	15.5
ATFN55/190-B	14	CSA5.0x50	21	CSA5.0x50	21.7
ATFN75/150-B	17	CSA5.0x50	22	CSA5.0x50	22.8
ATFN75/190-B	21	CSA5.0x50	28	CSA5.0x50	30.0



ATFN Installation

ETB

Concealed Beam Hanger

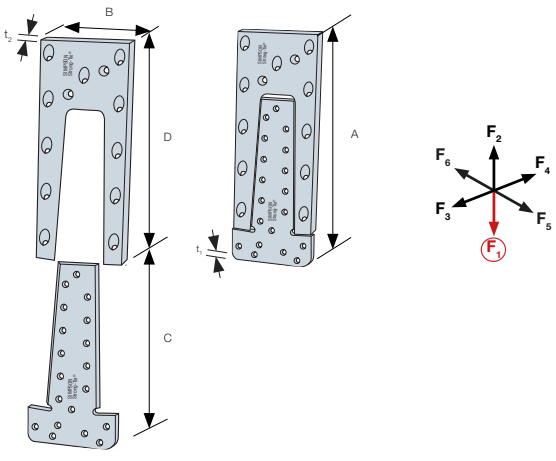
The ETB concealed connector comes in two parts. The first is pocketed in the header timber and fixed with nails, while the second part is fitted to the end of the beam with screws.

Material: Joist Plate: 10mm aluminium. Header plate: 6mm aluminium.

Note: Order nails and screws separately.

Product Dimensions

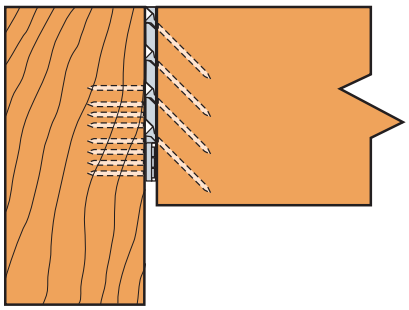
Model No.	Joist Size [mm]			Dimensions [mm]						Header Holes	Joist Holes
	Width	Height	Height								
	Min	Min	Max.	A	B	C	D	t_1	t_2	Ø5	Ø5.4
ETB90-B	70	115	150	90	60	58	69	6	10	6	4
ETB120-B	70	150	200	121	60	85	95	6	10	9	6
ETB160-B	70	185	250	166	60	95	130	6	10	11	8
ETB190-B	90	220	300	195	75	138	165	6	10	19	11
ETB230-B	90	255	350	230	75	138	200	6	10	19	14

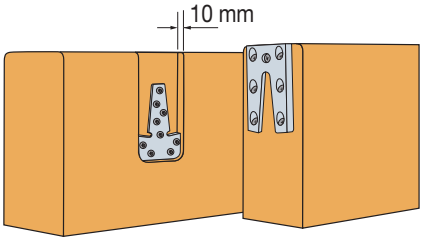


Performance Values

Model No.	Fasteners				Characteristic Capacity [kN]
	Header		Joist		
	Qty	Type	Qty	Type(1)	$R_{1,K}$
ETB90-B	6	CNA4.0x60	4	SCRB/95580/1	13.0
ETB120-B	9	CNA4.0x60	6	SCRB/95580/1	18.7
ETB160-B	11	CNA4.0x60	8	SCRB/95580/1	24.2
ETB190-B	19	CNA4.0x60	11	SCRB/95580/1	32.0
ETB230-B	19	CNA4.0x60	14	SCRB/95580/1	40.0

1.N5.0x80 relates to SCRB5.0x80: (product code SCRB/95580/1).





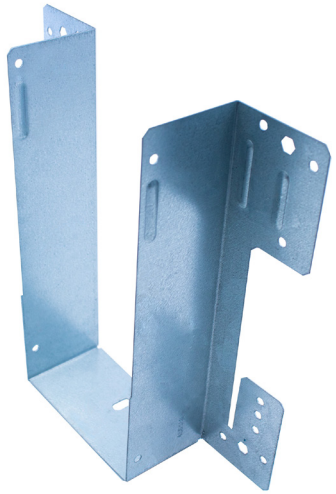
LIB

Backer Free Engineered Joist Hanger

The LIB is a face fix hanger for connecting joists, either I-Joist, metal web or solid, to other joists or solid headers.

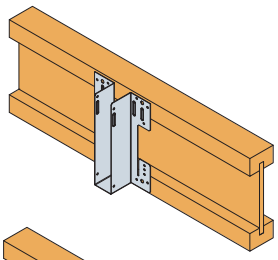
- Backer free installation saves time and cost.
- Optional installation with SDS screws for enhanced performance values.
- Can be used for sacrificial floor details (not reusable).

Material: Pre-galvanised mild steel.

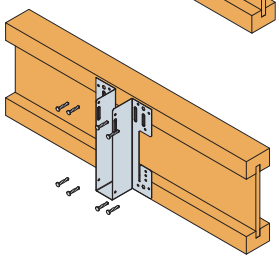


Installation on I-Joist:

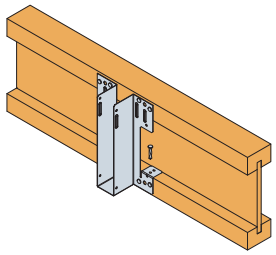
Step 1



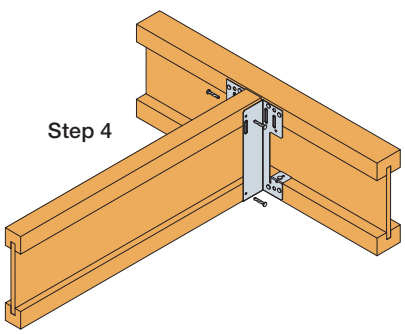
Step 2



Step 3



Step 4



Step 1: Position hanger onto I-Joist header, ensuring seat is flush with bottom of header.

Step 2: Install 8 face nails as specified, starting with the bottom face nails. Ensure side flanges are vertical before nailing top face nails.

Step 3: Bend tabs over bottom chord of header and secure with specified fastener.

Step 4: Insert joist into hanger and secure with 4 joist nails.

Installation Videos:

Simpson Strong-Tie's UK website hosts a series of 'Connector Solutions' videos. Featuring technical detail on our most popular hangers, straps and masonry connectors, the videos illustrate unique product features, top tips and installation advice.

@strongtieUK

LIB onto I-Joist

Product Dimensions for I-Joists

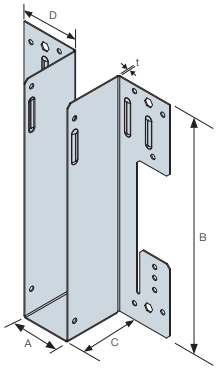
Model No.	Joist Size [mm]		Product Dimensions [mm]					Header Holes		Joist Holes
	Width	Height	A	B	C	D	t	Ø4	Ø6.5	Ø4
LIB195/40	38 I 39	195	40	190	49	49	0.9	14	4	4
LIB200/40	38 I 39	200	40	195	49	49	0.9	14	4	4
LIB220/40	38 I 39	220	40	215	49	49	0.9	14	4	4
LIB225/40	38 I 39	225	40	220	49	49	0.9	14	4	4
LIB235/40	38 I 39	235	40	230	49	49	0.9	14	4	4
LIB240/40	38 I 39	240	40	235	49	49	0.9	14	4	4
LIB245/40	38 I 39	245	40	240	49	49	0.9	14	4	4
LIB300/40	38 I 39	300	40	295	49	49	0.9	14	4	4
LIB195/47	45	195	47	190	49	49	0.9	14	4	4
LIB200/47	45	200	47	195	49	49	0.9	14	4	4
LIB220/47	45	220	47	215	49	49	0.9	14	4	4
LIB225/47	45	225	47	220	49	49	0.9	14	4	4
LIB235/47	45	235	47	230	49	49	0.9	14	4	4
LIB240/47	45	240	47	235	49	49	0.9	14	4	4
LIB245/47	45	245	47	240	49	49	0.9	14	4	4
LIB300/47	45	300	47	295	49	49	0.9	14	4	4
LIB195/50	47	195	50	190	49	49	0.9	14	4	4
LIB220/50	47	220	50	215	49	49	0.9	14	4	4
LIB235/50	47	235	50	230	49	49	0.9	14	4	4
LIB240/50	47	240	50	235	49	49	0.9	14	4	4
LIB245/50	47	245	50	240	49	49	0.9	14	4	4
LIB300/50	47	300	50	295	49	49	0.9	14	4	4
LIB200/56	53	200	56	195	49	49	0.9	14	4	4
LIB220/56	53	220	56	215	49	49	0.9	14	4	4
LIB240/56	53	240	56	235	49	49	0.9	14	4	4
LIB300/56	53	300	56	295	49	49	0.9	14	4	4
LIB200/63	60	200	63	195	49	49	0.9	14	4	4
LIB220/63	60	220	63	215	49	49	0.9	14	4	4
LIB240/63	60	240	63	235	49	49	0.9	14	4	4
LIB300/63	60	300	63	295	49	49	0.9	14	4	4
LIB220/66	63	220	66	215	49	49	0.9	14	4	4
LIB235/66	63	235	66	230	49	49	0.9	14	4	4
LIB245/66	63	245	66	240	49	49	0.9	14	4	4
LIB300/66	63	300	66	295	49	49	0.9	14	4	4
LIB200/72	69 I 70	200	72	195	49	49	0.9	14	4	4
LIB220/72	69 I 70	220	72	215	49	49	0.9	14	4	4
LIB240/72	69 I 70	240	72	235	49	49	0.9	14	4	4
LIB300/72	69 I 70	300	72	295	49	49	0.9	14	4	4
LIB195/75	72	195	75	190	49	49	0.9	14	4	4
LIB220/75	72	220	75	215	49	49	0.9	14	4	4
LIB235/75	72	235	75	230	49	49	0.9	14	4	4
LIB245/75	72	245	75	240	49	49	0.9	14	4	4
LIB300/75	72	300	75	295	49	49	0.9	14	4	4
LIB195/78	75 I 2x38 I 2x39	195	78	190	49	49	0.9	14	4	4
LIB200/78	75 I 2x38 I 2x39	200	78	195	49	49	0.9	14	4	4
LIB220/78	75 I 2x38 I 2x39	220	78	215	49	49	0.9	14	4	4
LIB225/78	75 I 2x38 I 2x39	225	78	220	49	49	0.9	14	4	4
LIB235/78	75 I 2x38 I 2x39	235	78	230	49	49	0.9	14	4	4
LIB240/78	75 I 2x38 I 2x39	240	78	235	49	49	0.9	14	4	4
LIB245/78	75 I 2x38 I 2x39	245	78	240	49	49	0.9	14	4	4
LIB300/78	75 I 2x38 I 2x39	300	78	295	49	49	0.9	14	4	4

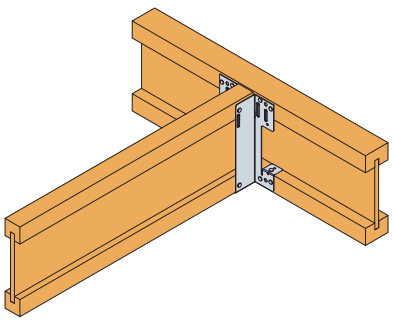
Model No.	Joist Size [mm]		Product Dimensions [mm]					Header Holes		Joist Holes
	Width	Height	A	B	C	D	t	Ø4	Ø6.5	Ø4
LIB200/91	89 I 90 I 2x45	200	91	195	49	49	0.9	14	4	4
LIB220/91	89 I 90 I 2x45	220	91	215	49	49	0.9	14	4	4
LIB240/91	89 I 90 I 2x45	240	91	235	49	49	0.9	14	4	4
LIB300/91	89 I 90 I 2x45	300	91	295	49	49	0.9	14	4	4
LIB195/96	2x47	195	96	190	49	49	0.9	14	4	4
LIB220/96	2x47	220	96	215	49	49	0.9	14	4	4
LIB235/96	2x47	235	96	230	49	49	0.9	14	4	4
LIB240/96	2x47	240	96	235	49	49	0.9	14	4	4
LIB245/96	2x47	245	96	240	49	49	0.9	14	4	4
LIB300/96	2x47	300	96	295	49	49	0.9	14	4	4
LIB200/99	96 I 97	200	99	195	49	49	0.9	14	4	4
LIB220/99	96 I 97	220	99	215	49	49	0.9	14	4	4
LIB235/99	96 I 97	235	99	230	49	49	0.9	14	4	4
LIB240/99	96 I 97	240	99	235	49	49	0.9	14	4	4
LIB245/99	96 I 97	245	99	240	49	49	0.9	14	4	4
LIB300/99	96 I 97	300	99	295	49	49	0.9	14	4	4
LIB200/109	2x53	200	109	195	49	49	0.9	14	4	4
LIB220/109	2x53	220	109	215	49	49	0.9	14	4	4
LIB240/109	2x53	240	109	235	49	49	0.9	14	4	4
LIB300/109	2x53	300	109	295	49	49	0.9	14	4	4
LIB200/122	2x60	200	122	195	49	49	0.9	14	4	4
LIB220/122	2x60	220	122	215	49	49	0.9	14	4	4
LIB240/122	2x60	240	122	235	49	49	0.9	14	4	4
LIB300/122	2x60	300	122	295	49	49	0.9	14	4	4
LIB220/128	2x63	220	128	215	49	49	0.9	14	4	4
LIB235/128	2x63	235	128	230	49	49	0.9	14	4	4
LIB245/128	2x63	245	128	240	49	49	0.9	14	4	4
LIB300/128	2x63	300	128	295	49	49	0.9	14	4	4
LIB200/142	140 I 269 I 270	200	142	195	49	49	0.9	14	4	4
LIB220/142	140 I 269 I 270	220	142	215	49	49	0.9	14	4	4
LIB240/142	140 I 269 I 270	240	142	235	49	49	0.9	14	4	4
LIB300/142	140 I 269 I 270	300	142	295	49	49	0.9	14	4	4
LIB195/146	2x72	195	146	190	49	49	0.9	14	4	4
LIB220/146	2x72	220	146	215	49	49	0.9	14	4	4
LIB235/146	2x72	235	146	230	49	49	0.9	14	4	4
LIB245/146	2x72	245	146	240	49	49	0.9	14	4	4
LIB300/146	2x72	300	146	295	49	49	0.9	14	4	4
LIB195/182	2x89 I 2x90	195	182	190	49	49	0.9	14	4	4
LIB200/182	2x89 I 2x90	200	182	195	49	49	0.9	14	4	4
LIB220/182	2x89 I 2x90	220	182	215	49	49	0.9	14	4	4
LIB225/182	2x89 I 2x90	225	182	220	49	49	0.9	14	4	4
LIB235/182	2x89 I 2x90	235	182	230	49	49	0.9	14	4	4
LIB240/182	2x89 I 2x90	240	182	235	49	49	0.9	14	4	4
LIB245/182	2x89 I 2x90	245	182	240	49	49	0.9	14	4	4
LIB300/182	2x89 I 2x90	300	182	295	49	49	0.9	14	4	4
LIB195/196	2x96 I 2x97	195	196	190	49	49	0.9	14	4	4
LIB200/196	2x96 I 2x97	200	196	195	49	49	0.9	14	4	4
LIB220/196	2x96 I 2x97	220	196	215	49	49	0.9	14	4	4
LIB235/196	2x96 I 2x97	235	196	230	49	49	0.9	14	4	4
LIB240/196	2x96 I 2x97	240	196	235	49	49	0.9	14	4	4
LIB245/196	2x96 I 2x97	245	196	240	49	49	0.9	14	4	4
LIB300/196	2x96 I 2x97	300	196	295	49	49	0.9	14	4	4

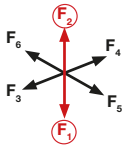
Performance Values for I-Joists

Model No.	Installation	Fasteners				Safe Working Loads [kN]			Characteristic Capacities [kN]		
		Header		Joist		$R_{1,SWL,Long\ term}$		$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$		$R_{2,K}$
		Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,\ Short\ Term}$		I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	
LIB	Standard	10	N3.75x30	4	N3.75x30	3.2	3.8	2.0	7.4	8.9	3.4
	Enhanced	14	N3.75x30	4	N3.75x30	4.8	5.6	2.0	11.2	13.4	3.4

Note: Enhanced installation refers to installation onto a solid header or I-joist header with backer blocks fitted.



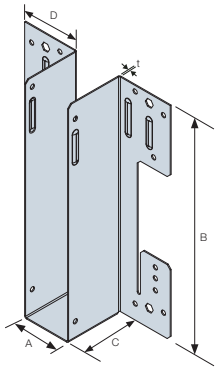


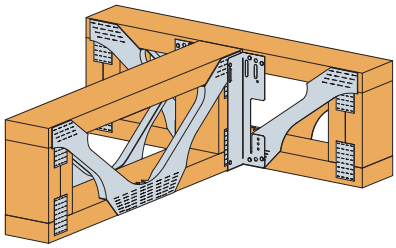


LIB onto Metal Web

Product Dimensions for Metal Web Joist

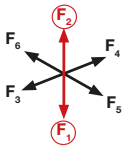
Model No.	Joist [mm]		Dimensions [mm]					Header Holes		Joist Holes
	Width	Height	A	B	C	D	t	Ø4	Ø6.5	Ø4
LIB195/50	47	195 - 202	50	190	49	49	0.9	14	4	4
LIB220/50	47	218 - 225	50	215	49	49	0.9	14	4	4
LIB253/50	47	253 - 254	50	248	49	49	0.9	14	4	4
LIB304/50	47	304	50	299	49	49	0.9	14	4	4
LIB355/50	47	356	50	350	49	49	0.9	14	4	4
LIB375/50	47	373	50	370	49	49	0.9	14	4	4
LIB420/50	47	417 - 421	50	415	49	49	0.9	14	4	4
LIB195/75	72	195 - 202	75	190	49	49	0.9	14	4	4
LIB220/75	72	218 - 225	75	215	49	49	0.9	14	4	4
LIB253/75	72	253 - 254	75	248	49	49	0.9	14	4	4
LIB304/75	72	304	75	299	49	49	0.9	14	4	4
LIB355/75	72	356	75	350	49	49	0.9	14	4	4
LIB375/75	72	373	75	370	49	49	0.9	14	4	4
LIB420/75	72	417 - 421	75	415	49	49	0.9	14	4	4
LIB195/99	97	195	99	190	49	49	0.9	14	4	4
LIB220/99	97	220	99	215	49	49	0.9	14	4	4
LIB253/99	97	253 - 254	99	248	49	49	0.9	14	4	4
LIB304/99	97	304	99	299	49	49	0.9	14	4	4
LIB355/99	97	356	99	350	49	49	0.9	14	4	4
LIB375/99	97	373	99	370	49	49	0.9	14	4	4
LIB420/99	97	417 - 421	99	415	49	49	0.9	14	4	4
LIB195/125	122	195 - 202	125	190	49	49	0.9	14	4	4
LIB220/125	122	218 - 225	125	215	49	49	0.9	14	4	4
LIB304/125	122	304	125	299	49	49	0.9	14	4	4
LIB420/125	122	417 - 421	125	415	49	49	0.9	14	4	4
LIB195/146	2x72	195 - 202	146	190	49	49	0.9	14	4	4
LIB220/146	2x72	218 - 225	146	215	49	49	0.9	14	4	4
LIB253/146	2x72	253 - 254	146	248	49	49	0.9	14	4	4
LIB304/146	2x72	304	146	299	49	49	0.9	14	4	4
LIB355/146	2x72	356	146	350	49	49	0.9	14	4	4
LIB375/146	2x72	373	146	370	49	49	0.9	14	4	4
LIB420/146	2x72	218 - 225	146	415	49	49	0.9	14	4	4
LIB195/150	147	195 - 202	150	190	49	49	0.9	14	4	4
LIB220/150	147	218 - 225	150	215	49	49	0.9	14	4	4
LIB304/150	147	304	150	299	49	49	0.9	14	4	4
LIB420/150	147	417 - 421	150	415	49	49	0.9	14	4	4
LIB195/196	2x97	195 - 202	196	190	49	49	0.9	14	4	4
LIB220/196	2x97	218 - 225	196	215	49	49	0.9	14	4	4
LIB253/196	2x97	253 - 254	196	248	49	49	0.9	14	4	4
LIB304/196	2x97	304	196	299	49	49	0.9	14	4	4
LIB355/196	2X97	356	196	350	49	49	0.9	14	4	4
LIB375/196	2X97	373	196	370	49	49	0.9	14	4	4
LIB420/196	2X97	417 - 421	196	415	49	49	0.9	14	4	4



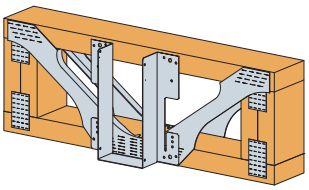


Performance Values for Metal Web

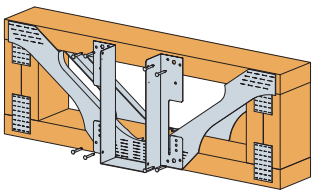
Model No.	Installation	Fasteners				Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header		Joist					
		Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
LIB	Standard	8	N3.75x30	4	N3.75x30	2.8	2.0	6.6	3.4
		4	SDS25212	4	N3.75x30	3.6	2.0	8.4	3.4



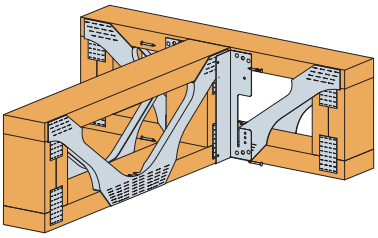
Installation on metal web joist



Step 1. Position hanger onto joist header, ensuring seat is flush with bottom of header.



Step 2. Install 8 face nails as specified, starting with the bottom face nails. Ensure side flanges are vertical before nailing top face nails.



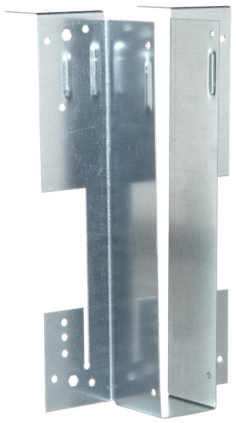
Step 3. Insert joist into hanger and secure with 4 joist nails.

LITB

Backer Free, Top Flange, Engineered Joist Hanger

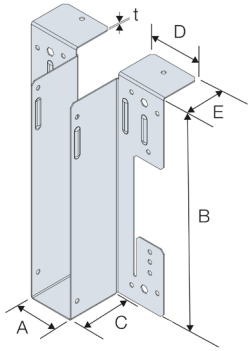
The LITB hanger is a top fix hanger for connecting engineered timber joists, either I Joists, metal web joists, or solid joists, to others joists or solid timber headers.

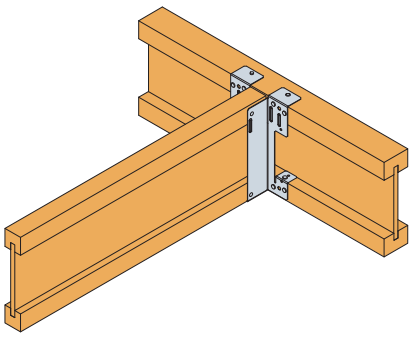
- Top flange helps reduce installation time.
- Backer free installation saves time and cost.
- Bend over bottom tabs provide increased performance.



Product Dimensions for Metal Web

Model No.	Joist [mm]		Dimensions [mm]					Header Holes		Joist Holes	
	Width	Height	A	B	C	D	t	Ø4	Ø6.4	Ø4	
LITB195/50	47	195	50	195	49	49	35	0.9	18	4	4
LITB202/50	47	202	50	202	49	49	35	0.9	18	4	4
LITB219/50	47	219	50	219	49	49	35	0.9	18	4	4
LITB225/50	47	225	50	225	49	49	35	0.9	18	4	4
LITB253/50	47	253 I 254	50	253	49	49	35	0.9	18	4	4
LITB304/50	47	304	50	304	49	49	35	0.9	18	4	4
LITB195/75	72	195	75	195	49	49	35	0.9	18	4	4
LITB202/75	72	202	75	202	49	49	35	0.9	18	4	4
LITB219/75	72	219	75	219	49	49	35	0.9	18	4	4
LITB225/75	72	225	75	225	49	49	35	0.9	18	4	4
LITB253/75	72	253 I 254	75	253	49	49	35	0.9	18	4	4
LITB304/75	72	304	75	304	49	49	35	0.9	18	4	4
LITB195/99	97	195	99	195	49	49	35	0.9	18	4	4
LITB202/99	97	202	99	202	49	49	35	0.9	18	4	4
LITB219/99	97	219	99	219	49	49	35	0.9	18	4	4
LITB225/99	97	225	99	225	49	49	35	0.9	18	4	4
LITB253/99	97	253 I 254	99	253	49	49	35	0.9	18	4	4
LITB304/99	97	304	99	304	49	49	35	0.9	18	4	4
LITB195/125	122	195	125	195	49	49	35	0.9	18	4	4
LITB219/125	122	219	125	219	49	49	35	0.9	18	4	4
LITB253/125	122	253 I 254	125	253	49	49	35	0.9	18	4	4
LITB304/125	122	304	125	304	49	49	35	0.9	18	4	4
LITB195/146	2x72	195	146	195	49	49	35	0.9	18	4	4
LITB202/146	2x72	202	146	202	49	49	35	0.9	18	4	4
LITB219/146	2x72	219	146	219	49	49	35	0.9	18	4	4
LITB225/146	2x72	225	146	225	49	49	35	0.9	18	4	4
LITB253/146	2x72	253 I 254	146	253	49	49	35	0.9	18	4	4
LITB304/146	2x72	304	146	304	49	49	35	0.9	18	4	4
LITB195/150	147	195	150	195	49	49	35	0.9	18	4	4
LITB219/150	147	219	150	219	49	49	35	0.9	18	4	4
LITB253/150	147	253 I254	150	253	49	49	35	0.9	18	4	4
LITB304/150	147	304	150	304	49	49	35	0.9	18	4	4
LITB195/196	2x97	195	196	195	49	49	35	0.9	18	4	4
LITB202/196	2x97	202	196	202	49	49	35	0.9	18	4	4
LITB219/196	2x97	219	196	219	49	49	35	0.9	18	4	4
LITB225/196	2x97	225	196	225	49	49	35	0.9	18	4	4
LITB253/196	2x97	253 I 254	196	253	49	49	35	0.9	18	4	4
LITB304/196	2x97	304	196	304	49	49	35	0.9	18	4	4





LITB

Product Dimensions for I-Joists

Model No.	Joist [mm]		Dimensions [mm]					Header Holes		Joist Holes
	Width	Height	A	B	C	D	t	Ø4	Ø6.4	Ø4
LITB195/40	38 | 39	195	40	195	48.5	48.5	0.9	18	4	4
LITB200/40	38 | 39	200	40	200	48.5	48.5	0.9	18	4	4
LITB220/40	38 | 39	220	40	220	48.5	48.5	0.9	18	4	4
LITB225/40	38 | 39	225	40	225	48.5	48.5	0.9	18	4	4
LITB235/40	38 | 39	235	40	235	48.5	48.5	0.9	18	4	4
LITB240/40	38 | 39	240	40	240	48.5	48.5	0.9	18	4	4
LITB245/40	38 | 39	245	40	245	48.5	48.5	0.9	18	4	4
LITB300/40	38 | 39	300	40	300	48.5	48.5	0.9	18	4	4
LITB195/47	45	195	47	195	48.5	48.5	0.9	18	4	4
LITB200/47	45	200	47	200	48.5	48.5	0.9	18	4	4
LITB220/47	45	220	47	220	48.5	48.5	0.9	18	4	4
LITB225/47	45	225	47	225	48.5	48.5	0.9	18	4	4
LITB235/47	45	235	47	235	48.5	48.5	0.9	18	4	4
LITB240/47	45	240	47	240	48.5	48.5	0.9	18	4	4
LITB245/47	45	245	47	245	48.5	48.5	0.9	18	4	4
LITB300/47	45	300	47	300	48.5	48.5	0.9	18	4	4
LITB195/50	47	195	50	195	48.5	48.5	0.9	18	4	4
LITB220/50	47	220	50	220	48.5	48.5	0.9	18	4	4
LITB235/50	47	235	50	235	48.5	48.5	0.9	18	4	4
LITB240/50	47	240	50	240	48.5	48.5	0.9	18	4	4
LITB245/50	47	245	50	245	48.5	48.5	0.9	18	4	4
LITB300/50	47	300	50	300	48.5	48.5	0.9	18	4	4
LITB200/56	53	200	56	200	48.5	48.5	0.9	18	4	4
LITB220/56	53	220	56	220	48.5	48.5	0.9	18	4	4
LITB240/56	53	240	56	240	48.5	48.5	0.9	18	4	4
LITB300/56	53	300	56	300	48.5	48.5	0.9	18	4	4
LITB200/63	60	200	63	200	48.5	48.5	0.9	18	4	4
LITB220/63	60	220	63	220	48.5	48.5	0.9	18	4	4
LITB240/63	60	240	63	240	48.5	48.5	0.9	18	4	4
LITB300/63	60	300	63	300	48.5	48.5	0.9	18	4	4
LITB220/66	63	220	66	220	48.5	48.5	0.9	18	4	4
LITB235/66	63	235	66	235	48.5	48.5	0.9	18	4	4
LITB245/66	63	245	66	245	48.5	48.5	0.9	18	4	4
LITB300/66	63	300	66	300	48.5	48.5	0.9	18	4	4
LITB200/72	69 | 70	200	72	200	48.5	48.5	0.9	18	4	4
LITB220/72	69 | 70	220	72	220	48.5	48.5	0.9	18	4	4
LITB240/72	69 | 70	240	72	240	48.5	48.5	0.9	18	4	4
LITB300/72	69 | 70	300	72	300	48.5	48.5	0.9	18	4	4
LITB195/75	72	195	75	195	48.5	48.5	0.9	18	4	4
LITB220/75	72	220	75	220	48.5	48.5	0.9	18	4	4
LITB235/75	72	235	75	235	48.5	48.5	0.9	18	4	4
LITB245/75	72	245	75	245	48.5	48.5	0.9	18	4	4
LITB300/75	72	300	75	300	48.5	48.5	0.9	18	4	4
LITB195/78	75 | 2x38 | 2x39	195	78	195	48.5	48.5	0.9	18	4	4
LITB200/78	75 | 2x38 | 2x39	200	78	200	48.5	48.5	0.9	18	4	4
LITB220/78	75 | 2x38 | 2x39	220	78	220	48.5	48.5	0.9	18	4	4
LITB225/78	75 | 2x38 | 2x39	225	78	225	48.5	48.5	0.9	18	4	4
LITB235/78	75 | 2x38 | 2x39	235	78	235	48.5	48.5	0.9	18	4	4
LITB240/78	75 | 2x38 | 2x39	240	78	240	48.5	48.5	0.9	18	4	4
LITB245/78	75 | 2x38 | 2x39	245	78	245	48.5	48.5	0.9	18	4	4
LITB300/78	75 | 2x38 | 2x39	300	78	300	48.5	48.5	0.9	18	4	4
LITB195/91	89 | 90 | 2x45	195	91	195	48.5	48.5	0.9	18	4	4
LITB200/91	89 | 90 | 2x45	200	91	200	48.5	48.5	0.9	18	4	4
LITB220/91	89 | 90 | 2x45	220	91	220	48.5	48.5	0.9	18	4	4

Model No.	Joist [mm]		Dimensions [mm]					Header Holes		Joist Holes
	Width	Height	A	B	C	D	t	Ø4	Ø6.4	Ø4
LITB225/91	89 | 90 | 2x45	225	91	225	48.5	48.5	0.9	18	4	4
LITB235/91	89 | 90 | 2x45	235	91	235	48.5	48.5	0.9	18	4	4
LITB240/91	89 | 90 | 2x45	240	91	240	48.5	48.5	0.9	18	4	4
LITB245/91	89 | 90 | 2x45	245	91	245	48.5	48.5	0.9	18	4	4
LITB300/91	89 | 90 | 2x45	300	91	300	48.5	48.5	0.9	18	4	4
LITB195/96	2x47	195	96	195	48.5	48.5	0.9	18	4	4
LITB220/96	2x47	220	96	220	48.5	48.5	0.9	18	4	4
LITB235/96	2x47	235	96	235	48.5	48.5	0.9	18	4	4
LITB240/96	2x47	240	96	240	48.5	48.5	0.9	18	4	4
LITB245/96	2x47	245	96	245	48.5	48.5	0.9	18	4	4
LITB300/96	2x47	300	96	300	48.5	48.5	0.9	18	4	4
LITB200/99	96 | 97	200	99	200	48.5	48.5	0.9	18	4	4
LITB220/99	96 | 97	220	99	220	48.5	48.5	0.9	18	4	4
LITB235/99	96 | 97	235	99	235	48.5	48.5	0.9	18	4	4
LITB240/99	96 | 97	240	99	240	48.5	48.5	0.9	18	4	4
LITB245/99	96 | 97	245	99	245	48.5	48.5	0.9	18	4	4
LITB300/99	96 | 97	300	99	300	48.5	48.5	0.9	18	4	4
LITB200/109	2x53	200	109	200	48.5	48.5	0.9	18	4	4
LITB220/109	2x53	220	109	220	48.5	48.5	0.9	18	4	4
LITB240/109	2x53	240	109	240	48.5	48.5	0.9	18	4	4
LITB300/109	2x53	300	109	300	48.5	48.5	0.9	18	4	4
LITB200/122	2x60	200	122	200	48.5	48.5	0.9	18	4	4
LITB220/122	2x60	220	122	220	48.5	48.5	0.9	18	4	4
LITB240/122	2x60	240	122	240	48.5	48.5	0.9	18	4	4
LITB300/122	2x60	300	122	300	48.5	48.5	0.9	18	4	4
LITB220/128	2x63	220	128	220	48.5	48.5	0.9	18	4	4
LITB235/128	2x63	235	128	235	48.5	48.5	0.9	18	4	4
LITB245/128	2x63	245	128	245	48.5	48.5	0.9	18	4	4
LITB300/128	2x63	300	128	300	48.5	48.5	0.9	18	4	4
LITB200/142	140 | 2x69 | 2x70	200	142	200	48.5	48.5	0.9	18	4	4
LITB220/142	140 | 2x69 | 2x70	220	142	220	48.5	48.5	0.9	18	4	4
LITB240/142	140 | 2x69 | 2x70	240	142	240	48.5	48.5	0.9	18	4	4
LITB300/142	140 | 2x69 | 2x70	300	142	300	48.5	48.5	0.9	18	4	4
LITB195/146	2x72	195	146	195	48.5	48.5	0.9	18	4	4
LITB220/146	2x72	220	146	220	48.5	48.5	0.9	18	4	4
LITB235/146	2x72	235	146	235	48.5	48.5	0.9	18	4	4
LITB245/146	2x72	245	146	245	48.5	48.5	0.9	18	4	4
LITB300/146	2x72	300	146	300	48.5	48.5	0.9	18	4	4
LITB195/182	2x89 | 2x90	195	182	195	48.5	48.5	0.9	18	4	4
LITB200/182	2x89 | 2x90	200	182	200	48.5	48.5	0.9	18	4	4
LITB220/182	2x89 | 2x90	220	182	220	48.5	48.5	0.9	18	4	4
LITB225/182	2x89 | 2x90	225	182	225	48.5	48.5	0.9	18	4	4
LITB235/182	2x89 | 2x90	235	182	235	48.5	48.5	0.9	18	4	4
LITB240/182	2x89 | 2x90	240	182	240	48.5	48.5	0.9	18	4	4
LITB245/182	2x89 | 2x90	245	182	245	48.5	48.5	0.9	18	4	4
LITB300/182	2x89 | 2x90	300	182	300	48.5	48.5	0.9	18	4	4
LITB195/196	2x96 | 2x97	195	196	195	48.5	48.5	0.9	18	4	4
LITB200/196	2x96 | 2x97	200	196	200	48.5	48.5	0.9	18	4	4
LITB220/196	2x96 | 2x97	220	196	220	48.5	48.5	0.9	18	4	4
LITB235/196	2x96 | 2x97	235	196	235	48.5	48.5	0.9	18	4	4
LITB240/196	2x96 | 2x97	240	196	240	48.5	48.5	0.9	18	4	4
LITB245/196	2x96 | 2x97	245	196	245	48.5	48.5	0.9	18	4	4
LITB300/196	2x96 | 2x97	300	196	300	48.5	48.5	0.9	18	4	4

LITB

Performance Values of LITB onto Metal Web

Model No.	Install	Fasteners						Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header				Joist		$R_{1,SWL,Long\ term}$	$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$	$R_{2,K}$
		Top Qty	Type	Face Qty	Type	Qty	Type				
LITB	Standard	2	N3.75x30	8	N3.75x30	4	N3.75x30	4.6	2.0	11.0	4.0

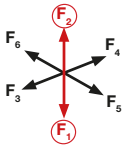
Performance Values of LITB on to I- Joists

Model No.	Install	Fasteners						Safe Working Loads [kN]			Characteristic Capacities [kN]		
		Header				Joist		$R_{1,SWL,Long\ term}$			$R_{1,K}$		
		Top Qty	Type	Face Qty	Type	Qty	Type	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	$R_{2,SWL,\ Short\ Term}$	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	$R_{2,K}$
LITB	Standard	2	N3.75x30	10	N3.75x30	4	N3.75x30	3.8	4.3	2.0	8.9	10.1	3.4
	Enhanced	2	N3.75x30	14	N3.75x30	4	N3.75x30	6.8	7.3	2.0	16.1	17.2	3.4

Note: Enhanced installation refers to installation onto a solid header or I-joist header with backer blocks fitted.

LITB onto Timber Nailers Performance Values

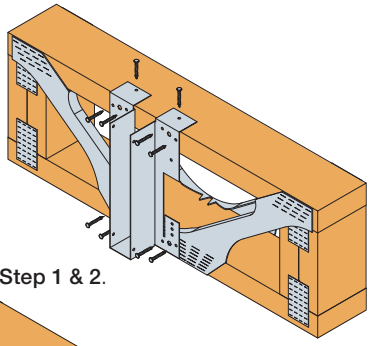
Model No.	Nailer Depth [mm]	Hanger Width [mm]	Fasteners						Safe Working Loads [kN]		Characteristic Capacities [kN]	
			Header				Joist		$R_{1,SWL,Long\ term}$	$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$	$R_{2,K}$
			Top Qty	Type	Face Qty	Type	Qty	Type				
LITB	38-50	50 - 96	2	N3.75x30	4	N3.75x30	4	N3.75x30	3.3	1.8	7.9	3.6
		99	2	N3.75x30	4	N3.75x30	4	N3.75x30	4.0	1.8	9.5	3.6
	75-100	50 - 99	2	N3.75x30	4	N3.75x30	4	N3.75x30	4.9	1.8	11.6	3.6



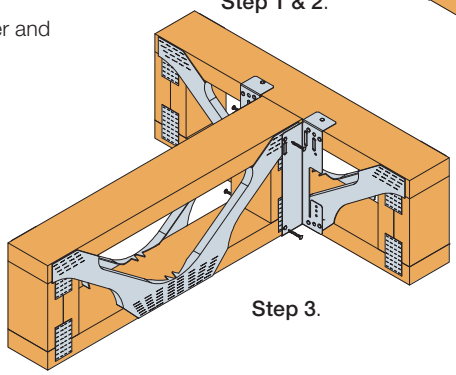
Step 1. Position hanger onto joist header, ensuring seat is flush with bottom of header.

Step 2. Install 8 face nails, and the 2 top flange nails as specified, starting with the bottom face nails. Ensure side flanges are vertical before nailing top face nails.

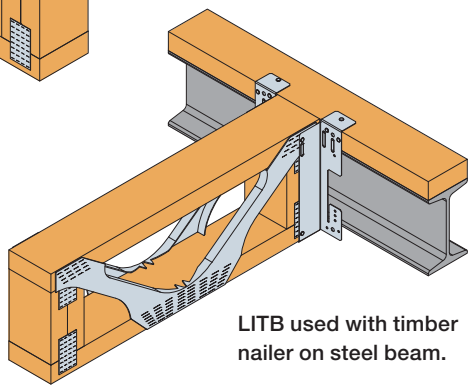
Step 3. Insert joist into hanger and secure with 4 joist nails.



Step 1 & 2.



Step 3.



LITB used with timber nailer on steel beam.

Backer Free, Top Flange I-Joist Hanger

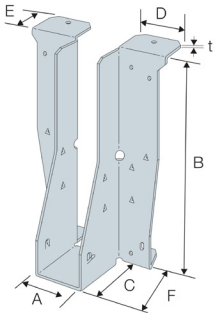
The ITB hanger eliminates the requirement for backer blocks when supported from an I-Joist header. The bottom flange location tabs, and an open top flange, provide enhanced capacity and improved ease of installation.

- Bottom flange location tabs quickly set the hanger onto the I-Joist header.
- Open top flange improves ease-of-installation.
- Optional nail holes for additional download and uplift capacity.

ITB Installation:

- Standard Installation (I-Joist headers without backer blocks), position the ITB hanger onto the face of supporting I-Joist, ensuring the bottom flanges are tight up against the underside of the bottom chord and fill all round and obround holes with the specified nails, starting with the bottom face nails and ensuring the hanger sides are vertical before fixing the top nails. Install the nails into the holes in the bottom flanges.
- Sit the carried joist into the ITB Hanger and install the specified nails through the angled pan nail holes into the joist.
- Enhanced Installation (I-Joist headers with backer blocks installed) it is necessary to fit backer blocks into the web of the I-Joist header, ensuring they are tight to the underside of the top chord. All round, obround and triangular holes are then to be filled with the specified nails, starting with the bottom face nails and ensuring the hanger sides are vertical before fixing the top nails.
- Enhanced uplift (I-Joists or solid joists with additional joist nails) fit web stiffeners onto the carried joist and fill all joist triangular nail holes with specified nails.
- When required, backer blocks and web stiffeners are to be installed in accordance with I-Joist manufacturer's recommendations.

Patent: GB2400384



Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]							Header Holes			Joist Holes	
	Width	Height	A	B	C	D	E	F	t	Ø4	Tri	Ø6.4	Tri	Ø6.4
ITB195/40	38 | 39	195	40	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/40	38 | 39	200	40	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/40	38 | 39	220	40	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB225/40	38 | 39	225	40	225	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/40	38 | 39	235	40	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/40	38 | 39	240	40	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/40	38 | 39	245	40	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/40	38 | 39	300	40	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB195/47	45	195	47	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/47	45	200	47	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/47	45	220	47	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB225/47	45	225	47	225	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/47	45	235	47	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/47	45	240	47	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/47	45	245	47	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/47	45	300	47	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB195/50	47	195	50	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/50	47	220	50	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/50	47	235	50	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/50	47	240	50	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/50	47	245	50	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/50	47	300	50	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/56	53	200	56	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/56	53	220	56	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/56	53	240	56	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/56	53	300	56	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/63	60	200	63	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/63	60	220	63	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/63	60	240	63	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/63	60	300	63	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/66	63	220	66	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/66	63	235	66	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/66	63	245	66	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/66	63	300	66	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/72	69 | 70	200	72	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/72	69 | 70	220	72	220	51	55	35	70.7	1.2	10	6	2	4	2

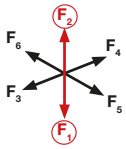
Model No.	Joist [mm]		Dimensions [mm]							Header Holes			Joist Holes	
	Width	Height	A	B	C	D	E	F	t	Ø4	Tri	Ø6.4	Tri	Ø6.4
ITB240/72	69 | 70	240	72	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/72	69 | 70	300	72	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB195/75	72	195	75	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/75	72	220	75	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/75	72	235	75	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/75	72	245	75	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/75	72	300	75	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB195/78	75 | 2x38 | 2x39	195	78	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/78	75 | 2x38 | 2x39	200	78	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/78	75 | 2x38 | 2x39	220	78	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB225/78	75 | 2x38 | 2x39	225	78	225	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/78	75 | 2x38 | 2x39	235	78	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/78	75 | 2x38 | 2x39	240	78	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/78	75 | 2x38 | 2x39	245	78	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/78	75 | 2x38 | 2x39	300	78	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB195/91	89 | 90 | 2x45	195	91	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/91	89 | 90 | 2x45	200	91	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/91	89 | 90 | 2x45	220	91	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB225/91	89 | 90 | 2x45	225	91	225	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/91	89 | 90 | 2x45	235	91	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/91	89 | 90 | 2x45	240	91	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/91	89 | 90 | 2x45	245	91	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/91	89 | 90 | 2x45	300	91	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB195/96	2x47	195	96	195	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/96	2x47	220	96	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/96	2x47	235	96	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/96	2x47	240	96	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/96	2x47	245	96	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/96	2x47	300	96	300	51	55	35	70.7	1.2	10	6	2	4	2
ITB200/99	96 | 97	200	99	200	51	55	35	70.7	1.2	10	6	2	4	2
ITB220/99	96 | 97	220	99	220	51	55	35	70.7	1.2	10	6	2	4	2
ITB235/99	96 | 97	235	99	235	51	55	35	70.7	1.2	10	6	2	4	2
ITB240/99	96 | 97	240	99	240	51	55	35	70.7	1.2	10	6	2	4	2
ITB245/99	96 | 97	245	99	245	51	55	35	70.7	1.2	10	6	2	4	2
ITB300/99	96 | 97	300	99	300	51	55	35	70.7	1.2	10	6	2	4	2

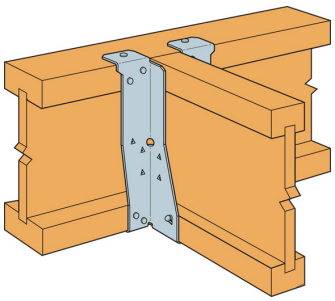
ITB

Performance Values

Model No.	Installation	Fasteners				Safe Working Loads [kN]			Characteristic Capacities [kN]		
		Header			Joist	$R_{1,SWL,Long\ term}$		$R_{2,\ Short\ term}$	$R_{1,K}$		$R_{2,k}$
		Top	Face	Bottom		I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm		I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	
		Qty	Qty	Qty	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
ITB	Standard	2	8	2	2	4.6	4.8	1.0	9.2	10.9	1.5
	Enhanced	2	14	2	6	8.4	7.6	3.8	19.5	17.9	7.6

Note: Enhanced installation: backer blocks fitted.





HITB

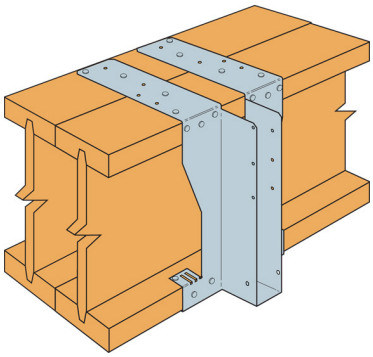
Backer Free, Top Flange I-Joist Hanger

The HITB hanger eliminates the requirement for backer blocks when supported from an I-Joist header. The bottom flange location tabs and an open top flange provide enhanced capacity and improved ease of installation.

- Eliminates the need for backer blocks with an I-joist to I-joist connection.
- Bottom flange location tabs quickly set the hanger onto the I-joist header.
- Open top flange improves ease of installation.
- Optional nail holes for additional download and uplift capacity.

HITB Installation:

- Designed for use with multiple headers.
- Ensure the supporting I-Joists are connected together in accordance with the manufacturer's recommended connection methods, i.e. MJC connectors, or filler blocks.
- Position the HITB hanger onto the face of the supporting I-joists, ensuring the bottom flanges are tight up against the underside of the bottom chord.
- Fill all face round and obround holes with nails. Install nails into the holes within the bottom flanges.
- Flatten the hanger's open flanges to the top chords of the supporting I-Joists and install a minimum of 4 nails per flange, 2 to the front and 2 to the rear of the joists.
- Bend the bottom chord tabs over the top face of the bottom chord and install nails through the obround holes into the the top face of the bottom chord.
- Sit the carried joist into the HITB hanger and install the nails through the round and obround holes into the joist.
- Web stiffeners required with HITB and HITB-LT.



HITB

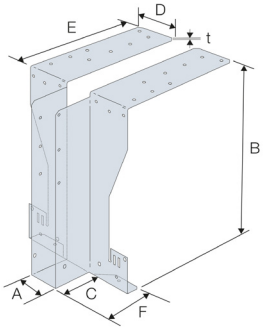
Product Dimensions

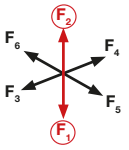
Model No.	Joist [mm]		Dimensions [mm]							Header Holes		Joist Holes	
	Width	Height	A	B	C	D	E	F	t	Ø4	Tri	Tri	Ø6x4
HITB200/40	39	200	40	200	60	65	180	81	2	28	4	6	2
HITB220/40	39	220	40	220	60	65	180	81	2	28	4	6	2
HITB240/40	39	240	40	240	60	65	180	81	2	28	4	6	2
HITB300/40	39	300	40	300	60	65	180	81	2	28	4	6	2
HITB200/47	45	200	47	200	60	65	180	81	2	28	4	6	2
HITB220/47	45	220	47	220	60	65	180	81	2	28	4	6	2
HITB240/47	45	240	47	240	60	65	180	81	2	28	4	6	2
HITB300/47	45	300	47	300	60	65	180	81	2	28	4	6	2
HITB200/56	53	200	56	200	60	65	180	81	2	28	4	6	2
HITB220/56	53	220	56	220	60	65	180	81	2	28	4	6	2
HITB240/56	53	240	56	240	60	65	180	81	2	28	4	6	2
HITB300/56	53	300	56	300	60	65	180	81	2	28	4	6	2
HITB200/63	60	200	63	200	60	65	180	81	2	28	4	6	2
HITB220/63	60	220	63	220	60	65	180	81	2	28	4	6	2
HITB240/63	60	240	63	240	60	65	180	81	2	28	4	6	2
HITB300/63	60	300	63	300	60	65	180	81	2	28	4	6	2
HITB200/72	69	200	72	200	60	65	180	81	2	28	4	6	2
HITB220/72	69	220	72	220	60	65	180	81	2	28	4	6	2
HITB240/72	69	240	72	240	60	65	180	81	2	28	4	6	2
HITB300/72	69	300	72	300	60	65	180	81	2	28	4	6	2
HITB200/78	75 I 2x39	200	78	200	60	65	180	81	2	28	4	6	2
HITB220/78	75 I 2x39	220	78	220	60	65	180	81	2	28	4	6	2
HITB240/78	75 I 2x39	240	78	240	60	65	180	81	2	28	4	6	2
HITB300/78	75 I 2x39	300	78	300	60	65	180	81	2	28	4	6	2
HITB200/91	90	200	91	200	60	65	180	81	2	28	4	6	2
HITB220/91	90	220	91	220	60	65	180	81	2	28	4	6	2
HITB240/91	90	240	91	240	60	65	180	81	2	28	4	6	2
HITB300/91	90	300	91	300	60	65	180	81	2	28	4	6	2
HITB200/99	96	200	99	200	60	65	180	81	2	28	4	6	2
HITB220/99	96	220	99	220	60	65	180	81	2	28	4	6	2
HITB240/99	96	240	99	240	60	65	180	81	2	28	4	6	2
HITB300/99	96	300	99	300	60	65	180	81	2	28	4	6	2
HITB-LT195/40	38	195	40	195	60	65	180	81	2	28	4	6	2
HITB-LT200/40	38	200	40	200	60	65	180	81	2	28	4	6	2
HITB-LT220/40	38	220	40	220	60	65	180	81	2	28	4	6	2
HITB-LT235/40	38	235	40	235	60	65	180	81	2	28	4	6	2
HITB-LT240/40	38	240	40	240	60	65	180	81	2	28	4	6	2
HITB-LT245/40	38	245	40	245	60	65	180	81	2	28	4	6	2
HITB-LT300/40	38	300	40	300	60	65	180	81	2	28	4	6	2
HITB-LT195/47	45	195	47	195	60	65	180	81	2	28	4	6	2
HITB-LT200/47	45	200	47	200	60	65	180	81	2	28	4	6	2
HITB-LT220/47	45	220	47	220	60	65	180	81	2	28	4	6	2
HITB-LT235/47	45	235	47	235	60	65	180	81	2	28	4	6	2
HITB-LT240/47	45	240	47	240	60	65	180	81	2	28	4	6	2
HITB-LT245/47	45	245	47	245	60	65	180	81	2	28	4	6	2
HITB-LT300/47	45	300	47	300	60	65	180	81	2	28	4	6	2
HITB-LT195/50	47	195	50	195	60	65	180	81	2	28	4	6	2

Model No.	Joist [mm]		Dimensions [mm]							Header Holes		Joist Holes	
	Width	Height	A	B	C	D	E	F	t	Ø4	Tri	Tri	Ø6x4
HITB-LT220/50	47	220	50	220	60	65	180	81	2	28	4	6	2
HITB-LT235/50	47	235	50	235	60	65	180	81	2	28	4	6	2
HITB-LT240/50	47	240	50	240	60	65	180	81	2	28	4	6	2
HITB-LT245/50	47	245	50	245	60	65	180	81	2	28	4	6	2
HITB-LT300/50	47	300	50	300	60	65	180	81	2	28	4	6	2
HITB-LT220/63	60	220	63	220	60	65	180	81	2	28	4	6	2
HITB-LT240/63	60	240	63	240	60	65	180	81	2	28	4	6	2
HITB-LT300/63	60	300	63	300	60	65	180	81	2	28	4	6	2
HITB-LT220/66	63	220	66	220	60	65	180	81	2	28	4	6	2
HITB-LT235/66	63	235	66	235	60	65	180	81	2	28	4	6	2
HITB-LT245/66	63	245	66	245	60	65	180	81	2	28	4	6	2
HITB-LT300/66	63	300	66	300	60	65	180	81	2	28	4	6	2
HITB-LT220/72	70	220	72	220	60	65	180	81	2	28	4	6	2
HITB-LT240/72	70	240	72	240	60	65	180	81	2	28	4	6	2
HITB-LT300/72	70	300	72	300	60	65	180	81	2	28	4	6	2
HITB-LT195/75	72	195	75	195	60	65	180	81	2	28	4	6	2
HITB-LT220/75	72	220	75	220	60	65	180	81	2	28	4	6	2
HITB-LT235/75	72	235	75	235	60	65	180	81	2	28	4	6	2
HITB-LT245/75	72	245	75	245	60	65	180	81	2	28	4	6	2
HITB-LT300/75	72	300	75	300	60	65	180	81	2	28	4	6	2
HITB-LT195/78	2x39	195	78	195	60	65	180	81	2	28	4	6	2
HITB-LT200/78	2x39	200	78	200	60	65	180	81	2	28	4	6	2
HITB-LT220/78	2x39	220	78	220	60	65	180	81	2	28	4	6	2
HITB-LT240/78	2x39	240	78	240	60	65	180	81	2	28	4	6	2
HITB-LT300/78	2x39	300	78	300	60	65	180	81	2	28	4	6	2
HITB-LT195/91	90	195	91	195	60	65	180	81	2	28	4	6	2
HITB-LT200/91	90	200	91	200	60	65	180	81	2	28	4	6	2
HITB-LT220/91	90	220	91	220	60	65	180	81	2	28	4	6	2
HITB-LT235/91	90	235	91	235	60	65	180	81	2	28	4	6	2
HITB-LT240/91	90	240	91	240	60	65	180	81	2	28	4	6	2
HITB-LT245/91	90	245	91	245	60	65	180	81	2	28	4	6	2
HITB-LT300/91	90	300	91	300	60	65	180	81	2	28	4	6	2
HITB-LT195/96	2x47	195	96	195	60	65	180	81	2	28	4	6	2
HITB-LT220/96	2x47	220	96	220	60	65	180	81	2	28	4	6	2
HITB-LT235/96	2x47	235	96	235	60	65	180	81	2	28	4	6	2
HITB-LT240/96	2x47	240	96	240	60	65	180	81	2	28	4	6	2
HITB-LT245/96	2x47	245	96	245	60	65	180	81	2	28	4	6	2
HITB-LT300/96	2x47	300	96	300	60	65	180	81	2	28	4	6	2
HITB-LT220/99	97	220	99	220	60	65	180	81	2	28	4	6	2
HITB-LT235/99	97	235	99	235	60	65	180	81	2	28	4	6	2
HITB-LT240/99	97	240	99	240	60	65	180	81	2	28	4	6	2
HITB-LT245/99	97	245	99	245	60	65	180	81	2	28	4	6	2
HITB-LT300/99	97	300	99	300	60	65	180	81	2	28	4	6	2
HITB-LT220/128	2x63	220	128	220	60	65	180	81	2	28	4	6	2
HITB-LT235/128	2x63	235	128	235	60	65	180	81	2	28	4	6	2
HITB-LT245/128	2x63	245	128	245	60	65	180	81	2	28	4	6	2
HITB-LT300/128	2x63	300	128	300	60	65	180	81	2	28	4	6	2

Performance Values

Model No.	Fasteners				Safe Working Loads [kN]				Characteristic Capacities [kN]			
	Header			Joist	$R_{1,SWL,Long\ term}$		$R_{2,SWL,Short\ term}$		$R_{1,K}$		$R_{2,K}$	
	Top Face Qty	Face Qty	Bottom Qty	Qty	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm
					N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
HITB	8	12	2	8	8.0	-	3.6	-	17.5	-	11.4	-
HITB-LT	8	12	2	8	-	8.1	-	4.6	-	19.1	-	11.1





ITBS

Backer Free I-Joist Hanger with Adjustable Skew

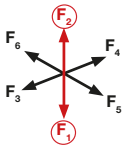
The ITBS solves the problem of skew hangers in I-joist to I-Joist connections. It can be handed left or right on site by the carpenter, removing confusion when the floor is built opposite to the drawing. The ITBS is fully adjustable from 5° to 67.5° skew, reducing the need for 'special' skew hangers. Finally, the ITBS is a backer free hanger removing the need for backer blocks in standard installation. Overall, the revolutionary ITBS reduces build cost, confusion, speed of installation and stock holding.

- Standard 45° skew, with site adjustable skew from 5° to 67.5°.
- Non-handed hanger, can be left or right skew-adjusted on site, removing any handing confusion and reducing stock holding.
- Eliminates the need for backer blocks when supported from an I-joist header.
- Open top flange improves ease-of-installation.
- Can be used on I-Joist or solid joist headers.
- Optional nail holes for additional download capacity.

Material: Pre-galvanised mild steel.

Performance Values

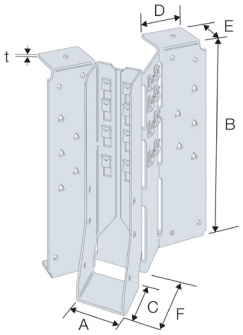
Model No.	Installation	Fasteners				Safe Working Loads [kN]			Characteristic Capacities [kN]		
		Header			Joist	$R_{1,\text{SWL Long Term}}$		$R_{2,\text{Short Term}}$	$R_{1,K}$		$R_{2,K}$
						I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm		I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	
		Top Qty	Face Qty	Bottom Qty	Qty	N3.75X30	N3.75X30	N3.75X30	N3.75X30	N3.75X30	N3.75X30
ITBS	Standard	2	8	2	1	3.7	2.1	0.7	10.2	7.4	1.5
ITBS	Enhanced	2	18	2	3	5.5	6.3	0.7	15.0	12.8	1.5

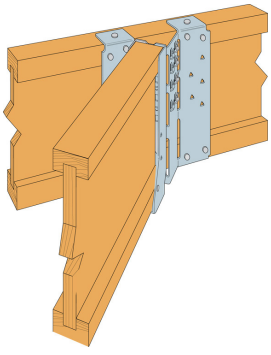


Angle Guide

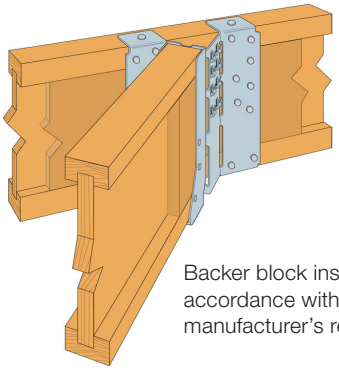
50mm Back Plate		100mm Back Plate	
Skew Angle (A)	Distance [mm] (B)	Skew Angle (A)	Distance [mm] (B)
5^0	106	5^0	206
15^0	104	15^0	200
22.5^0	100	22.5^0	190
30^0	95	30^0	180
37.5^0	87	37.5^0	166
45^0	79	45^0	149
52.5^0	69	52.5^0	130
60^0	58	60^0	109
67.5^0	46	67.5^0	86

Note: see installation sequence overleaf.





Standard ITBS Installation



Enhanced ITBS Installation

Backer block installed in accordance with the I-Joist manufacturer's requirements.

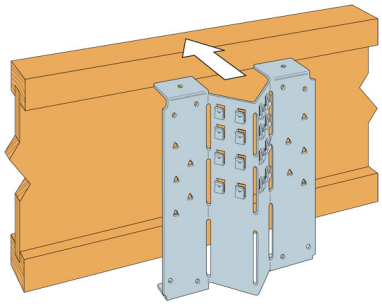
ITBS

Product Dimensions

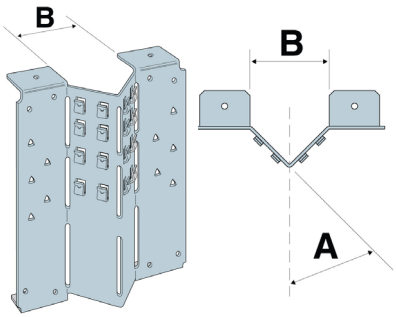
Model No.	Joist [mm]		Dimensions [mm]						Header Holes			Joist Holes	
	Width Min	Height Min	A	B	C	D	E	t	Ø4	Tri	Ø6.4 Obround	Ø6x4 Obround	Tri
ITBS195/40	38 | 39	195	40	195	64	55	37	1.5	10	10	2	2	4
ITBS200/40	38 | 39	200	40	200	64	55	37	1.5	10	10	2	2	4
ITBS220/40	38 | 39	220	40	220	64	55	37	1.5	10	10	2	2	4
ITBS225/40	38 | 39	225	40	225	64	55	37	1.5	10	10	2	2	4
ITBS235/40	38 | 39	235	40	235	64	55	37	1.5	10	10	2	2	4
ITBS240/40	38 | 39	240	40	240	64	55	37	1.5	10	10	2	2	4
ITBS245/40	38 | 39	245	40	245	64	55	37	1.5	10	10	2	2	4
ITBS300/40	38 | 39	300	40	300	64	55	37	1.5	10	10	2	2	4
ITBS195/47	45	195	47	195	64	55	37	1.5	10	10	2	2	4
ITBS200/47	45	200	47	200	64	55	37	1.5	10	10	2	2	4
ITBS220/47	45	220	47	220	64	55	37	1.5	10	10	2	2	4
ITBS225/47	45	225	47	225	64	55	37	1.5	10	10	2	2	4
ITBS235/47	45	235	47	235	64	55	37	1.5	10	10	2	2	4
ITBS240/47	45	240	47	240	64	55	37	1.5	10	10	2	2	4
ITBS245/47	45	245	47	245	64	55	37	1.5	10	10	2	2	4
ITBS300/47	45	300	47	300	64	55	37	1.5	10	10	2	2	4
ITBS195/50	47	195	50	195	64	55	37	1.5	10	10	2	2	4
ITBS220/50	47	220	50	220	64	55	37	1.5	10	10	2	2	4
ITBS235/50	47	235	50	235	64	55	37	1.5	10	10	2	2	4
ITBS240/50	47	240	50	240	64	55	37	1.5	10	10	2	2	4
ITBS245/50	47	245	50	245	64	55	37	1.5	10	10	2	2	4
ITBS300/50	47	300	50	300	64	55	37	1.5	10	10	2	2	4
ITBS200/56	53	200	56	200	64	55	37	1.5	10	10	2	2	4
ITBS220/56	53	220	56	220	64	55	37	1.5	10	10	2	2	4
ITBS240/56	53	240	56	240	64	55	37	1.5	10	10	2	2	4
ITBS300/56	53	300	56	300	64	55	37	1.5	10	10	2	2	4
ITBS200/63	60	200	63	200	64	55	37	1.5	10	10	2	2	4
ITBS220/63	60	220	63	220	64	55	37	1.5	10	10	2	2	4
ITBS240/63	60	240	63	240	64	55	37	1.5	10	10	2	2	4
ITBS300/63	60	300	63	300	64	55	37	1.5	10	10	2	2	4
ITBS220/66	63	220	66	220	64	55	37	1.5	10	10	2	2	4
ITBS235/66	63	235	66	235	64	55	37	1.5	10	10	2	2	4
ITBS245/66	63	245	66	245	64	55	37	1.5	10	10	2	2	4
ITBS300/66	63	300	66	300	64	55	37	1.5	10	10	2	2	4
ITBS200/72	69 | 70	200	72	200	64	55	37	1.5	10	10	2	2	4
ITBS220/72	69 | 70	220	72	220	64	55	37	1.5	10	10	2	2	4
ITBS240/72	69 | 70	240	72	240	64	55	37	1.5	10	10	2	2	4
ITBS300/72	69 | 70	300	72	300	64	55	37	1.5	10	10	2	2	4
ITBS195/75	72	195	75	195	64	55	37	1.5	10	10	2	2	4
ITBS220/75	72	220	75	220	64	55	37	1.5	10	10	2	2	4
ITBS235/75	72	235	75	235	64	55	37	1.5	10	10	2	2	4
ITBS245/75	72	245	75	245	64	55	37	1.5	10	10	2	2	4
ITBS300/75	72	300	75	300	64	55	37	1.5	10	10	2	2	4
ITBS195/78	75 | 2x38 | 2x39	195	78	195	64	55	37	1.5	10	10	2	2	4
ITBS200/78	75 | 2x38 | 2x39	200	78	200	64	55	37	1.5	10	10	2	2	4
ITBS220/78	75 | 2x38 | 2x39	220	78	220	64	55	37	1.5	10	10	2	2	4
ITBS225/78	75 | 2x38 | 2x39	225	78	225	64	55	37	1.5	10	10	2	2	4
ITBS235/78	75 | 2x38 | 2x39	235	78	235	64	55	37	1.5	10	10	2	2	4
ITBS240/78	75 | 2x38 | 2x39	240	78	240	64	55	37	1.5	10	10	2	2	4
ITBS245/78	75 | 2x38 | 2x39	245	78	245	64	55	37	1.5	10	10	2	2	4
ITBS300/78	75 | 2x38 | 2x39	300	78	300	64	55	37	1.5	10	10	2	2	4
ITBS195/91	89 | 90 | 2x45	195	91	195	64	55	37	1.5	10	10	2	2	4
ITBS200/91	89 | 90 | 2x45	200	91	200	64	55	37	1.5	10	10	2	2	4
ITBS220/91	89 | 90 | 2x45	220	91	220	64	55	37	1.5	10	10	2	2	4
ITBS225/91	89 | 90 | 2x45	225	91	225	64	55	37	1.5	10	10	2	2	4
ITBS235/91	89 | 90 | 2x45	235	91	235	64	55	37	1.5	10	10	2	2	4
ITBS240/91	89 | 90 | 2x45	240	91	240	64	55	37	1.5	10	10	2	2	4
ITBS245/91	89 | 90 | 2x45	245	91	245	64	55	37	1.5	10	10	2	2	4
ITBS300/91	89 | 90 | 2x45	300	91	300	64	55	37	1.5	10	10	2	2	4
ITBS195/96	2x47	195	96	195	64	55	37	1.5	10	10	2	2	4
ITBS220/96	2x47	220	96	220	64	55	37	1.5	10	10	2	2	4
ITBS235/96	2x47	235	96	235	64	55	37	1.5	10	10	2	2	4
ITBS240/96	2x47	240	96	240	64	55	37	1.5	10	10	2	2	4
ITBS245/96	2x47	245	96	245	64	55	37	1.5	10	10	2	2	4
ITBS300/96	2x47	300	96	300	64	55	37	1.5	10	10	2	2	4
ITBS200/99	96 | 97	200	99	200	64	55	37	1.5	10	10	2	2	4
ITBS220/99	96 | 97	220	99	220	64	55	37	1.5	10	10	2	2	4
ITBS235/99	96 | 97	235	99	235	64	55	37	1.5	10	10	2	2	4
ITBS240/99	96 | 97	240	99	240	64	55	37	1.5	10	10	2	2	4
ITBS245/99	96 | 97	245	99	245	64	55	37	1.5	10	10	2	2	4
ITBS300/99	96 | 97	300	99	300	64	55	37	1.5	10	10	2	2	4

Standard Installation Sequence

Step 1:
Position the back plate onto the header in the required position. Ensure backer blocks are fitted if enhanced performance is required. Secure the acute side of the backplate (inside angle) with the specified nails.

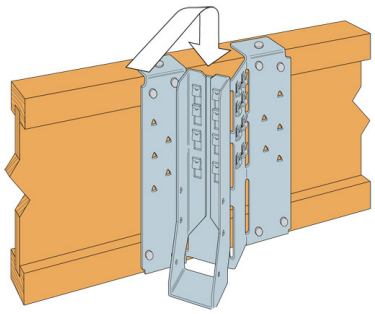


Step 2:
Adjust the angle of the backplate (if different from 45°) to suit the required angle. Use either an adjustable set square or the guide tables shown below: Bend one time only. Secure the obtuse side of the back plate onto the header with all the specified nails, ensuring the face of the back plate is tight against the header.



Step 3:
Offer the stirrup to the back plate ensuring it is located on the correct side (which can be either left or right hand side).

Once all of the hooks (on the back plate) are clearly through the apertures (on the stirrup) slide in a downward direction ensuring all hooks engage onto the stirrup and click into position. Locate the floor joist into the stirrup ensuring the joist is set tight to the back. The joist should be secured with all specified nails on the open face of the stirrup.

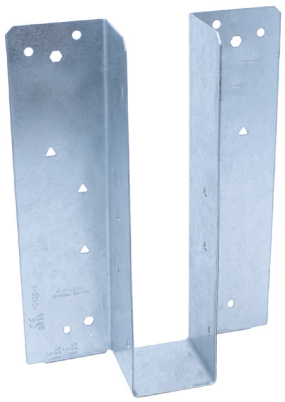


Metal Web Joist Hangers

The IUB/HIUB hangers support metal web joists and solid timber joists without the need for plywood gussets.
They incorporate the unique feature of bottom flanges, which provide enhanced capacity.

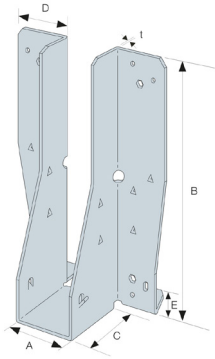
- Can be used on metal web joists or solid joist headers.
- Eliminates the need for plywood gussets when supported from a metal web joist.
- IUB Bottom flanges provide enhanced download capacity and quickly sets the hanger onto the header.
- Obround holes in face to provide easier nailing access in tight locations.
- IUB: Positive Angle Nailing (PAN) of joist to speed installation and reduce the likelihood of splitting.
- IUB has hexagonal holes for SDS screw installation and optional triangular nail holes for additional download, when used in conjunction with a plywood gusset, and additional uplift capacities.

Material: Pre-galvanised mild steel.



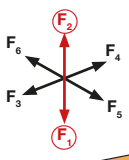
Product Dimensions

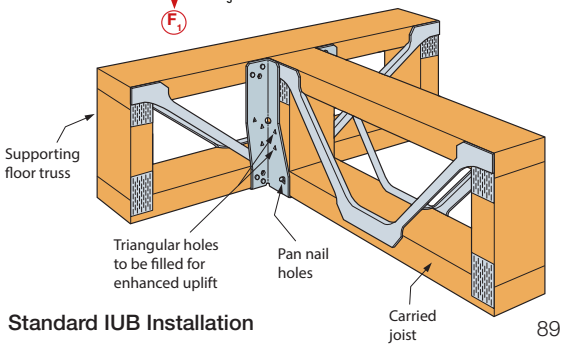
Model No.	Joist [mm]		Dimensions [mm]						Header Holes				Joist Holes	
	Width	Height	A	B	C	D	E	t	Ø4.1	Ø6.4	Ø6x4 Obround	Tri	Ø6x4 Obround	Tri
IUB195/50	47	195 - 202	50	190	50	50	53	1.2	4	8	2	6	2	4
IUB220/50	47	218 - 225	50	215	50	50	53	1.2	4	8	2	6	2	4
IUB253/50	47	253 - 254	50	248	50	50	53	1.2	4	8	2	6	2	4
IUB304/50	47	304	50	299	50	50	53	1.2	4	8	2	6	2	4
IUB355/50	47	356	50	350	50	50	53	1.2	4	8	2	6	2	4
IUB375/50	47	373	50	370	50	50	53	1.2	4	8	2	6	2	4
IUB420/50	47	417 - 421	50	415	50	50	53	1.2	4	8	2	6	2	4
IUB195/75	72	195 - 202	75	190	50	50	53	1.2	4	8	2	6	2	4
IUB220/75	72	218 - 225	75	215	50	50	53	1.2	4	8	2	6	2	4
IUB253/75	72	253 - 254	75	248	50	50	53	1.2	4	8	2	6	2	4
IUB304/75	72	304	75	299	50	50	53	1.2	4	8	2	6	2	4
IUB355/75	72	356	75	350	50	50	53	1.2	4	8	2	6	2	4
IUB375/75	72	373	75	370	50	50	53	1.2	4	8	2	6	2	4
IUB420/75	72	417 - 421	75	415	50	50	53	1.2	4	8	2	6	2	4
IUB195/99	97	195	99	190	50	50	53	1.2	4	8	2	6	2	4
IUB220/99	97	220	99	215	50	50	53	1.2	4	8	2	6	2	4
IUB253/99	97	253 - 254	99	248	50	50	53	1.2	4	8	2	6	2	4
IUB304/99	97	304	99	299	50	50	53	1.2	4	8	2	6	2	4
IUB355/99	97	356	99	350	50	50	53	1.2	4	8	2	6	2	4
IUB375/99	97	373	99	370	50	50	53	1.2	4	8	2	6	2	4
IUB420/99	97	417 - 421	99	415	50	50	53	1.2	4	8	2	6	2	4
IUB195/125	122	195 - 202	125	190	50	50	53	1.2	4	8	2	6	2	4
IUB220/125	122	218 - 225	125	215	50	50	53	1.2	4	8	2	6	2	4
IUB304/125	122	304	125	299	50	50	53	1.2	4	8	2	6	2	4
IUB420/125	122	417 - 421	125	415	50	50	53	1.2	4	8	2	6	2	4
IUB195/146	2x72	195 - 202	146	190	50	50	53	1.2	4	8	2	6	2	4
IUB220/146	2x72	218 - 225	146	215	50	50	53	1.2	4	8	2	6	2	4
IUB253/146	2x72	253 - 254	146	248	50	50	53	1.2	4	8	2	6	2	4
IUB304/146	2x72	304	146	299	50	50	53	1.2	4	8	2	6	2	4
IUB355/146	2x72	356	146	350	50	50	53	1.2	4	8	2	6	2	4
IUB375/146	2x72	373	146	370	50	50	53	1.2	4	8	2	6	2	4
IUB420/146	2x72	218 - 225	146	415	50	50	53	1.2	4	8	2	6	2	4
IUB195/150	147	195 - 202	150	190	50	50	53	1.2	4	8	2	6	2	4
IUB220/150	147	218 - 225	150	215	50	50	53	1.2	4	8	2	6	2	4
IUB304/150	147	304	150	299	50	50	53	1.2	4	8	2	6	2	4
IUB420/150	147	417 - 421	150	415	50	50	53	1.2	4	8	2	6	2	4



Installation:

- Position the hanger onto the face of supporting floor joist, ensuring the bottom flanges are tight up against the underside of the bottom chord.
- Install 3.75 x 30mm nails into the holes within the hanger bottom flanges. Fill all face round and obround holes with 3.75 x 30mm square twist nails.
- Sit the carried joist into the hanger and install 3.75 x 30mm nails through the angled pan nail holes into the joist.
- For enhanced uplift, fill all joist triangular nail holes with 3.75 x 30mm nails. For SDS screw installation the IUB may be installed with 4 no. 6.2 x 63.5mm long SDS screws through the hexagonal holes in the face.





Standard IUB Installation

Performance Values

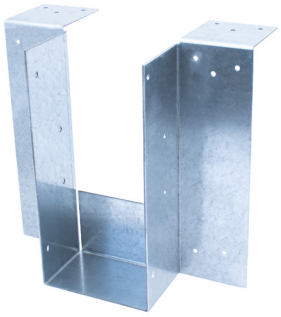
Model No.	Hanger Height [mm]	Fasteners				Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header		Joist					
		Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
IUB	190-415	10	N3.75x30	2	N3.75x30	3.5	1.0	8.1	2.0
	190	4	SDS25212	2	N3.75x30	5.8	1.0	13.6	2.0
	215-415	4	SDS25212	2	N3.75x30	7.4	1.0	13.6	2.0

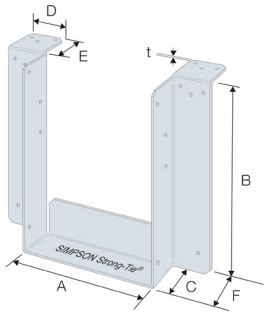
Note: Minimum header width of 72mm for SDS Installation.

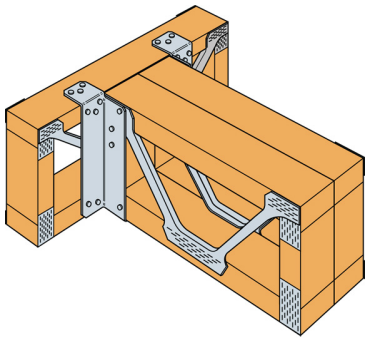
IUB/HIUB

Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]							Header Holes	Joist Holes	
	Width	Height	A	B	C	D	E	F	t	Ø4.1	Ø4.1	Ø6x4 Obround
HIUB195/75	72	195	75	195	63	64	64	66	2	16	6	2
HIUB202/75	72	202	75	202	63	64	64	66	2	16	6	2
HIUB219/75	72	219	75	219	63	64	64	66	2	16	6	2
HIUB225/75	72	225	75	225	63	64	64	66	2	16	6	2
HIUB254/75	72	253 I 254	75	254	63	64	64	66	2	16	6	2
HIUB304/75	72	304	75	304	63	64	64	66	2	16	6	2
HIUB356/75	72	356	75	356	63	64	64	66	2	16	6	2
HIUB373/75	72	373	75	373	63	64	64	66	2	16	6	2
HIUB418/75	72	417 I 418	75	418	63	64	64	66	2	16	6	2
HIUB421/75	72	421	75	421	63	64	64	66	2	16	6	2
HIUB424/75	72	424	75	424	63	64	64	66	2	16	6	2
HIUB195/99	97	195	99	195	63	64	64	66	2	16	6	2
HIUB202/99	97	202	99	202	63	64	64	66	2	16	6	2
HIUB219/99	97	219	99	219	63	64	64	66	2	16	6	2
HIUB225/99	97	225	99	225	63	64	64	66	2	16	6	2
HIUB254/99	97	253 I 254	99	254	63	64	64	66	2	16	6	2
HIUB304/99	97	304	99	304	63	64	64	66	2	16	6	2
HIUB356/99	97	356	99	356	63	64	64	66	2	16	6	2
HIUB373/99	97	373	99	373	63	64	64	66	2	16	6	2
HIUB418/99	97	417 I 418	99	418	63	64	64	66	2	16	6	2
HIUB421/99	97	421	99	421	63	64	64	66	2	16	6	2
HIUB424/99	97	424	99	424	63	64	64	66	2	16	6	2
HIUB195/125	122	195	125	195	63	64	64	66	2	16	6	2
HIUB219/125	122	219	125	219	63	64	64	66	2	16	6	2
HIUB254/125	122	253 I 254	125	254	63	64	64	66	2	16	6	2
HIUB304/125	122	304	125	304	63	64	64	66	2	16	6	2
HIUB418/125	122	417 I 418	125	418	63	64	64	66	2	16	6	2
HIUB195/146	2x72	195	146	195	63	64	64	66	2	16	6	2
HIUB202/146	2x72	202	146	202	63	64	64	66	2	16	6	2
HIUB219/146	2x72	219	146	219	63	64	64	66	2	16	6	2
HIUB225/146	2x72	225	146	225	63	64	64	66	2	16	6	2
HIUB254/146	2x72	253 I 254	146	254	63	64	64	66	2	16	6	2
HIUB304/146	2x72	304	146	304	63	64	64	66	2	16	6	2
HIUB356/146	2x72	356	146	356	63	64	64	66	2	16	6	2
HIUB373/146	2x72	373	146	373	63	64	64	66	2	16	6	2
HIUB418/146	2x72	417 I 418	146	418	63	64	64	66	2	16	6	2
HIUB421/146	2x72	421	146	421	63	64	64	66	2	16	6	2
HIUB424/146	2x72	424	146	424	63	64	64	66	2	16	6	2
HIUB219/150	147	219	150	219	63	64	64	66	2	16	6	2
HIUB254/150	147	253 I 254	150	254	63	64	64	66	2	16	6	2
HIUB304/150	147	304	150	304	63	64	64	66	2	16	6	2
HIUB418/150	147	417 I 418	150	418	63	64	64	66	2	16	6	2
HIUB195/196	2x97	195	196	195	63	64	64	66	2	16	6	2
HIUB202/196	2x97	202	196	202	63	64	64	66	2	16	6	2
HIUB219/196	2x97	219	196	219	63	64	64	66	2	16	6	2
HIUB225/196	2x97	225	196	225	63	64	64	66	2	16	6	2
HIUB254/196	2x97	253 I 254	196	254	63	64	64	66	2	16	6	2
HIUB304/196	2x97	304	196	304	63	64	64	66	2	16	6	2
HIUB356/196	2x97	356	196	356	63	64	64	66	2	16	6	2
HIUB373/196	2x97	373	196	373	63	64	64	66	2	16	6	2
HIUB418/196	2x97	417 I 418	196	418	63	64	64	66	2	16	6	2
HIUB421/196	2x97	421	196	421	63	64	64	66	2	16	6	2
HIUB424/196	2x97	424	196	424	63	64	64	66	2	16	6	2
HIUB195/246	2x122	195	246	195	63	64	64	66	2	16	6	2
HIUB219/246	2x122	219	246	219	63	64	64	66	2	16	6	2
HIUB254/246	2x122	253 I 254	246	254	63	64	64	66	2	16	6	2
HIUB304/246	2x122	304	246	304	63	64	64	66	2	16	6	2
HIUB195/296	2x147	195	296	195	63	64	64	66	2	16	6	2
HIUB219/296	2x147	219	296	219	63	64	64	66	2	16	6	2
HIUB254/296	2x147	235 I 254	296	254	63	64	64	66	2	16	6	2
HIUB254/296	2x147	235 I 254	296	254	63	64	64	66	2	16	6	2
HIUB304/296	2x147	304	296	304	63	64	64	66	2	16	6	2
HIUB418/296	2x147	417 I 418	296	418	63	64	64	66	2	16	6	2



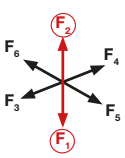




Standard HIUB Installation

Performance Values

Model No.	Hanger Height [mm]	Fasteners						Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header				Joist					
		Top Qty	Type	Face Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$	$R_{2,K}$
HIUB	Standard	6	N3.75 x 30	10	N3.75 x 30	8	N3.75 x 30	8.1	3.5	19.2	7.0
	Enhanced	6	N3.75 x 30	10	N3.75 x 30	8	N3.75 x 30	10.8	3.5	23.4	7.0



IUBS

Backer Free Metal Web Joist Hanger (with adjustable skew)

The IUBS solves the problem of skewed hangers for metal web to metal web connections. It can be handed left or right on site, by the carpenter, removing confusion when the floor is built opposite to the drawing.

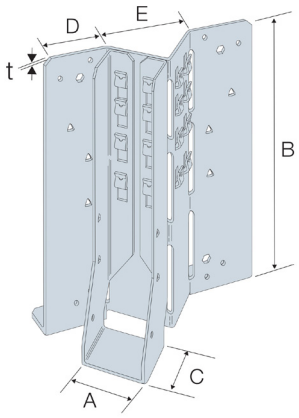
The IUBS is fully adjustable from 5° to 67.5° degrees skew, reducing the need for "special" skew hangers.

- Standard 45° skew, with site adjustable skew from 5° to 67.5° degrees.
- Non-handed hanger, can be left or right skewed - adjusted on site removing any handing confusion and reduce stocking.
- Use SDS25212 for enhanced download capacity.
- Can be used on metal web joist or solid joist headers.
- Optional nail holes for additional download.

Material: Pre-galvanised mild steel.

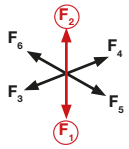
Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]					Header Holes			Joist Holes	
	Width	Height	A	B	C	D	t	Ø4.1	Tri	Ø6.4	Ø6x4	Tri
IUBS195/75	72	195	75	195	64	56	1.5	8	6	4	2	4
IUBS215/75	72	218	75	215	64	56	1.5	8	6	4	2	4
IUBS249/75	72	253	75	249	64	56	1.5	8	6	4	2	4
IUBS295/75	72	295	75	295	64	56	1.5	8	6	4	2	4
IUBS195/99	97	195	99	195	64	56	1.5	8	6	4	2	4
IUBS215/99	97	218	99	215	64	56	1.5	8	6	4	2	4
IUBS249/99	97	253	99	249	64	56	1.5	8	6	4	2	4
IUBS295/99	97	295	99	295	64	56	1.5	8	6	4	2	4



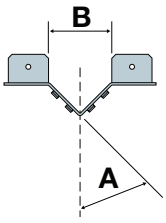
Performance Values

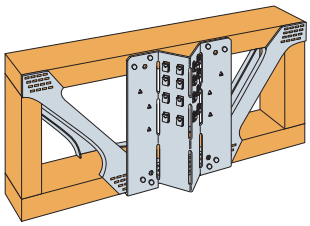
Model No.	Fasteners				Safe Working Loads [kN]		Characteristic Capacities [kN]	
	Header			Joist				
	Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
IUBS	10	N3.75 x 30	2	N3.75 x 30	5.3	0.7	12.7	1.30
	4	SDS25212	2	N3.75 x 30	7.2	0.7	17.2	1.30

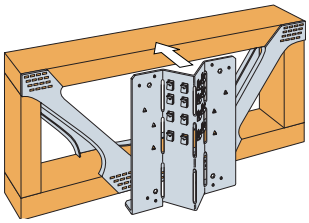


Angle Guide

100mm Backplate	
Skew Angle (A)	Distance [mm] (B)
5°	206
15°	200
22.5°	190
30°	180
37.5°	166
45°	149
52.5°	130
60°	109
67.5°	86

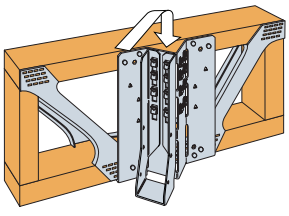




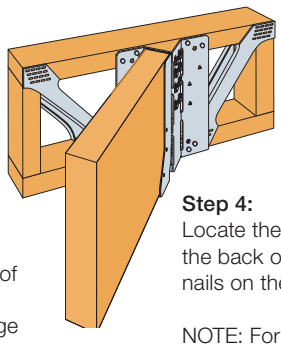


Step 1:
Position the back plate onto the header in the required position. Secure the back plate (inside angle) with the specified fasteners.

Step 2:
Adjust the angle of the back plate (if different from 45 degrees) to suit the required angle. Bend one time only. Secure the obtuse side of the back plate onto the header with all specified fasteners, ensuring the face of the back plate is tight against the header.



Step 3:
Offer the stirrup to the back plate ensuring it is located on the correct side (which can be either left or right hand side). Once all of the hooks (on the back plate) are clearly through the apertures (on stirrup) slide in a downward direction ensuring all hooks engage onto the stirrup and click into position.



Step 4:
Locate the floor joist into the stirrup ensuring the joist is set to the back of it. The joist should be secured with all specified nails on the open face of the stirrup.

NOTE: For enhanced download capacity use SDS25212 screws.

Top Flange I-Joist Hanger

The ITSE hanger incorporates the ''Strong Grip™'' which secures the I-Joist without the need for any fasteners - where no uplift is required.

- Value-engineered for maximum performance. The offset seat feature allows better joist bearing positioning. Joist top flanges are laterally restrained by the side of the hanger, eliminating the need for web stiffeners (I-Joist manufacturers may require web stiffeners).
- Reduced embossing on the ITSE's top flange, and the hanger height shorter than the joist height allows easier fitting for smooth floor alignment.
- These models will normally accommodate a skew of up to 5°.
- When fitting onto I-Joist headers, backer blocks are required. See I-Joist manufacturer's details.

Material: Pre-galvanised mild steel.

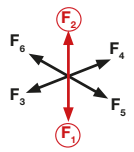
Installation: Use all specified fasteners.

Performance Values onto I-Joists

Model No.	Installation	Fasteners						Safe Working Loads [kN]			Characteristic Capacities [kN]		
		Header				Joist		$R_{1,SWL,Long\ term}$		$R_{2,SWL,Short\ Term}$	$R_{1,K}$		$R_{2,K}$
		Top Qty	Type	Face Qty	Type	Qty	Nails	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm		I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	
ITSE	Backer Blocks	4	N3.75x30	2	N3.75x30	2	N3.75x30	4.67	3.36	1.1	8.5	8.5	1.8

Performance Values onto Solid Joists

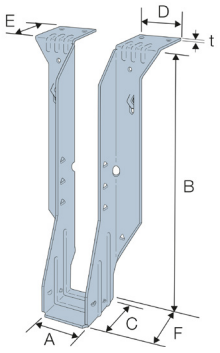
Model No.	Fasteners						Safe Working Loads [kN]			Characteristic Capacities [kN]		
	Header				Joist		$R_{1,SWL,Long\ term}$		$R_{2,SWL,Short\ Term}$	$R_{1,K}$		$R_{2,K}$
	Top Qty	Type	Face Qty	Type	Qty	Type	C16	LVL		C16	LVL	
ITSE	4	N3.75x75	2	N3.75x30	2	N3.75x30	5.3	6.5	1.1	8.8	8.8	1.8



TIE COMPANY INC.

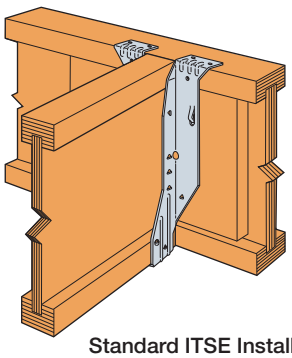
Performance Values onto Timber Nailers

Model No.	Nailer Depth [mm]	Fasteners						Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header				Joist		$R_{1,SWL,Long\ term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
		Top Qty	Type	Face Qty	Type	Qty	Type				
ITSE	38-74	4	N3.75x30	2	N3.75x30	2	N3.75x30	4.7	0.9	6.6	1.8
	75-100	4	N3.75x75	2	N3.75x75	2	N3.75x30	5.3	0.9	8.8	1.8

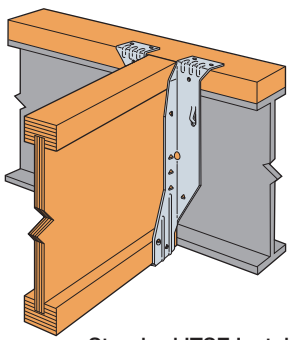


Installation:

- Value-engineered for maximum performance. The offset seat feature allows better joist bearing positioning. Joist top flanges are laterally restrained by the side of the hanger, eliminating the need for web stiffeners (I-Joist manufactures may require web stiffeners).
- Reduced embossing on the ITSE's top flange, and the hanger height shorter than the joist height allows easier fitting for smooth floor alignment.
- These models will normally accomodate a skew up to 5 degrees.
- When fitting onto I-Joist headers, backer blocks are required. See I-Joist manufacturer's details.



Standard ITSE Installation



Standard ITSE Installation on Timber Nailer mounted onto Steel Beam.

ITSE

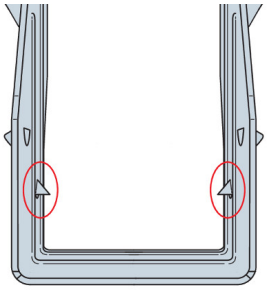
Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]							Header Holes		Joist Holes SWL Short Term Uplift [kN]	
	Width	Height	A	B	C	D	E	F	t	Ø4.3	Tri	Ø6x4 Obround	Tri
ITSE194/41	38	195	41	194	51	51	34	62	1.2	6	2	2	6
ITSE199/41	38	200	41	199	51	51	34	62	1.2	6	2	2	6
ITSE219/41	38	220	41	219	51	51	34	62	1.2	6	2	2	6
ITSE234/41	38	235	41	234	51	51	34	62	1.2	6	2	2	6
ITSE239/41	38	240	41	239	51	51	34	62	1.2	6	2	2	6
ITSE244/41	38	245	41	244	51	51	34	62	1.2	6	2	2	6
ITSE299/41	38	300	41	299	51	51	34	62	1.2	6	2	2	6
ITSE359/41	38	360	41	359	51	51	34	62	1.2	6	2	2	6
ITSE399/41	38	400	41	399	51	51	34	62	1.2	6	2	2	6
ITSE194/48	45	195	48	194	51	51	34	62	1.2	6	2	2	6
ITSE199/48	45	200	48	199	51	51	34	62	1.2	6	2	2	6
ITSE219/48	45	220	48	219	51	51	34	62	1.2	6	2	2	6
ITSE234/48	45	235	48	234	51	51	34	62	1.2	6	2	2	6
ITSE239/48	45	240	48	239	51	51	34	62	1.2	6	2	2	6
ITSE244/48	45	245	48	244	51	51	34	62	1.2	6	2	2	6
ITSE299/48	45	300	48	299	51	51	34	62	1.2	6	2	2	6
ITSE349/48	45	350	48	349	51	51	34	62	1.2	6	2	2	6
ITSE359/48	45	360	48	359	51	51	34	62	1.2	6	2	2	6
ITSE399/48	45	400	48	399	51	51	34	62	1.2	6	2	2	6
ITSE194/50	47	195	50	194	51	51	34	62	1.2	6	2	2	6
ITSE219/50	47	220	50	219	51	51	34	62	1.2	6	2	2	6
ITSE234/50	47	235	50	234	51	51	34	62	1.2	6	2	2	6
ITSE239/50	47	240	50	239	51	51	34	62	1.2	6	2	2	6
ITSE244/50	47	245	50	244	51	51	34	62	1.2	6	2	2	6
ITSE299/50	47	300	50	299	51	51	34	62	1.2	6	2	2	6
ITSE199/56	53	200	56	199	51	51	34	62	1.2	6	2	2	6
ITSE219/56	53	220	56	219	51	51	34	62	1.2	6	2	2	6
ITSE239/56	53	240	56	239	51	51	34	62	1.2	6	2	2	6
ITSE299/56	53	300	56	299	51	51	34	62	1.2	6	2	2	6
ITSE359/56	53	360	56	359	51	51	34	62	1.2	6	2	2	6
ITSE399/56	53	400	56	399	51	51	34	62	1.2	6	2	2	6
ITSE199/63	60	200	63	199	51	51	34	62	1.2	6	2	2	6
ITSE219/63	60	220	63	219	51	51	34	62	1.2	6	2	2	6
ITSE239/63	60	240	63	239	51	51	34	62	1.2	6	2	2	6
ITSE299/63	60	300	63	299	51	51	34	62	1.2	6	2	2	6
ITSE349/63	60	350	63	349	51	51	34	62	1.2	6	2	2	6
ITSE359/63	60	360	63	359	51	51	34	62	1.2	6	2	2	6
ITSE399/63	60	400	63	399	51	51	34	62	1.2	6	2	2	6
ITSE355/61	58	356	61	355	51	51	34	62	1.2	6	2	2	6
ITSE359/61	58	360	61	359	51	51	34	62	1.2	6	2	2	6
ITSE399/61	58	400	61	399	51	51	34	62	1.2	6	2	2	6
ITSE405/61	58	406	61	405	51	51	34	62	1.2	6	2	2	6
ITSE199/63	60	200	63	199	51	51	34	62	1.2	6	2	2	6
ITSE219/63	60	220	63	219	51	51	34	62	1.2	6	2	2	6
ITSE239/63	60	240	63	239	51	51	34	62	1.2	6	2	2	6
ITSE299/63	60	300	63	299	51	51	34	62	1.2	6	2	2	6
ITSE359/63	60	360	63	359	51	51	34	62	1.2	6	2	2	6
ITSE399/63	60	400	63	399	51	51	34	62	1.2	6	2	2	6
ITSE219/66	63	220	66	219	51	51	34	62	1.2	6	2	2	6
ITSE234/66	63	235	66	234	51	51	34	62	1.2	6	2	2	6
ITSE244/66	63	245	66	244	51	51	34	62	1.2	6	2	2	6

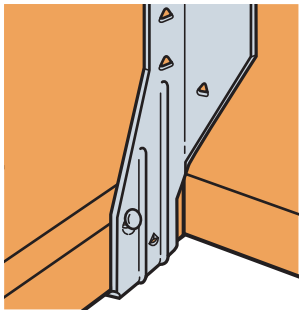
Model No.	Joist [mm]		Dimensions [mm]							Header Holes		Joist Holes SWL Short Term Uplift [kN]	
	Width	Height	A	B	C	D	E	F	t	Ø4.3	Tri	Ø6x4 Obround	Tri
ITSE299/66	63	300	66	299	51	51	34	62	1.2	6	2	2	6
ITSE199/72	69	200	72	199	51	51	34	62	1.2	6	2	2	6
ITSE219/72	69	220	72	219	51	51	34	62	1.2	6	2	2	6
ITSE239/72	69	240	72	239	51	51	34	62	1.2	6	2	2	6
ITSE299/72	69	300	72	299	51	51	34	62	1.2	6	2	2	6
ITSE359/72	69	360	72	359	51	51	34	62	1.2	6	2	2	6
ITSE399/72	69	400	72	399	51	51	34	62	1.2	6	2	2	6
ITSE194/75	72	195	75	194	51	51	34	62	1.2	6	2	2	6
ITSE219/75	72	220	75	219	51	51	34	62	1.2	6	2	2	6
ITSE234/75	72	235	75	234	51	51	34	62	1.2	6	2	2	6
ITSE244/75	72	245	75	244	51	51	34	62	1.2	6	2	2	6
ITSE299/75	72	300	75	299	51	51	34	62	1.2	6	2	2	6
ITSE349/75	72	350	75	349	51	51	34	62	1.2	6	2	2	6
ITSE399/75	72	400	75	399	51	51	34	62	1.2	6	2	2	6
ITSE194/78	2x38	195	78	194	51	51	34	62	1.2	6	2	2	6
ITSE199/78	2x38	200	78	199	51	51	34	62	1.2	6	2	2	6
ITSE219/78	2x38	220	78	219	51	51	34	62	1.2	6	2	2	6
ITSE234/78	2x38	235	78	234	51	51	34	62	1.2	6	2	2	6
ITSE239/78	2x38	240	78	239	51	51	34	62	1.2	6	2	2	6
ITSE244/78	2x38	245	78	244	51	51	34	62	1.2	6	2	2	6
ITSE299/78	2x38	300	78	299	51	51	34	62	1.2	6	2	2	6
ITSE359/78	2x38	360	78	359	51	51	34	62	1.2	6	2	2	6
ITSE399/78	2x38	400	78	399	51	51	34	62	1.2	6	2	2	6
ITSE194/92	2x45 | 89	195	92	194	51	51	34	62	1.2	6	2	2	6
ITSE199/92	2x45 | 89	200	92	199	51	51	34	62	1.2	6	2	2	6
ITSE219/92	2x45 | 89	220	92	219	51	51	34	62	1.2	6	2	2	6
ITSE234/92	2x45 | 89	235	92	234	51	51	34	62	1.2	6	2	2	6
ITSE239/92	2x45 | 89	240	92	239	51	51	34	62	1.2	6	2	2	6
ITSE244/92	2x45 | 89	245	92	244	51	51	34	62	1.2	6	2	2	6
ITSE299/92	2x45 | 89	300	92	299	51	51	34	62	1.2	6	2	2	6
ITSE349/92	2x45 | 89	350	92	349	51	51	34	62	1.2	6	2	2	6
ITSE359/92	2x45 | 89	360	92	359	51	51	34	62	1.2	6	2	2	6
ITSE399/92	2x45 | 89	400	92	399	51	51	34	62	1.2	6	2	2	6
ITSE449/92	2x45 | 89	450	92	449	51	51	34	62	1.2	6	2	2	6
ITSE194/96	2x47	195	96	194	51	51	34	62	1.2	6	2	2	6
ITSE219/96	2x47	220	96	219	51	51	34	62	1.2	6	2	2	6
ITSE234/96	2x47	235	96	234	51	51	34	62	1.2	6	2	2	6
ITSE239/96	2x47	240	96	239	51	51	34	62	1.2	6	2	2	6
ITSE244/96	2x47	245	96	244	51	51	34	62	1.2	6	2	2	6
ITSE299/96	2x47	300	96	299	51	51	34	62	1.2	6	2	2	6
ITSE199/99	96 | 97	200	99	199	51	51	34	62	1.2	6	2	2	6
ITSE219/99	96 | 97	220	99	219	51	51	34	62	1.2	6	2	2	6
ITSE234/99	96 | 97	235	99	234	51	51	34	62	1.2	6	2	2	6
ITSE239/99	96 | 97	240	99	239	51	51	34	62	1.2	6	2	2	6
ITSE244/99	96 | 97	245	99	244	51	51	34	62	1.2	6	2	2	6
ITSE299/99	96 | 97	300	99	299	51	51	34	62	1.2	6	2	2	6
ITSE349/99	96 | 97	350	99	349	51	51	34	62	1.2	6	2	2	6
ITSE359/99	96 | 97	360	99	359	51	51	34	62	1.2	6	2	2	6
ITSE399/99	96 | 97	400	99	399	51	51	34	62	1.2	6	2	2	6
ITSE449/99	96 | 97	450	99	449	51	51	34	62	1.2	6	2	2	6

Shot Fired to a Steel Header

Widths	Fasteners		Safe Working Loads [kN]
	Steel Support	Nails	
ITSE	4: shot-fired pins	2: N3.75x30mm	5.27



Features the "Strong Grip™".



Use specified fastener installed as shown where uplift is required.

Engineered Joist to SIP Panel Hangers

The IUQ and HIUQ is the first hanger range specifically designed to allow engineered joists to be face fixed to a Structural Insulated Panel (SIP), when used in conjunction with the CSA screws and Simpson Strong-Tie® patented SDS screws respectively. (CSA & SDS screws supplied with hangers).

- The IUQ and HIUQ (standard and heavy duty respectively) can be used with either metal web or engineered I-Joists.
- Joists no longer sit on top of the wall, thus eliminating thermal bridging at the joist/wall junction.
- Cuts down on the time consuming and costly process of placing timber blocking pieces between the joists and the wall panels, creating a better air seal.
- Installation is simple and efficient, requiring 4 CSA screws for the IUQ installation and 4 SDS screws for the HIUQ installation.
- The square twist nails can be installed into the joist at a positive angle to help reduce the chance of splitting the joist bottom chords.

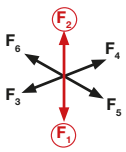
Material: Pre-galvanised mild steel.

Product Dimensions

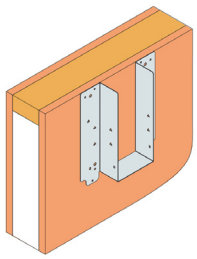
Model No.	Joist [mm]		Dimensions [mm]						Header Holes				Joist Holes	
	Width	Height	A	B	C	D	F	t	Ø6.4	Ø4.1	Ø6x4 Obround	Tri	Ø6x4 Obround	Tri
IUQ195/75SCR	72	195 - 202	75	190	50	50	53	1.2	4	8	2	6	2	4
IUQ220/75SCR	72	218 - 225	75	215	50	50	53	1.2	4	8	2	6	2	4
IUQ253/75SCR	72	253 - 254	75	248	50	50	53	1.2	4	8	2	6	2	4
IUQ304/75SCR	72	304	75	299	50	50	53	1.2	4	8	2	6	2	4
IUQ355/75SCR	72	356	75	350	50	50	53	1.2	4	8	2	6	2	4
IUQ375/75SCR	72	373	75	370	50	50	53	1.2	4	8	2	6	2	4
IUQ420/75SCR	72	417 - 421	75	415	50	50	53	1.2	4	8	2	6	2	4
IUQ195/99SCR	97	195	99	190	50	50	53	1.2	4	8	2	6	2	4
IUQ220/99SCR	97	220	99	215	50	50	53	1.2	4	8	2	6	2	4
IUQ253/99SCR	97	253 - 254	99	248	50	50	53	1.2	4	8	2	6	2	4
IUQ304/99SCR	97	304	99	299	50	50	53	1.2	4	8	2	6	2	4
IUQ355/99SCR	97	356	99	350	50	50	53	1.2	4	8	2	6	2	4
IUQ375/99SCR	97	373	99	370	50	50	53	1.2	4	8	2	6	2	4
IUQ420/99SCR	97	417 - 421	99	415	50	50	53	1.2	4	8	2	6	2	4
IUQ195/125SCR	122	195 - 202	125	190	50	50	53	1.2	4	8	2	6	2	4
IUQ220/125SCR	122	218 - 225	125	215	50	50	53	1.2	4	8	2	6	2	4
IUQ304/125SCR	122	304	125	299	50	50	53	1.2	4	8	2	6	2	4
IUQ420/125SCR	122	417 - 421	125	415	50	50	53	1.2	4	8	2	6	2	4
IUQ195/146SCR	2x72	195 - 202	146	190	50	50	53	1.2	4	8	2	6	2	4
IUQ220/146SCR	2x72	218 - 225	146	215	50	50	53	1.2	4	8	2	6	2	4
IUQ253/146SCR	2x72	253 - 254	146	248	50	50	53	1.2	4	8	2	6	2	4
IUQ304/146SCR	2x72	304	146	299	50	50	53	1.2	4	8	2	6	2	4
IUQ355/146SCR	2x72	356	146	350	50	50	53	1.2	4	8	2	6	2	4
IUQ375/146SCR	2x72	373	146	370	50	50	53	1.2	4	8	2	6	2	4
IUQ420/146SCR	2x72	218 - 225	146	415	50	50	53	1.2	4	8	2	6	2	4
IUQ195/150SCR	147	195 - 202	150	190	50	50	53	1.2	4	8	2	6	2	4
IUQ220/150SCR	147	218 - 225	150	215	50	50	53	1.2	4	8	2	6	2	4
IUQ304/150SCR	147	304	150	299	50	50	53	1.2	4	8	2	6	2	4
IUQ420/150SCR	147	417 - 421	150	415	50	50	53	1.2	4	8	2	6	2	4

Performance Values

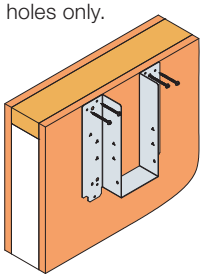
Model No.	Hanger Height [mm]	Fasteners				Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header		Joist					
		Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
IUQ	190 - 415	4	CSA5.0x50	2	N3.75 x 30	5.0	1.0	12.0	2.0



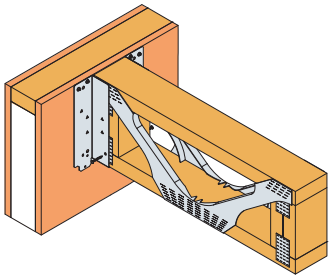
Step 1:
Position the IUQ hanger so that the top of the Joist is level with the top of the SIP panel.



Step 2:
Install 4 CSA 5.0 x 50mm screws into the top hanger face fastener holes only.



Step 3:
Sit the joist into the IUQ hanger and install 2 x 3.75 x 30mm square twist nails into the joist through the obround holes.



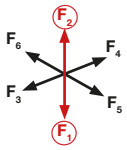
IUQ/HIUQ

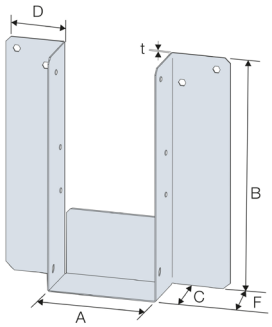
Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]							Header Holes	Joist Holes	
	Width	Height	A	B	C	D	E	F	t	Ø6.2	Ø4.1	Ø6x4 Obround
HIUQ195/75SCR	72	195	75	195	63	64	64	66	2	4	6	2
HIUQ202/75SCR	72	202	75	202	63	64	64	66	2	4	6	2
HIUQ219/75SCR	72	219	75	219	63	64	64	66	2	4	6	2
HIUQ225/75SCR	72	225	75	225	63	64	64	66	2	4	6	2
HIUQ254/75SCR	72	253 I 254	75	254	63	64	64	66	2	4	6	2
HIUQ304/75SCR	72	304	75	304	63	64	64	66	2	4	6	2
HIUQ356/75SCR	72	356	75	356	63	64	64	66	2	4	6	2
HIUQ373/75SCR	72	373	75	373	63	64	64	66	2	4	6	2
HIUQ418/75SCR	72	417 I 418	75	418	63	64	64	66	2	4	6	2
HIUQ421/75SCR	72	421	75	421	63	64	64	66	2	4	6	2
HIUQ424/75SCR	72	424	75	424	63	64	64	66	2	4	6	2
HIUQ195/99SCR	97	195	99	195	63	64	64	66	2	4	6	2
HIUQ202/99SCR	97	202	99	202	63	64	64	66	2	4	6	2
HIUQ219/99SCR	97	219	99	219	63	64	64	66	2	4	6	2
HIUQ225/99SCR	97	225	99	225	63	64	64	66	2	4	6	2
HIUQ254/99SCR	97	253 I 254	99	254	63	64	64	66	2	4	6	2
HIUQ304/99SCR	97	304	99	304	63	64	64	66	2	4	6	2
HIUQ356/99SCR	97	356	99	356	63	64	64	66	2	4	6	2
HIUQ373/99SCR	97	373	99	373	63	64	64	66	2	4	6	2
HIUQ418/99SCR	97	417 I 418	99	418	63	64	64	66	2	4	6	2
HIUQ421/99SCR	97	421	99	421	63	64	64	66	2	4	6	2
HIUQ424/99SCR	97	424	99	424	63	64	64	66	2	4	6	2
HIUQ195/125SCR	122	195	125	195	63	64	64	66	2	4	6	2
HIUQ219/125SCR	122	219	125	219	63	64	64	66	2	4	6	2
HIUQ254/125SCR	122	253 I 254	125	254	63	64	64	66	2	4	6	2
HIUQ304/125SCR	122	304	125	304	63	64	64	66	2	4	6	2
HIUQ418/125SCR	122	417 I 418	125	418	63	64	64	66	2	4	6	2
HIUQ195/146SCR	2x72	195	146	195	63	64	64	66	2	4	6	2
HIUQ202/146SCR	2x72	202	146	202	63	64	64	66	2	4	6	2
HIUQ219/146SCR	2x72	219	146	219	63	64	64	66	2	4	6	2
HIUQ225/146SCR	2x72	225	146	225	63	64	64	66	2	4	6	2
HIUQ254/146SCR	2x72	253 I 254	146	254	63	64	64	66	2	4	6	2
HIUQ304/146SCR	2x72	304	146	304	63	64	64	66	2	4	6	2
HIUQ356/146SCR	2x72	356	146	356	63	64	64	66	2	4	6	2
HIUQ373/146SCR	2x72	373	146	373	63	64	64	66	2	4	6	2
HIUQ418/146SCR	2x72	417 I 418	146	418	63	64	64	66	2	4	6	2
HIUQ421/146SCR	2x72	421	146	421	63	64	64	66	2	4	6	2
HIUQ424/146SCR	2x72	424	146	424	63	64	64	66	2	4	6	2
HIUQ219/150SCR	147	219	150	219	63	64	64	66	2	4	6	2
HIUQ254/150SCR	147	253 I 254	150	254	63	64	64	66	2	4	6	2
HIUQ304/150SCR	147	304	150	304	63	64	64	66	2	4	6	2
HIUQ418/150SCR	147	417 I 418	150	418	63	64	64	66	2	4	6	2
HIUQ195/196SCR	2x97	195	196	195	63	64	64	66	2	4	6	2
HIUQ202/196SCR	2x97	202	196	202	63	64	64	66	2	4	6	2
HIUQ219/196SCR	2x97	219	196	219	63	64	64	66	2	4	6	2
HIUQ225/196SCR	2x97	225	196	225	63	64	64	66	2	4	6	2
HIUQ254/196SCR	2x97	253 I 254	196	254	63	64	64	66	2	4	6	2
HIUQ304/196SCR	2x97	304	196	304	63	64	64	66	2	4	6	2
HIUQ356/196SCR	2x97	356	196	356	63	64	64	66	2	4	6	2
HIUQ373/196SCR	2x97	373	196	373	63	64	64	66	2	4	6	2
HIUQ418/196SCR	2x97	417 I 418	196	418	63	64	64	66	2	4	6	2
HIUQ421/196SCR	2x97	421	196	421	63	64	64	66	2	4	6	2
HIUQ424/196SCR	2x97	424	196	424	63	64	64	66	2	4	6	2
HIUQ195/246SCR	2x122	195	246	195	63	64	64	66	2	4	6	2
HIUQ219/246SCR	2x122	219	246	219	63	64	64	66	2	4	6	2
HIUQ254/246SCR	2x122	253 I 254	246	254	63	64	64	66	2	4	6	2
HIUQ304/246SCR	2x122	304	246	304	63	64	64	66	2	4	6	2
HIUQ418/246SCR	2x122	417 I 418	246	418	63	64	64	66	2	4	6	2
HIUQ195/296SCR	2x147	195	296	195	63	64	64	66	2	4	6	2
HIUQ219/296SCR	2x147	219	296	219	63	64	64	66	2	4	6	2
HIUQ254/296SCR	2x147	235 I 254	296	254	63	64	64	66	2	4	6	2
HIUQ304/296SCR	2x147	304	296	304	63	64	64	66	2	4	6	2
HIUQ418/296SCR	2x147	417 I 418	296	418	63	64	64	66	2	4	6	2

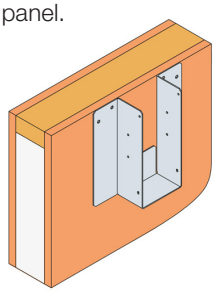
Performance Values

Model No.	Fasteners				Safe Working Loads [kN]		Characteristic Capacities [kN]	
	Header		Joist					
	Qty	Type	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
HIUQ	4	SDS25212	8	N3.75 x 30	8.1	4.0	19.5	8.0

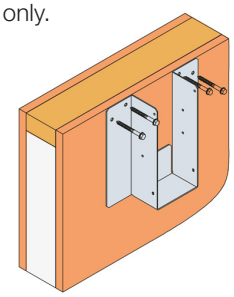




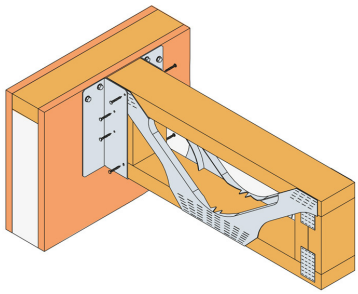
HIUQ Step 1:
Position the top of the HIUQ hanger side flanges level with the top of the SIP panel.



HIUQ Step 2:
Install 4 x SDS25212 screws into the top hexagonal holes only.



HIUQ Step 3:
Sit the joist onto the HIUQ hanger and install 8 no. 3.75 x 30mm square twist nails into the joist.



Top Flange Engineered Joist Hanger

The HB is a joist hanger for supporting I-Joists and structural composite timber from timber headers. The HB is designed especially for use with single ply headers of thickness 89mm or more

Material: Pre-galvanised mild steel.

Installation:

- Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.
- Web stiffeners are required for use with the HB hanger.
- The HB hanger may be used for weld on applications. The minimum required weld for the top flanges is a 3.0x50mm fillet weld on each side of the top flange tabs.
- Weld-on applications produce maximum allowable loads listed.
- Uplift loads do not apply for this application.
- Special considerations should be taken when welding galvanised steel.

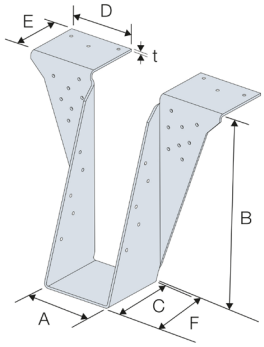
Options: HB hangers can be skewed and sloped to a maximum of 45 degress.

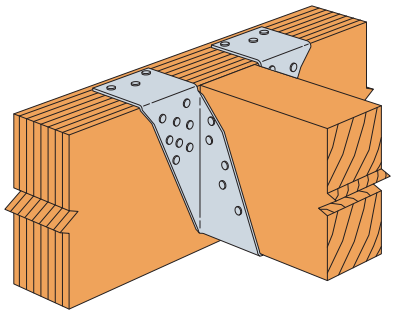
RWN RECOMMENDED FIXINGS

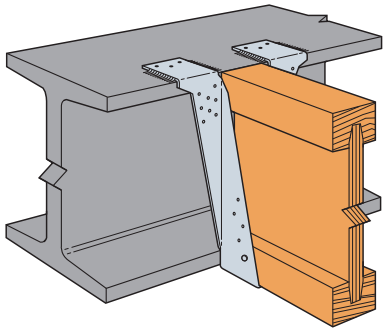
STN RECOMMENDED FIXINGS

Product Dimensions

Model No.	Joist [mm]		Dimensions [mm]							Header Holes	Joist Holes
	Width	Height	A	B	C	D	E	F	t	Ø4.3	Ø4.3
HB195/92	90	195	92	195	90	90	75	93	3	22	10
HB200/92	90	200	92	200	90	90	75	93	3	22	10
HB220/92	90	220	92	220	90	90	75	93	3	22	10
HB235/92	90	235	92	235	90	90	75	93	3	22	10
HB240/92	90	240	92	240	90	90	75	93	3	22	10
HB245/92	90	245	92	245	90	90	75	93	3	22	10
HB300/92	90	300	92	300	90	90	75	93	3	22	10
HB350/92	90	350	92	350	90	90	75	93	3	22	10
HB400/92	90	400	92	400	90	90	75	93	3	22	10
HB200/118	116	200	118	200	90	90	75	93	3	22	10
HB300/118	116	300	118	300	90	90	75	93	3	22	10
HB350/118	116	350	118	350	90	90	75	93	3	22	10
HB406/118	116	406	118	406	90	90	75	93	3	22	10
HB195/135	133	195	135	195	90	90	75	93	3	22	10
HB220/135	133	220	135	220	90	90	75	93	3	22	10
HB235/135	133	235	135	235	90	90	75	93	3	22	10
HB245/135	133	245	135	245	90	90	75	93	3	22	10
HB300/135	133	300	135	300	90	90	75	93	3	22	10
HB350/135	133	350	135	350	90	90	75	93	3	22	10
HB400/135	133	400	135	400	90	90	75	93	3	22	10
HB450/135	133	450	135	450	90	90	75	93	3	22	10
HB200/142	140	200	142	200	90	90	75	93	3	22	10
HB300/142	140	300	142	300	90	90	75	93	3	22	10
HB350/142	140	350	142	350	90	90	75	93	3	22	10
HB195/146	144	195	146	195	90	90	75	93	3	22	10
HB220/146	144	220	146	220	90	90	75	93	3	22	10
HB235/146	144	235	146	235	90	90	75	93	3	22	10
HB245/146	144	245	146	245	90	90	75	93	3	22	10
HB300/146	144	300	146	300	90	90	75	93	3	22	10
HB350/146	144	350	146	350	90	90	75	93	3	22	10
HB400/146	144	400	146	400	90	90	75	93	3	22	10
HB195/152	150	195	152	195	90	90	75	93	3	22	10
HB220/152	150	220	152	220	90	90	75	93	3	22	10
HB235/152	150	235	152	235	90	90	75	93	3	22	10
HB245/152	150	245	152	245	90	90	75	93	3	22	10
HB300/152	150	300	152	300	90	90	75	93	3	22	10
HB350/152	150	350	152	350	90	90	75	93	3	22	10
HB400/152	150	400	152	400	90	90	75	93	3	22	10
HB450/152	150	450	152	450	90	90	75	93	3	22	10
HB195/180	178	195	180	195	90	90	75	93	3	22	10
HB220/180	178	220	180	220	90	90	75	93	3	22	10
HB235/180	178	235	180	235	90	90	75	93	3	22	10
HB240/180	178	240	180	240	90	90	75	93	3	22	10
HB300/180	178	300	180	300	90	90	75	93	3	22	10
HB350/180	178	350	180	350	90	90	75	93	3	22	10
HB356/180	178	356	180	356	90	90	75	93	3	22	10
HB400/180	178	400	180	400	90	90	75	93	3	22	10
HB406/180	178	406	180	406	90	90	75	93	3	22	10







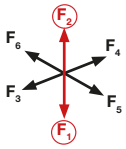
HB

Performance Values onto I-Joists

Model No.	Installation	Fasteners						Safe Working Loads [kN]			Characteristic Capacities [kN]		
		Header				Joist		$R_{1,SWL,Long\ term}$		$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$		$R_{2,K}$
		Top Qty	Type	Face Qty	Type	Qty	Type	I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm		I-Joist Headers with LVL Flanges ≥ 35mm	I-Joist Headers with Solid Sawn Flanges ≥ 45mm	
HB	Backer Blocks	6	N3.75x30	16	N3.75x30	10	N3.75x30	12.9	13.6	5.0	30.2	30.2	8.8

Performance Values onto Solid Joists

Model No.	Fasteners						Safe Working Loads [kN]			Characteristic Capacities [kN]		
	Header				Joist		$R_{1,SWL,Long\ term}$		$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$		$R_{2,K}$
	Top Qty	Type	Face Qty	Type	Qty	Type	C16	LVL		C16	LVL	
HB	6	N3.75x75	16	N3.75x75	10	N3.75x75	16.9	26.4	6.9	40.7	40.7	13.1



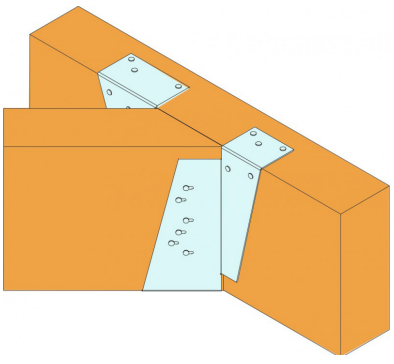
Performance Values onto Timber Nailers

Model No.	Nailer Depth [mm]	Fasteners						Safe Working Loads [kN]		Characteristic Capacities [kN]	
		Header				Joist		$R_{1,SWL,Long\ term}$	$R_{2,SWL,\ Short\ Term}$	$R_{1,K}$	$R_{2,K}$
		Top Qty	Type	Face Qty	Type	Qty	Type				
HB	38-74	6	N3.75x30	4	N3.75x30	10	N3.75x30	8.4	1.8	20.2	3.5
HB	75-100	6	N3.75x75	12	N3.75x75	10	N3.75x75	14.6	4.4	35.1	8.8

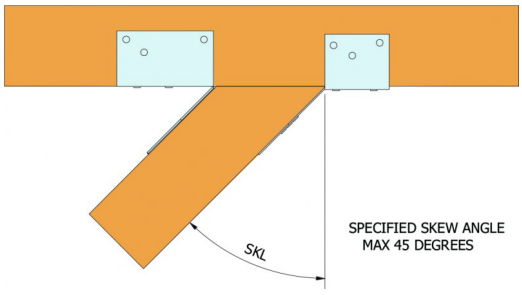
Product Values Skew & Slope Adjustment Factors

Model No.	Sloped Down	Sloped up	Skewed	Sloped Down & Skewed	Sloped Up & Skewed
HB	0.9	0.7	0.96	0.59	0.7

How to specify the required hanger reference. Example: IUSE to suit an I-Joist with height 200mm and width 53mm = IUSE199/56. Search IUSE at www.strongtie.co.uk for a full list of items.



HB Skewed Left Installation.



HB Skewed Left Option.

IUSE

Face Fix I-Joist Hanger

The IUSE is a face fix hanger for supporting I-Joists from timber members.

This hanger incorporates the “Strong Grip™” which secures the I-Joist without the need for any fasteners - where no uplift is required.

The I-Joist top flanges are laterally restrained by the side of the hanger, eliminating the need for web stiffeners. I-joist manufacturers may require web stiffeners.

The top tab allows for easier installation.

Material: Pre-galvanised mild steel.

Enhanced Uplift Loads:
The IUSE has optional triangular nail holes for additional uplift. Properly attached web stiffeners will be required for enhanced uplift. Please contact I-Joist manufacturer for details.

Installation:
Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.

When fitting onto an I-Joist header, backer blocks are required. See I-Joist manufacturer for details.

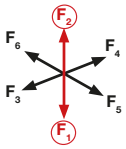
Options:
Because these hangers are fully die-formed, they cannot be modified. However these models will normally accommodate a skew of up to 5°.

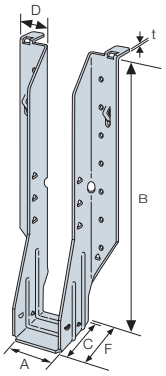
Performance Values

Model No.	Fasteners				Safe Working Loads [kN]				Characteristic Capacities [kN]			
	Header		Joist		$R_{1,SWL,Long\ Term}$				$R_{1,K}$			
	Qty	Type	Qty	Type	C16 I-Joist	LVL	C16 I-Joist	LVL	C16 I-Joist	LVL	C16 I-Joist	LVL
IUSE	10	N3.75x30	2	N3.75x30	3.5	4.1	4.3	5.0	7.5	13.5	13.1	17.8
IUSE	12	N3.75x30	2	N3.75x30	4.2	4.9	5.1	5.9	10.0	16.2	15.7	21.4
IUSE	14	N3.75x30	2	N3.75x30	4.9	5.7	6.0	6.9	12.6	18.9	18.3	24.9
IUSE	16	N3.75x30	2	N3.75x30	5.6	6.5	6.8	7.9	14.4	21.6	21.0	28.5
IUSE	20	N3.75x30	2	N3.75x30	6.3	7.3	7.7	8.8	16.2	24.3	23.6	32.0
IUSE	22	N3.75x30	2	N3.75x30	6.3	7.3	7.7	8.8	16.2	24.3	23.6	32.0

Performance Values

Model No.	Joist Fasteners	Safe Working Loads [kN]		Characteristic Values	
	Qty	$R_{2,SWL,Short\ Term}$		$R_{2,K}$	
		Solid Timber I-Joist	LVL	Solid Timber I-Joist	LVL
IUSE	Strong Grip	0	0	0	0
IUSE	2	0.9	1.4	1.8	2.7
IUSE	4	1.8	2.7	3.6	5.4
IUSE	6	2.7	4.1	5.4	8.1
IUSE	8	3.6	5.4	7.2	10.8

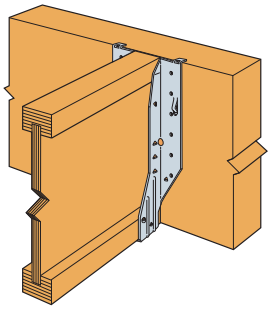




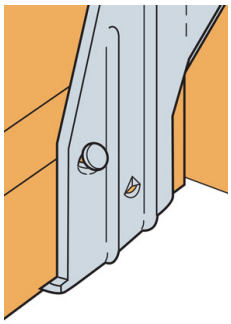
IUSE

Product Dimensions

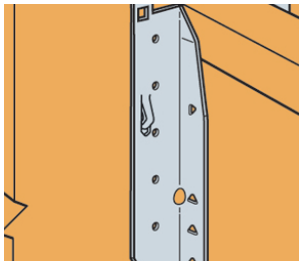
Model No.	Joist [mm]		Dimensions [mm]						Header Holes		Joist Holes	
	Width	Height	A	B	C	D	F	t	Ø4.3	Tri	Ø6x4 Obround	Tri
IUSE194/41	38	195	41	194	51	29.5	59	1.2	10	2	2	6
IUSE199/41	38	200	41	199	51	29.5	59	1.2	10	2	2	6
IUSE219/41	38	220	41	219	51	29.5	59	1.2	12	2	2	6
IUSE234/41	38	235	41	234	51	29.5	59	1.2	12	2	2	6
IUSE239/41	38	240	41	239	51	29.5	59	1.2	14	2	2	6
IUSE244/41	38	245	41	244	51	29.5	59	1.2	14	2	2	6
IUSE299/41	38	300	41	299	51	29.5	59	1.2	16	2	2	6
IUSE359/41	38	360	41	359	51	29.5	59	1.2	20	2	2	6
IUSE399/41	38	400	41	399	51	29.5	59	1.2	22	2	2	6
IUSE194/48	45	195	48	194	51	29.5	59	1.2	10	2	2	6
IUSE199/48	45	200	48	199	51	29.5	59	1.2	10	2	2	6
IUSE219/48	45	220	48	219	51	29.5	59	1.2	12	2	2	6
IUSE234/48	45	235	48	234	51	29.5	59	1.2	12	2	2	6
IUSE239/48	45	240	48	239	51	29.5	59	1.2	14	2	2	6
IUSE244/48	45	245	48	244	51	29.5	59	1.2	14	2	2	6
IUSE299/48	45	300	48	299	51	29.5	59	1.2	16	2	2	6
IUSE349/48	45	350	48	349	51	29.5	59	1.2	20	2	2	6
IUSE359/48	45	360	48	359	51	29.5	59	1.2	20	2	2	6
IUSE399/48	45	400	48	399	51	29.5	59	1.2	22	2	2	6
IUSE194/50	47	195	50	194	51	29.5	59	1.2	10	2	2	6
IUSE219/50	47	220	50	219	51	29.5	59	1.2	12	2	2	6
IUSE234/50	47	235	50	234	51	29.5	59	1.2	12	2	2	2
IUSE239/50	47	240	50	239	51	29.5	59	1.2	14	2	2	6
IUSE244/50	47	245	50	244	51	29.5	59	1.2	14	2	2	6
IUSE299/50	47	300	50	299	51	29.5	59	1.2	16	2	2	6
IUSE199/56	53	200	56	199	51	29.5	59	1.2	10	2	2	6
IUSE219/56	53	220	56	219	51	29.5	59	1.2	12	2	2	6
IUSE239/56	53	240	56	239	51	29.5	59	1.2	14	2	2	6
IUSE299/56	53	300	56	299	51	29.5	59	1.2	16	2	2	6
IUSE359/56	53	360	56	359	51	29.5	59	1.2	20	2	2	6
IUSE399/56	53	400	56	399	51	29.5	59	1.2	22	2	2	6
IUSE199/63	60	200	63	199	51	29.5	59	1.2	12	2	2	6
IUSE219/63	60	220	63	219	51	29.5	59	1.2	14	2	2	6
IUSE239/63	60	240	63	239	51	29.5	59	1.2	14	2	2	6
IUSE299/63	60	300	63	299	51	29.5	59	1.2	16	2	2	6
IUSE349/63	60	350	63	349	51	29.5	59	1.2	20	2	2	6
IUSE359/63	60	360	63	359	51	29.5	59	1.2	20	2	2	6
IUSE399/63	60	400	63	399	51	29.5	59	1.2	22	2	2	6
IUSE219/66	63	220	66	219	51	29.5	59	1.2	12	2	2	6
IUSE234/66	63	235	66	234	51	29.5	59	1.2	12	2	2	6
IUSE244/66	63	245	66	244	51	29.5	59	1.2	14	2	2	6
IUSE299/66	63	300	66	299	51	29.5	59	1.2	16	2	2	6
IUSE359/61	58-60	360	61	359	51	29.5	59	1.2	20	2	2	6
IUSE399/61	58-60	400	61	399	51	29.5	59	1.2	22	2	2	6
IUSE405/61	58-60	406	61	405	51	29.5	59	1.2	22	2	2	6
IUSE199/63	60	200	63	199	51	29.5	59	1.2	10	2	2	6
IUSE219/63	60	220	63	219	51	29.5	59	1.2	12	2	2	6
IUSE239/63	60	240	63	239	51	29.5	59	1.2	14	2	2	6
IUSE299/63	60	300	63	299	51	29.5	59	1.2	16	2	2	6
IUSE359/63	60	360	63	359	51	29.5	59	1.2	20	2	2	6
IUSE399/63	60	400	63	399	51	29.5	59	1.2	22	2	2	6
IUSE194/66	63	195	66	194	51	29.5	59	1.2	10	2	2	6
IUSE219/66	63	220	66	219	51	29.5	59	1.2	12	2	2	6
IUSE224/66	63	225	66	224	51	29.5	59	1.2	12	2	2	6
IUSE234/66	63	235	66	234	51	29.5	59	1.2	12	2	2	6
IUSE237/66	63	238	66	237	51	29.5	59	1.2	12	2	2	6
IUSE239/66	63	240	66	239	51	29.5	59	1.2	14	2	2	6
IUSE244/66	63	245	66	244	51	29.5	59	1.2	14	2	2	6
IUSE299/66	63	300	66	299	51	29.5	59	1.2	16	2	2	6
IUSE329/66	63	330	66	329	51	29.5	59	1.2	18	2	2	6
IUSE355/66	63	356	66	355	51	29.5	59	1.2	20	2	2	6
IUSE359/66	63	360	66	359	51	29.5	59	1.2	20	2	2	6
IUSE399/66	63	400	66	399	51	29.5	59	1.2	22	2	2	6



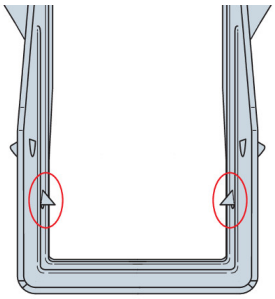
Typical IUSE installation. Top tabs can be flattened against the header when it is taller than the hanger.



Use specified fastener installed as shown where uplift is required.



Speed prongs used to temporarily position and secure the hanger for easier and faster installation.

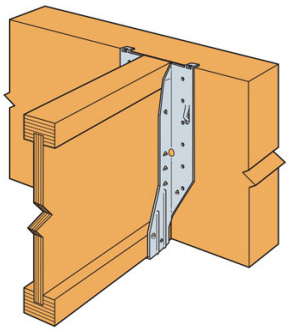


"Strong Grip™" used to secure the I-joist without the need for fasteners - where no uplift performance is required.

IUSE

Product Dimensions

Model No.	Joist Size [mm]		Dimensions [mm]						Header Holes		Joist Holes	
	Width	Height	A	B	C	D	F	t	Ø4.3	Tri	Ø6x4 Obround	Tri
IUSE199/72	69	200	72	199	51	29.5	59	1.2	10	2	2	6
IUSE219/72	69	220	72	219	51	29.5	59	1.2	12	2	2	6
IUSE239/72	69	240	72	239	51	29.5	59	1.2	14	2	2	6
IUSE299/72	69	300	72	299	51	29.5	59	1.2	16	2	2	6
IUSE359/72	69	360	72	359	51	29.5	59	1.2	20	2	2	6
IUSE399/72	69	400	72	399	51	29.5	59	1.2	22	2	2	6
IUSE194/75	72	195	75	194	51	29.5	59	1.2	10	2	2	6
IUSE219/75	72	220	75	219	51	29.5	59	1.2	12	2	2	6
IUSE234/75	72	235	75	234	51	29.5	59	1.2	12	2	2	6
IUSE244/75	72	245	75	244	51	29.5	59	1.2	14	2	2	6
IUSE299/75	72	300	75	299	51	29.5	59	1.2	16	2	2	6
IUSE349/75	72	350	75	349	51	29.5	59	1.2	20	2	2	6
IUSE399/75	72	400	75	399	51	29.5	59	1.2	22	2	2	6
IUSE194/78	2x38	195	78	194	51	29.5	59	1.2	10	2	2	6
IUSE199/78	2x38	200	78	199	51	29.5	59	1.2	10	2	2	6
IUSE219/78	2x38	220	78	219	51	29.5	59	1.2	12	2	2	6
IUSE234/78	2x38	235	78	234	51	29.5	59	1.2	12	2	2	6
IUSE239/78	2x38	240	78	239	51	29.5	59	1.2	14	2	2	6
IUSE244/78	2x38	245	78	244	51	29.5	59	1.2	14	2	2	6
IUSE299/78	2x38	300	78	299	51	29.5	59	1.2	16	2	2	6
IUSE359/78	2x38	360	78	359	51	29.5	59	1.2	20	2	2	6
IUSE399/78	2x38	400	78	399	51	29.5	59	1.2	22	2	2	6
IUSE194/92	2x45 I 89	195	92	194	51	29.5	59	1.2	10	2	2	6
IUSE199/92	2x45 I 89	200	92	199	51	29.5	59	1.2	10	2	2	6
IUSE219/92	2x45 I 89	220	92	219	51	29.5	59	1.2	12	2	2	6
IUSE234/92	2x45 I 89	235	92	234	51	29.5	59	1.2	12	2	2	6
IUSE239/92	2x45 I 89	240	92	239	51	29.5	59	1.2	14	2	2	6
IUSE244/92	2x45 I 89	245	92	244	51	29.5	59	1.2	14	2	2	6
IUSE299/92	2x45 I 89	300	92	299	51	29.5	59	1.2	16	2	2	6
IUSE349/92	2x45 I 89	350	92	349	51	29.5	59	1.2	20	2	2	6
IUSE359/92	2x45 I 89	360	92	359	51	29.5	59	1.2	20	2	2	6
IUSE399/92	2x45 I 89	400	92	399	51	29.5	59	1.2	22	2	2	6
IUSE449/92	2x45 I 89	450	92	449	51	29.5	59	1.2	22	2	2	6
IUSE194/96	2x47	195	96	194	51	29.5	59	1.2	10	2	2	6
IUSE219/96	2x47	220	96	219	51	29.5	59	1.2	12	2	2	6
IUSE234/96	2x47	235	96	234	51	29.5	59	1.2	12	2	2	6
IUSE239/96	2x47	240	96	239	51	29.5	59	1.2	14	2	2	6
IUSE244/96	2x47	245	96	244	51	29.5	59	1.2	14	2	2	6
IUSE299/96	2x47	300	96	299	51	29.5	59	1.2	16	2	2	6
IUSE199/99	96 I 97	200	99	199	51	29.5	59	1.2	10	2	2	6
IUSE219/99	96 I 97	220	99	219	51	29.5	59	1.2	12	2	2	6
IUSE234/99	96 I 97	235	99	234	51	29.5	59	1.2	12	2	2	6
IUSE239/99	96 I 97	240	99	239	51	29.5	59	1.2	14	2	2	6
IUSE244/99	96 I 97	245	99	244	51	29.5	59	1.2	14	2	2	6
IUSE299/99	96 I 97	300	99	299	51	29.5	59	1.2	16	2	2	6
IUSE349/99	96 I 97	350	99	349	51	29.5	59	1.2	20	2	2	6
IUSE359/99	96 I 97	360	99	359	51	29.5	59	1.2	20	2	2	6
IUSE399/99	96 I 97	400	99	399	51	29.5	59	1.2	22	2	2	6
IUSE449/99	96 I 97	450	99	449	51	29.5	59	1.2	22	2	2	6
IUSE294/98	95-97	295	98	294	51	29.5	59	1.2	16	2	2	6
IUSE319/98	95-97	320	98	319	51	29.5	59	1.2	18	2	2	6
IUSE359/98	95-97	360	98	359	51	29.5	59	1.2	20	2	2	6
IUSE399/98	95-97	400	98	399	51	29.5	59	1.2	22	2	2	6
IUSE194/100	97	195	100	194	51	29.5	59	1.2	10	2	2	6
IUSE219/100	97	220	100	219	51	29.5	59	1.2	12	2	2	6
IUSE234/100	97	235	100	234	51	29.5	59	1.2	12	2	2	6
IUSE244/100	97	245	100	244	51	29.5	59	1.2	14	2	2	6
IUSE249/100	97	250	100	249	51	29.5	59	1.2	14	2	2	6
IUSE299/100	96-97	300	100	299	51	29.5	59	1.2	16	2	2	6
IUSE349/100	97	350	100	349	51	29.5	59	1.2	20	2	2	6
IUSE399/100	97	400	100	399	51	29.5	59	1.2	22	2	2	6



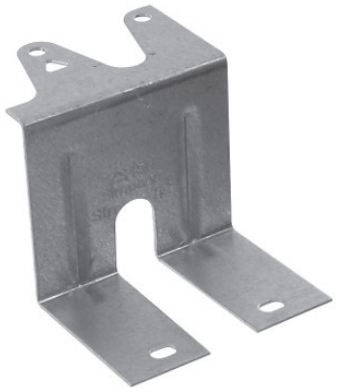
Slotted Z-Clip

The ZS clip allows I-joists off-cuts or solid sawn timber to be used as noggings between joists to support floor decks or partitions.

- Fully interlocking top flange works on all I-joist header widths to prevent overlapping of opposing clips.
- Slotted bottom flanges allows I-joist off-cuts to be used.
- Triangular nail hole for use with 50mm wide headers, also it ensures that nails can be staggered when ZS clips are interlocked.
- Embossed bottom flange provides greatly enhanced resistance to bending.
- Obround nail holes in the bottom flange ensure easier angled nailing.

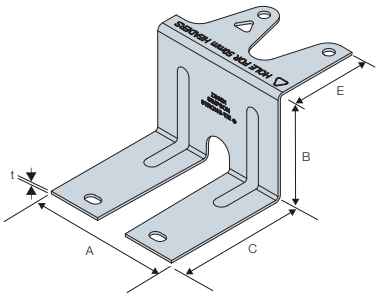
Material: Pre-galvanised mild steel.

Installation:
- Use all specified fasteners.
- Nail to underside of the noggin.
- Place top flange onto header beam and nail in place.



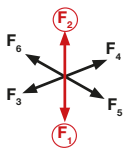
Product Dimensions

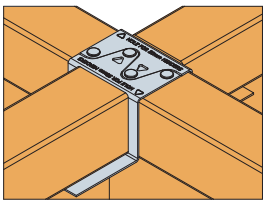
Model No.	Dimensions [mm]					Header Holes		Joist Holes
	A	B	C	E	t	Ø4	Triangular	Ø6x4 Obround
ZS35N	52	35	49	31	0.9	2	1	2
ZS38N	52	38	46	31	0.9	2	1	2
ZS45N	52	45	39	31	0.9	2	1	2
ZS47N	52	47	37	31	0.9	2	1	2



Performance Values

Model No.	Fasteners		Safe Working Loads		Characteristic Capacities [kN]	
	Header	Joist	$R_{1,SWL,Long\ Term}$		$R_{1,K}$	
			N3.75x30		N3.75x30	
	Qty	Qty	C24	I-Joist	C24	I-Joist
ZS	2	2	1.8	1.9	3.6	3.8

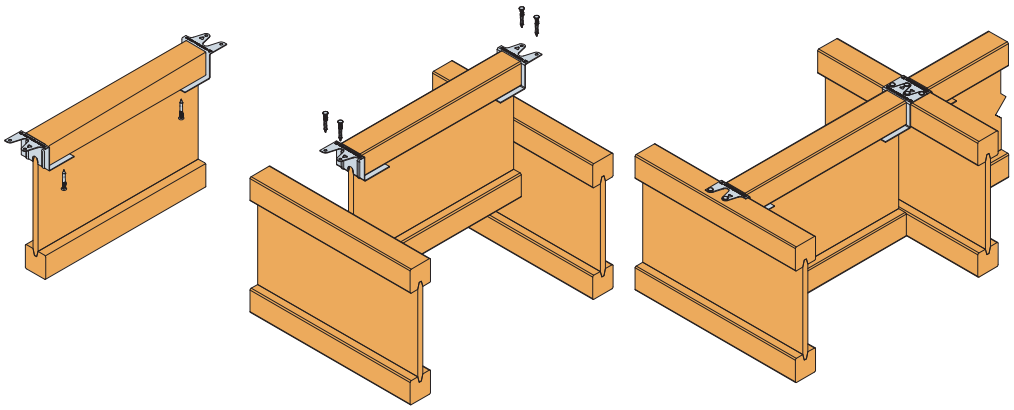




Notes: Loads are per noggin (NOT per ZS-Clip).

Standard ZS Installation

ZS clips interlock allowing back-to-back installation on any I-joist header width. Triangular holes prevent header nails from lining up.



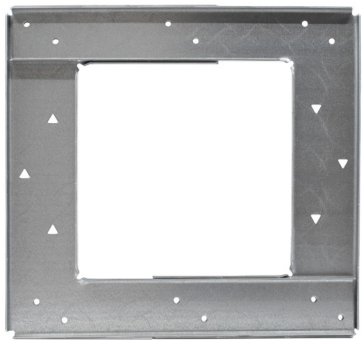
IHS

I-Joist Hole Support

The IHS is designed to strengthen I-joists when holes are required to be cut in locations not normally permitted.

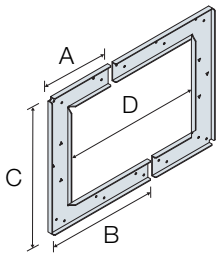
- Allows holes to be cut 50mm from bearing point, which allows services to run close to external walls.
- Variable hole sizes from 150mm to a maximum width of 250mm.
- Supplied as 2 sets of 2 interlocking plates (1 set per side of I-joist) which always allows the IHS to be fitted, even when services are already in-situ.
- Helps to eliminate expensive and time consuming joist trimming for SVP (soil vent pipe) runs.
- Can be used on single and double ply I-Joints.

Material: Pre-galvanised mild steel.



Product Dimensions

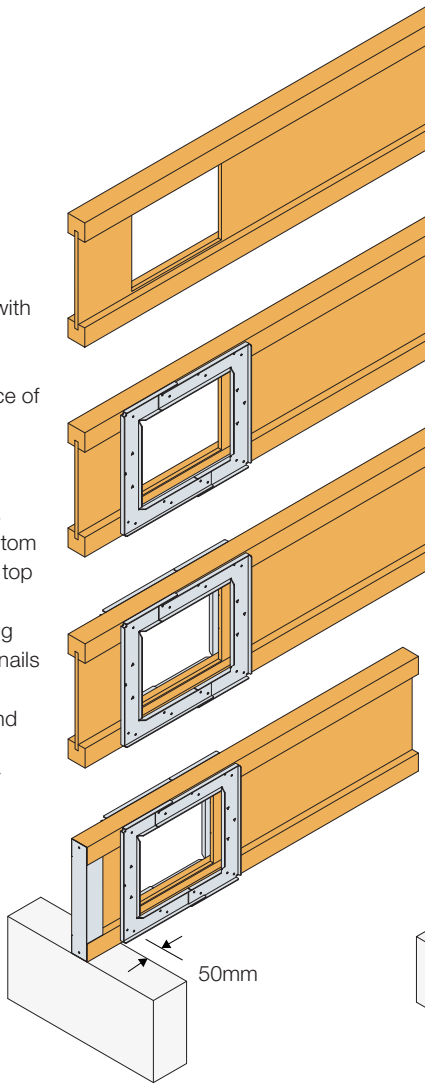
Model No.	Joist [mm]	Dimensions [mm]						Connector Holes / Plate	
		A	B	C	D_1	D_2	t	Ø4	Tri
IHS195	195 - 200	150	250	191	150	250	1.5	10	3
IHS220	220 - 225	150	250	216	150	250	1.5	10	3
IHS235	235	150	250	231	150	250	1.5	10	3
IHS240	240 - 245	150	250	236	150	250	1.5	10	3
IHS300	300 - 302	150	250	296	150	250	1.5	10	3

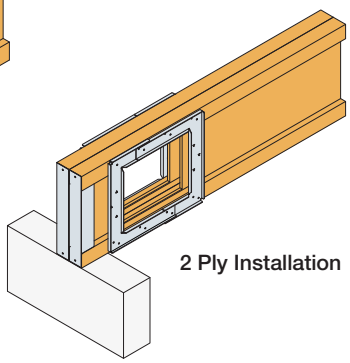


Fasteners		
Bracket Opening		Type
150mm	250mm	
24	32	N3.75x30mm

IHS INSTALLATION:

- Each IHS consists of 2 sets of 2 interlocking plates with 1 set required for each side of the I-joist.
- The outer edge of the holes cut into the web of the I-joist can be a minimum of 50mm from the inner face of the blockwork.
- Holes can be cut into the web of the I-joist before or after installation of the IHS.
- Holes must fit within the internal aperture of the IHS.
- Place the IHS onto the I-joist so that the top and bottom sliding flanges are aligned vertically central onto the top and bottom chords of the I-joist.
- Open or close the IHS to the required width, ensuring that the two sections overlap by at least one row of nails (minimum overlap of 45mm).
- Install 3.75x30mm square twist nails through all round holes into the top and bottom chords of the I-joist.
- Repeat the above steps to install plates on the other side of the I-joist, completing the installation.





2 Ply Installation

IHS

Performance Values

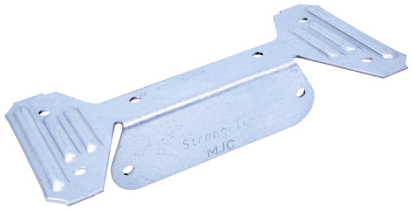
I-Joist Manufacturer	Joist Width [mm]	Joist Height [mm]	Model No.	Maximum allowable hole size with IHS [mm]	Maximum shear capacity at location of IHS [kN] (VHole)			
					Characteristic Capacity		Safe Working Load	
					Single Ply	Double Ply	Single Ply	Double Ply
James Jones	47	195	IHS195	100 x 250	6.4	8.5	2.6	3.5
		220	IHS220	120 x 250	6.8	9.1	2.8	3.7
		235	IHS235	140 x 250	7.1	9.4	2.9	3.9
		245	IHS240	150 x 250	7.2	9.7	3.0	4.0
		300	IHS300	200 x 250	8.3	11.1	3.4	4.5
	63	220	IHS220	120 x 250	7.5	10.0	3.1	4.1
		235	IHS235	140 x 250	7.7	10.3	3.2	4.2
		245	IHS240	150 x 250	7.9	10.6	3.2	4.3
		300	IHS300	200 x 250	8.9	11.9	3.7	4.9
	72	195	IHS195	100 x 250	7.5	10.0	3.1	4.1
		220	IHS220	120 x 250	7.9	10.5	3.2	4.3
		235	IHS235	140 x 250	8.1	10.8	3.3	4.4
		245	IHS240	150 x 250	8.3	11.0	3.4	4.5
		300	IHS300	200 x 250	9.3	12.4	3.8	5.1
	97	220	IHS220	120 x 250	8.8	11.8	3.6	4.8
		235	IHS235	140 x 250	9.1	12.1	3.7	5.0
		245	IHS240	150 x 250	9.2	12.3	3.8	5.1
		300	IHS300	200 x 250	10.2	13.7	4.2	5.6
Masonite	47	220	IHS220	120 x 250	7.6	9.1	2.3	2.7
		240	IHS240	140 x 250	8.2	9.9	2.5	2.9
		300	IHS300	200 x 250	10.3	12.3	3.1	3.7
	60	220	IHS220	120 x 250	7.6	9.1	2.3	2.7
		240	IHS240	140 x 250	8.2	9.9	2.5	2.9
		300	IHS300	200 x 250	10.3	12.3	3.1	3.7
	70	220	IHS220	120 x 250	7.6	9.1	2.3	2.7
		240	IHS240	140 x 250	8.2	9.9	2.5	2.9
		300	IHS300	200 x 250	10.3	12.3	3.1	3.7
	97	220	IHS220	120 x 250	7.6	9.1	2.3	2.7
		240	IHS240	140 x 250	8.2	9.9	2.5	2.9
		300	IHS300	200 x 250	10.3	12.3	3.1	3.7
MetsaWood	45	200	IHS195	100 x 250	5.5	6.5	2.3	2.7
		220	IHS220	125 x 250	6.4	7.5	2.7	3.1
		240	IHS240	145 x 250	7.2	8.3	3.0	3.5
		300	IHS300	200 x 250	8.6	10.0	3.6	4.2
	53	200	IHS195	100 x 250	5.8	6.7	2.4	2.8
		220	IHS220	125 x 250	6.7	7.8	2.8	3.2
		240	IHS240	145 x 250	7.4	8.7	3.1	3.6
		300	IHS300	200 x 250	8.9	10.4	3.7	4.3
	69	200	IHS195	100 x 250	6.0	7.0	2.5	2.9
		220	IHS220	125 x 250	6.7	7.8	2.8	3.3
		240	IHS240	145 x 250	7.4	8.7	3.1	3.6
		300	IHS300	200 x 250	9.5	11.0	3.9	4.6
	96	200	IHS195	100 x 250	5.9	6.9	2.5	2.9
		220	IHS220	125 x 250	6.7	7.8	2.8	3.3
		240	IHS240	145 x 250	7.7	9.0	3.2	3.8
		300	IHS300	200 x 250	9.3	10.9	3.9	4.5
Steico	45	200	IHS195	100 x 250	6.0	8.4	2.4	3.3
		220	IHS220	130 x 250	6.5	9.1	2.6	3.6
		240	IHS240	150 x 250	7.0	9.8	2.8	3.9
		300	IHS300	200 x 250	8.1	11.3	3.2	4.5
	60	200	IHS195	100 x 250	6.3	8.8	2.5	3.5
		220	IHS220	130 x 250	6.9	9.6	2.7	3.8
		240	IHS240	150 x 250	7.4	10.4	2.9	4.1
		300	IHS300	200 x 250	8.5	11.9	3.3	4.7
	90	200	IHS195	100 x 250	6.8	9.6	2.7	3.8
		220	IHS220	130 x 250	7.4	10.4	2.9	4.1
		240	IHS240	150 x 250	8.0	11.2	3.2	4.4
		300	IHS300	200 x 250	9.1	12.7	3.6	5.0

Multiple Joist Connector

The multi joist connector (MJC) allows two I-joists/metal web joists to be fixed together to act as a single unit, transferring the incoming load from the loaded ply to the unloaded ply. The MJC is an improved solution to the traditional filler block detail, which historically has been time consuming to fit and difficult to check if fitted correctly. It's simple and effective design allows one size of product to be used on any joist size – regardless of height or width.

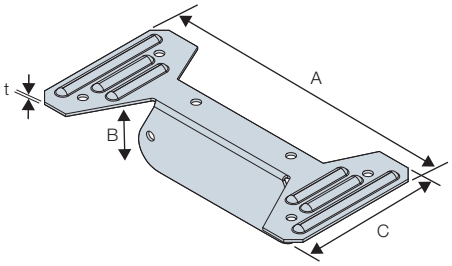
- Quick and simple to install.
- Safely joins multiple joists together, allowing them to act as a single unit.
- Easy to see that MJC's are installed (where as filler blocks are not visible).
- One size product fits all joist height and width combinations.

Material: Pre-galvanised mild steel.

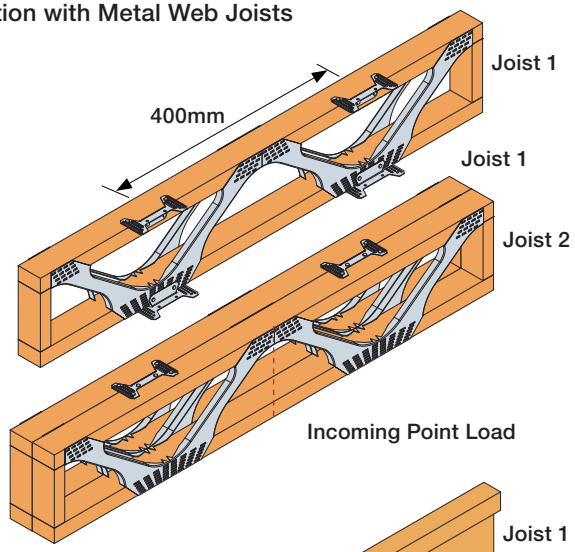


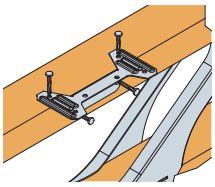
Product Dimensions

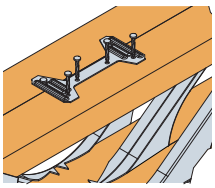
Model No.	Dimensions [mm]				Top Holes	Face Holes
	A	B	C	t	Ø4.1	Ø4.1
MJC	133	29	65	1.2	6	2



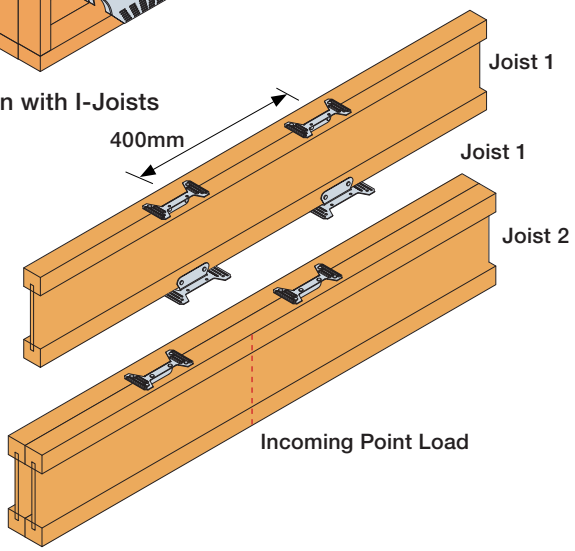
Installation with Metal Web Joists

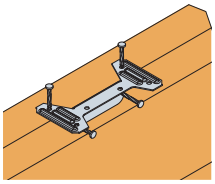


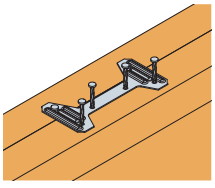

Step 1


Step 2

Installation with I-Joists




Step 1


Step 2

Installation Guide

Step 1:
Position the MJC's onto the first joist - ensuring that they are centred about the incoming load at 400 c/c (may be adjusted within 10mm each way).

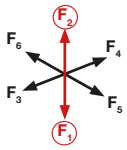
Step 2:
Secure each MJC with 4 No. 3.75 x 30mm Square Twist Nails, 2 No. fasteners into the joists top face (or for the lower flange MJC, the joists bottom face) and 2 No. fasteners into the joists front face, as shown.

Step 3:
Position the second joist ensuring ends are flush and joists are parallel. Secure the joist to the MJC using 4no. 3.75 x 30mm Square Twist Nails per MJC into the top (or bottom flange) as shown.

MJC

Performance Values

Number of MJC's [2]	Maximum Incoming Concentrated Load [1]							
	Fasteners per MJC		Safe Working Loads [kN]			Characteristic Load [kN]		
	Joist 1	Joist 2	$R_{1,SWL,Long\ Term}$			$R_{1,k}$		
	Qty N3.75x30	Qty N3.75x30	I-Joist LVL Flanges	I-Joists Solid Sawn Flanges	Metal Web	I-Joist LVL Flanges	I-Joists Solid Sawn Flanges	Metal Web
4	4	4	6.9	6.4	5.3	16.6	15.3	12.6
8	4	4	10.3	9.6	7.9	24.9	22.9	18.9
Maximum Incoming Regular Load [3]								
2	4	4	3.4	3.2	2.3	8.3	7.6	6.3
4	4	4	5.1	4.8	3.5	12.4	11.4	9.4



1. Maximum incoming Concentrated load refers to maximum concentrated load that can be applied when the MJCs are installed either side of the incoming load.
2. Number of MJCs equally spaced about the incoming load.
3. Maximum Incoming Regular load refers to the maximum load that can be applied at regular intervals along the supporting timber.

HGUS

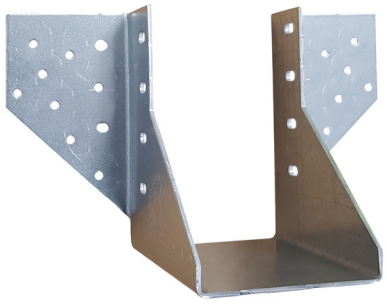
Heavy Engineered Timber Hanger

The HGUS joist hangers are designed to support trusses and girder trusses from timber members.

Installation:

- Double shear nailing allows distribution of the carried members load through two points on each nail for greater strength (see illustration).
- Joist nails must be driven at 45° through the joist dome, pan or obround nail holes, into the joist, then the header to achieve the table loads.
- The thickness of the supporting timber must be equal or greater than the fastener length.
- Verify the header can take the required fasteners specified below.
- Use all specified fasteners.

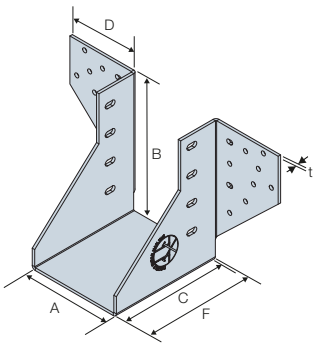
Material: Pre-galvanised mild steel.



HGUS

Product Dimensions

Model No.	Dimensions [mm]			Dimensions [mm]						Header Holes		Joist Holes
	Width	Min Height	Max Height	A	B	C	D	F	t	Ø5	Ø5 x 10mm Obrounds	Ø5 x 10mm Obrounds
HGUS48N	89	200	300	92	180	100	66	107	2.5	28	10	10
HGUS410N	89	240	450	92	229	100	66	107	2.5	36	10	16
HGUS412N	89	300	450	92	265	100	66	107	2.5	44	12	20
HGUS414N	89	350	450	92	316	100	66	107	2.5	52	14	22
HGUS180/135N	133	200	300	135	180	100	66	107	2.5	28	8	10
HGUS5.50/10N	133	240	450	140	214	100	66	107	2.5	36	10	16
HGUS5.50/12N	133	300	450	140	265	100	66	107	2.5	44	12	20
HGUS5.50/14N	133	350	450	140	316	100	66	107	2.5	52	14	22
HGUS7.25/10N	180	240	450	184	219	100	66	107	2.5	36	10	16
HGUS7.25/12N	180	300	450	184	270	100	66	107	2.5	44	12	20
HGUS7.25/14N	180	350	450	184	320	100	66	107	2.5	52	14	22
Spec HGUS48N	92 - 300	200	300	92 - 300	180	100	66	107	2.5	28	10	10

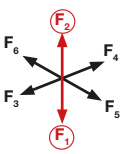


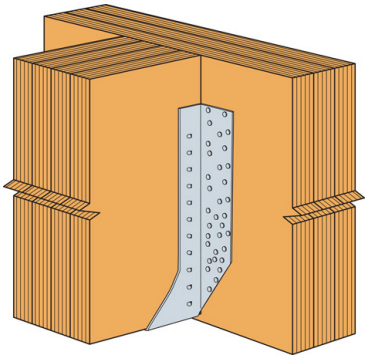
HGUS

Performance Values

Model No.	Fasteners		Safe Working Loads [kN]	
	Header Qty	Joist Qty	$R_{1,SWL,Long\ Term}$	$R_{2,SWL,Short\ Term}$
			N4.0x100	N4.0x100
HGUS	36	10	27.8	7.5
	36	10	18.3(*)	7.5
	46	16	35.9	9.7
	56	20	40.9	11.3
	66	22	43.5	12.9

(*) SPEC HGUS48N widths > 185mm





HGUS Typical Installation

TCP

Truss Clip

The TCP truss clip attaches trusses and rafters to wall plates to provide wind uplift restraint.

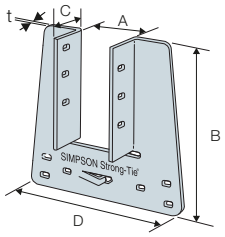
- TCP Truss Clips may be used for general purposes and as all-purpose ties wherever one timber member crosses another.
- Speed prong provides temporary attachment for ease of installation.
- Obround holes for easier nail driving.

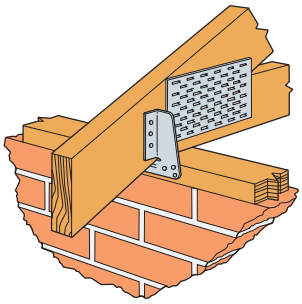
Material: Pre-galvanised mild steel.

Installation: Use all specified fasteners.

Product Dimensions

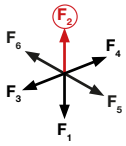
Model No.	Dimensions [mm]					Header Holes	Joist Holes
	A	B	C	D	t	Obround 4 x 6	Obround 4 x 6
TCP38	38	100	18	107	0.9	6	6
TCP47	47	100	23	107	0.9	6	6
TCP50	50	100	26	107	0.9	6	6





Performance Values

Model No.	Fasteners		Safe Working Loads [kN]	Characteristic Capacities [kN]
	Truss	Wall Plate	$R_{2,SWL,Short\ Term}$	$R_{2,K}$
	Qty	Qty	N3.75x30	N3.75x30
TCP	6	6	2.1	3.3



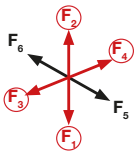
GS

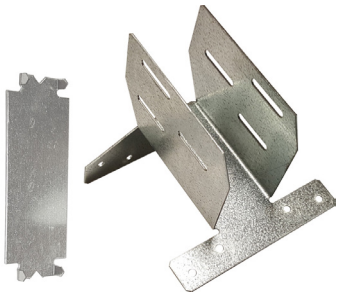
Glide Shoe

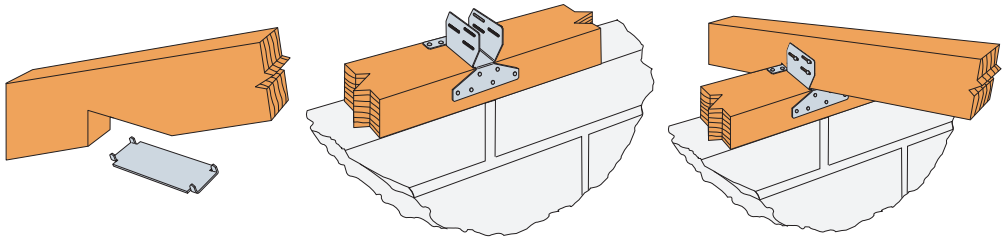
Glide shoes are specially designed to allow horizontal movement between raised tie trusses and wallplates.

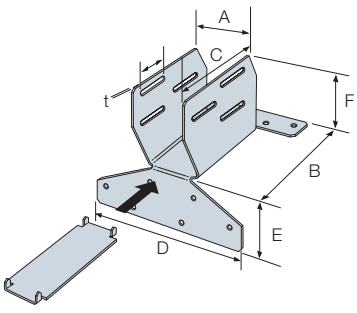
The GS allows lateral movement of raised tie trusses up to 15mm during installation of roofing materials and resists uplift forces. Typically used on one or both ends of the truss as determined by the truss designer.

Material: Pre-galvanised mild steel.









Product Dimensions

Model No.	Dimensions [mm]							Header Holes	Joist Holes
	A	B	C	D	E	F	t	Ø4.1	4 x 25 Slots
GS38	38	97	88	102	40	62	1.2	10	6
GS50	50	97	88	114	40	62	1.2	10	6
GS75	75	97	88	139	40	62	1.2	10	6
GS100	100	97	88	164	40	62	1.2	10	6
GS150	150	97	88	214	40	62	1.2	10	6
GS200	200	97	88	264	40	62	1.2	10	6

Performance Values

Model No.	Fasteners		Safe Working Loads [kN]		Characteristic Capacities [kN]	
	Wall Plate	Joist				
	Qty	Qty	$R_{2,SWL,Short\ Term}$	$R_{3,SWL,Short\ Term}$	$R_{2,K}$	$R_{3,K}$
			N3.75x30	N3.75x30	N3.75x30	N3.75x30
GS	10	6	1.4	3.3	2.8	6.6

THM

Mono Truss Hanger

The THM (Truss Hanger Mono) is a joist hanger for supporting mono trusses from timber members.

The THM hanger offers two installation options:

- Standard nailing.
- Enhanced nailing: Double Shear Joist nails.

Features Speed Prongs for ease of installation.

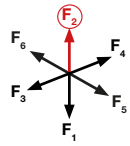
Material: Pre-galvanised mild steel.

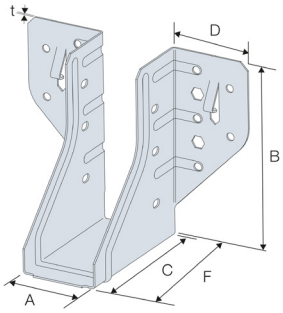
Product Dimensions

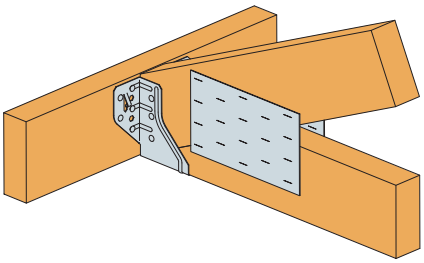
Model No.	Joist [mm]			Hanger Dimensions [mm]						Header Holes	Joist Holes
	Width	Height		A	B	C	D	F	t	Ø4.1	Obround Ø6x4
	Max	Min	Max								
THM230/38	38	100	150	38	96	75	42	77	0.9	10	6
THM230/44	44	100	150	44	93	75	42	77	0.9	10	6
THM230/47	47	100	150	47	92	75	42	77	0.9	10	6
THM230/50	50	100	150	50	90	75	42	77	0.9	10	6

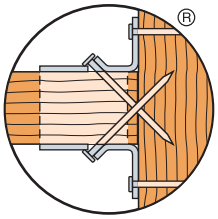
Product Performance

Model No.	Fasteners				Safe Working Loads [kN]		Characteristic Capacities [kN]
	Header		Joist		$R_{1,SWL,Long\ term}$	$R_{1,SWL,Medium\ term}$	$R_{1,K}$
	Qty	Type	Qty	Type			
THM	10	N3.75x30	6	N3.75x30	3.4	3.9	7.3
	10	N3.75x30	6	N3.75x75	4.4	5.1	9.8









Double Shear Nailing

Unique double shear nailing feature guides the joist nails into the joist at a 45° angle. This provides easier nail driving as the installer doesn't need to swing the hammer sideways.

Truss Hanger with Adjustable Height Strap

The THA is a one-piece joist hanger supporting trussed rafters and composite timbers from timber members.

The THA can be installed with a number of fixing options, for greater load capacity. See table below for fixing options.

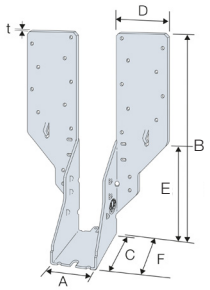
Available in seat widths from 38mm to 100mm.

- Location tab allows easier alignment to the carrying member.
- Choice of installation specifications to suit wrap-over or face fix.
- Speed prongs enables positioning of the hanger without nails before completing the install.
- Nailing schedules are stamped into the strap to provide the correct information to site operatives.
- The distinctive wide strap enhances the performance of the critical part of the connection by increasing the nail spacing and providing greater bearing area on the supporting girder.

Material: Pre-galvanised mild steel.

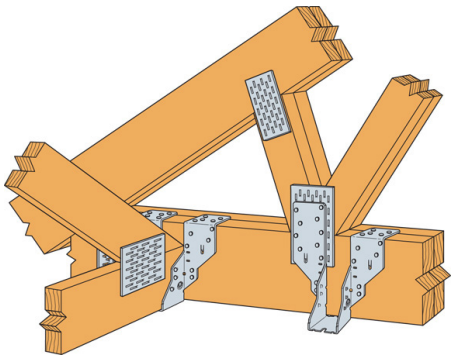
Product Dimensions

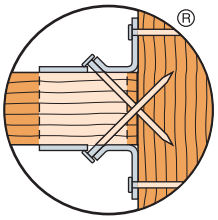
Model No.	Dimensions [mm]							Header Holes		Joist Holes
	A	B	C	D	E	F	t	Ø4.1	Obround Ø6x4	Dome
THA38	38	226	63	60	114	65	1.2	22	4	6
THA44	44	223	63	60	111	65	1.2	22	4	6
THA50	50	220	63	60	108	65	1.2	22	4	6
THA75	75	233	63	60	120	65	1.2	22	4	6
THA100	100	220	63	60	108	65	1.2	22	4	6



Performance Values

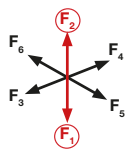
Model No.	Installation	Header Member Depth [mm]	Fasteners						Safe Working Loads [kN] (TR26 Timber)			Characteristic Capacities [kN] (TR26 Timber)	
			Header Face		Header Top		Joist						
			Type	Qty	Type	Qty	Type	Qty	$R_{1,SWL,Long\ Term}$	$R_{1,SWL,Med\ Term}$	$R_{1,SWL,Short\ Term}$	$R_{1,k}$	$R_{2,k}$
THA	Face Fix	197 → 222	20	N3.75x30	-	-	6	N3.75x30	5.2	5.9	1.9	12.4	3.7
	Wrap Over	122 → 197	8	N3.75x30	4	N3.75x30	6	N3.75x30	4.4	5.0	1.9	10.5	3.7
	Face Fix	197 → 222	20	N3.75x30	-	-	6	N3.75x75	6.4	7.3	2.7	15.4	5.3
	Wrap Over	122 → 197	8	N3.75x30	4	N3.75x30	6	N3.75x75	6.8	7.8	2.7	16.4	5.3
	Face Fix	197 → 222	20	N3.75x75	-	-	6	N3.75x75	8.6	9.8	2.7	20.5	5.3
	Wrap Over	147 → 197	14	N3.75x75	4	N3.75x75	6	N3.75x75	8.6	9.8	2.7	20.5	5.3





Double Shear Nailing

Unique double shear nailing feature guides the joist nails into the joist at a 45° angle. This provides easier nail driving as the installer doesn't need to swing the hammer sideways.



HGUS/HGUQ

Heavy Engineered Timber Hanger

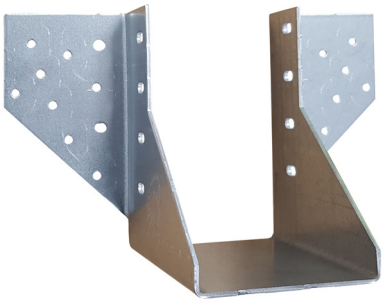
The HGUS and HGUQ are joist hangers designed to support trusses and girder trusses from timber members. The HGUQ version uses SDS screws instead of nails for even faster and easier installation.

Installation:

- Double shear nailing allows distribution of the carried members load through two points on each nail for greater strength (see illustration).
- Joist nails must be driven at 45° through the joist dome, pan or obround nail holes, into the joist , then the header to achieve the table loads.
- The thickness of the supporting timber must be equal or greater than the fastener length.
- Verify the header can take the required fasteners specified below.
- Use all specified fasteners.

HGUQ: The SDS screws help transfer the load between plies of the supporting truss when they penetrate all plies.

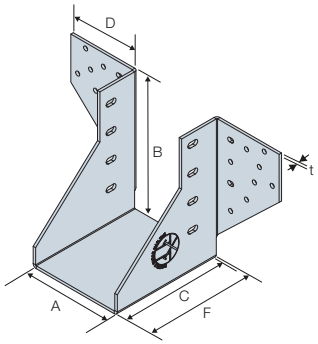
Material: Pre-galvanised mild steel.



HGUS

Product Dimensions

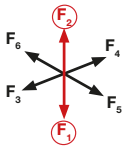
Model No.	Joist Dims [mm]	Dimensions [mm]						Header Holes			Joist Holes	
	Width	A	B	C	D	F	t	Ø5	Ø5 x 10mm Obrounds	Ø6.4	Ø6 x 12mm Obrounds	Ø6.4
HGUS125/80N	2x35	80	125	100	66	107	2.5	16	4	-	8	-
HGUS145/80N	2x35	80	145	100	66	107	2.5	22	6	-	10	-
HGUS125/105N	2x47	105	125	100	66	107	2.5	16	4	-	8	-
HGUS145/105N	2x47	105	145	100	66	107	2.5	22	6	-	10	-
HGUS145/120N	3x35	120	145	100	66	107	2.5	22	6	-	10	-
HGUS145/155N	3x47	155	145	100	66	107	2.5	22	6	-	10	-
HGUQ180/105SCR	2x47	105	180	100	55	103	2.5	-	-	26	-	8
HGUQ180/120SCR	2x35	120	180	100	55	103	2.5	-	-	26	-	8
HGUQ180/155SCR	3x47	155	180	100	55	103	2.5	-	-	26	-	8
HGUQ180/202SCR	4x47	202	180	100	55	103	2.5	-	-	26	-	8



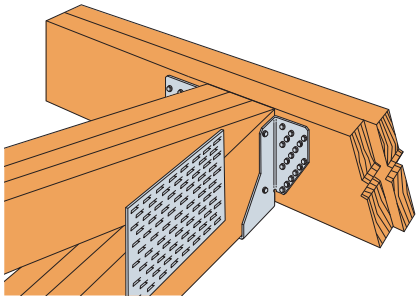
HGUS

Performance Values

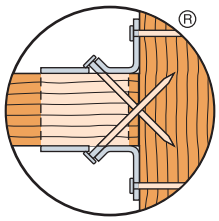
Model No.	Fasteners		Safe Working Loads [kN]			Characteristic Capacity [kN]	
	Header Qty	Joist Qty	$R_{1,SWL,Long\ Term}$	$R_{1,SWL,Med\ Terms}$	$R_{2,SWL,Short\ Term}$	$R_{1,k}$	$R_{2,k}$
			CNA4.0x60	CNA4.0x60	CNA4.0x60	CNA4.0x60	CNA4.0x60
HGUS	20	8	10.1	11.5	3.9	25.1	7.8
	28	10	15.1	17.5	4.9	33.3	9.8
			SDS25212	SDS25212	SDS25212	SDS25212	SDS25212
HGUQ	26	8	21.3	24.4	10.4	45.5	20.7



1. Performance values based upon TR26 graded timbers.
2. CNA Nails supplied.
3. SDS screws supplied.

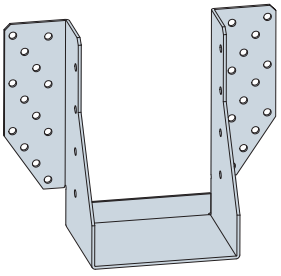


HGUQ Typical Installation



Double Shear Nailing

Unique double shear nailing feature guides the joist nails into the joist at a 45° angle. This provides easier nail driving as the installer doesn't need to swing the hammer sideways.



HGUQ

THGQ

Heavy Duty Girder Truss Hanger

The THGQ is a heavy duty girder truss hanger designed to support multiple ply girder trusses from a vertical member of a girder truss.

- Use with SDS screws instead of bolts - simplifying installation.
- SDS screws (6.2 x 63mm) supplied with each THGQ.
- Maintains the strength of the supporting truss as no material is removed during installation.
- Suitable for use on girder trusses with bottom chord depths equal to or greater than 147mm.

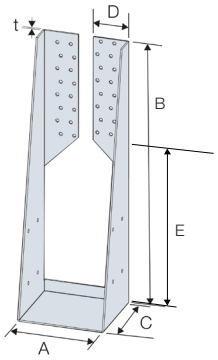
Material: Pre-galvanised mild steel.

Installation:

- Fill all holes with the specified fasteners to achive published load capacities.
- Multiple ply supporting trusses must be fastened together, as specified by the truss manufacturer, to act as one member.
- The overall thickness of the supporting trusses should be equal to or greater than the length of the SDS screw (63mm).

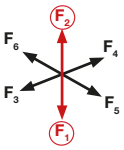
Product Dimensions

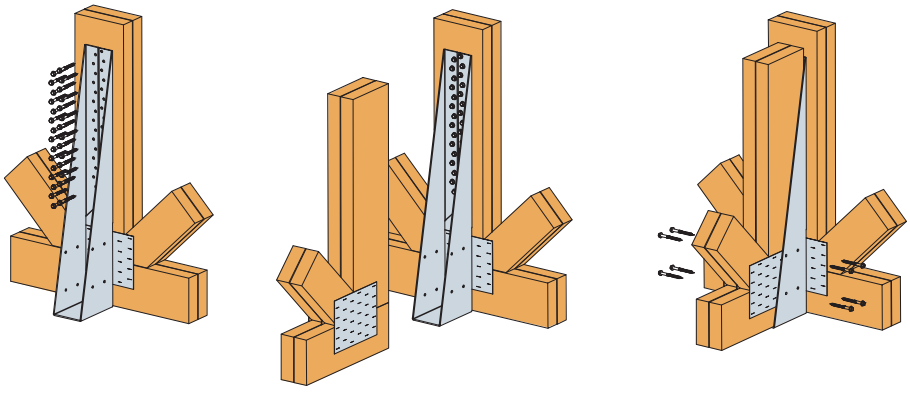
Model No.	Vertical Support Minimum Width [mm]	Incoming Truss Width [mm]	Dimensions [mm]						Header Holes	Joist Holes
			A	B	C	D	E	t	Ø6.4	Ø6.4
THGQ80SCR	147	2x35	80	675	135	38	305	3	30	8
THGQ102SCR	172	2x47	102	675	135	38	305	3	30	8
THGQ116SCR	197	3x35	116	675	135	38	305	3	30	8
THGQ154SCR	197	3x47 or 4x35	154	500	135	63	305	3	32	8
THGQ202SCR	222	4x47	202	500	135	63	305	3	32	8



Performance Values

Model No	Fasteners		Safe Working Loads [kN]		Characteristic Capacities [kN]	
	Header	Joist	$R_{1,SWL,Medium\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,k}$	$R_{2,k}$
	Qty	Qty	SDS25212	SDS25212	SDS25212	SDS25212
THGQ	30	8	40.4	14.4	79.7	22.4
	30	4	32.8	7.2	66.3	11.2
	32	8	40.4	14.4	79.7	22.4
	32	4	32.8	7.2	66.3	11.2





Nail Plate

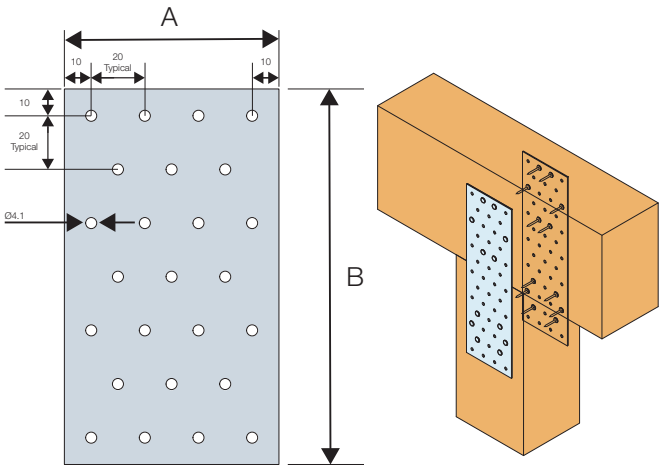
Nail plates are used to connect two or more timber members together. They are available in a variety of sizes.

Material: Pre-galvanised mild steel. Grade S250GD

Installation: Use all specified fasteners.
Install using 3.75 x 30mm square twist nails.

Product Dimensions

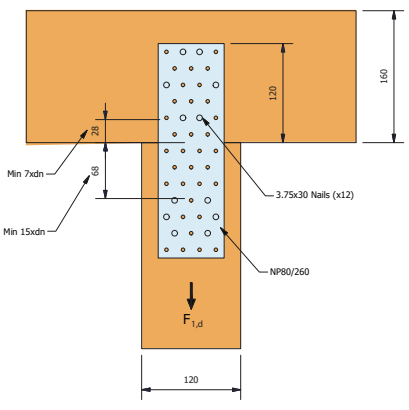
Model No.	Dimensions [mm]			Holes	
	A	B	t	Ø4.1	Ø5
NP40/120	40	120	1.5	9	-
NP80/140	80	140	1.5	25	-
NP80/180	80	180	1.5	32	-
NP80/200	80	200	1.5	35	-
NP80/220	80	220	1.5	39	-
NP80/260	80	260	1.5	46	-
NP100/140	100	140	1.5	32	-
NP100/200	100	200	1.5	45	-
NP100/240	100	240	1.5	54	-
NP100/300	100	300	1.5	68	-
NP140/180	140	180	1.5	59	-
NP140/200	140	200	1.5	65	-
NP140/260	140	260	1.5	85	-
NP160/340	160	340	1.5	128	-
NP200/260	200	260	1.5	124	-
NP220/300	220	300	1.5	158	-
NP20/40/120	40	120	2.0	-	9
NP20/40/160	40	160	2.0	-	12
NP20/50/200	50	200	2.0	-	20
NP20/60/140	60	140	2.0	-	18
NP20/80/200	80	200	2.0	-	35
NP20/80/240	80	240	2.0	-	42
NP20/80/300	80	300	2.0	-	53
NP20/100/140	100	140	2.0	-	32
NP20/100/200	100	200	2.0	-	45
NP20/100/240	100	240	2.0	-	54
NP20/100/260	100	260	2.0	-	61
NP20/100/300	100	300	2.0	-	68
NP20/100/400	100	400	2.0	-	32
NP20/100/500	100	500	2.0	-	112
NP20/120/200	120	200	2.0	-	55
NP20/120/240	120	240	2.0	-	66
NP20/120/260	120	260	2.0	-	72
NP20/120/300	120	300	2.0	-	83
NP20/120/400	120	400	2.0	-	110
NP20/140/400	140	400	2.0	-	130
NP20/160/300	160	300	2.0	-	113
NP20/160/400	160	400	2.0	-	150
NP20/200/300	200	300	2.0	-	200



Calculation Example:

Two plates (NP80/260) to connect a 100mm x 160mm beam to a 100mm x 120mm post. 12 no. 3.75x30mm square twist nails per connected timber member. Load duration Kmod 0.70. Steel thickness 1.5mm.

Applied Load F1,d = 5kN
Nail Capacities:
R1,d = n x Rlat x kmod/ɣm
Nails per timber = 12
Rlatk = 1.02kN (3.75x30mm nails and TR26 timber)
R1,d = 12 x 1.02 x 0.7/1.3 = 6.59kN
Design Check Nails:
F1,d/R1,d = ≤ 1.0 Therefore OK
5/6.59 = 0.76 Therefore OK
Plate Capacities:
R1,d = 0.9 x Anetto x fu/ɣm
R1,d = 0.9 x 2 x 1.5 (80-4x4.1) x 330/1.3x10-3 = 43.6kN
Design Check Plates:
F1,d/R1,d = ≤ 1.0 Therefore OK
5/43.6 = 0.12 Therefore OK



Gable Panel Connector

The GPC provides lateral restraint between the wall plate/gable panel and the supporting masonry wall.

As available to suit 100mm, 115mm and 140mm masonry walls.

Material: Galvanised mild steel.

Features:

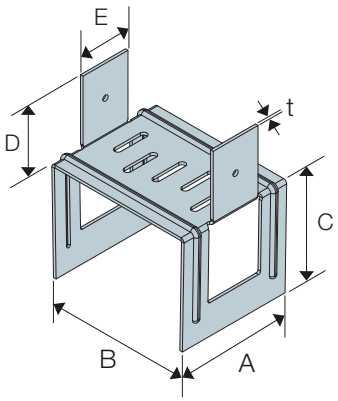
- Easy & quick to install with no masonry fasteners required.
- Sits directly on the top of the top layer of blockwork.

Installation:

- Installed directly onto the top block, dry bedded & spaced to provide 2kN/m lateral resistance.
- Mortar laid between GPC & wall plate; to allow the wall plate to be levelled.
- Fix the connector to the wall plate using Square Twist Nails or CSA Screws
- Fix gable panel to the wall plate ensuring fasteners achieve minimum lateral characteristic capacity of 2kN/m.
- Fastener quantity and centres to be specified by the Structural Engineer or Building Designer.

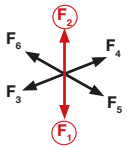
Product Dimensions

Model No.	Dimensions [mm]						Holes Flange E
	A	B	C	D	E	t	Ø4.1
GPC100	80	100	75	50	35	2.0	2
GPC115	80	115	75	50	35	2.0	2
GPC140	80	140	75	50	35	2.0	2

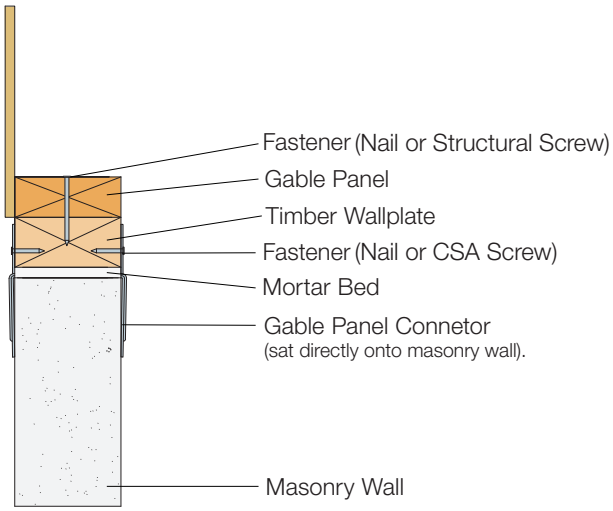


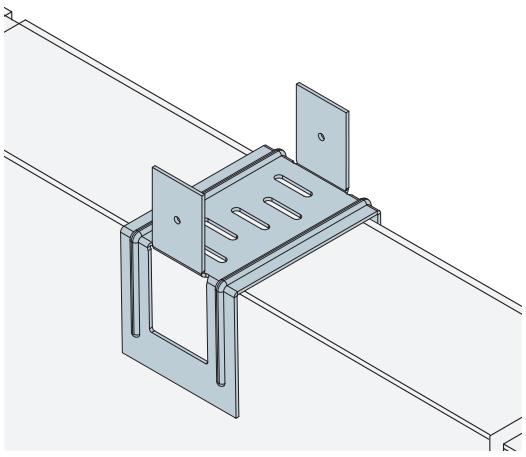
Performance Values

Model No.	Fasteners Wall Plate		Safe Working Load [kN]	Characteristic Load [kN]
	Qty	Type	$R_{1,SWL,Long\ term}$	$R_{3,k}=R_{4,k}$
GPC	2	N3.75x30 or CSA 4.0x30	2.8	4.2



Installation



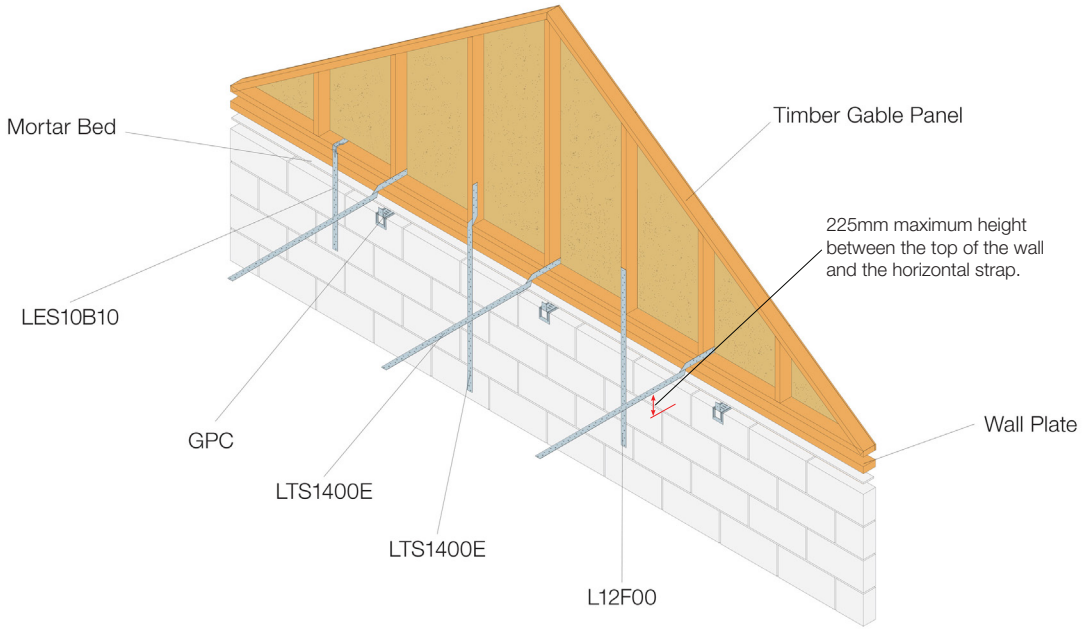


Sits directly on the top of the top layer of blockwork.

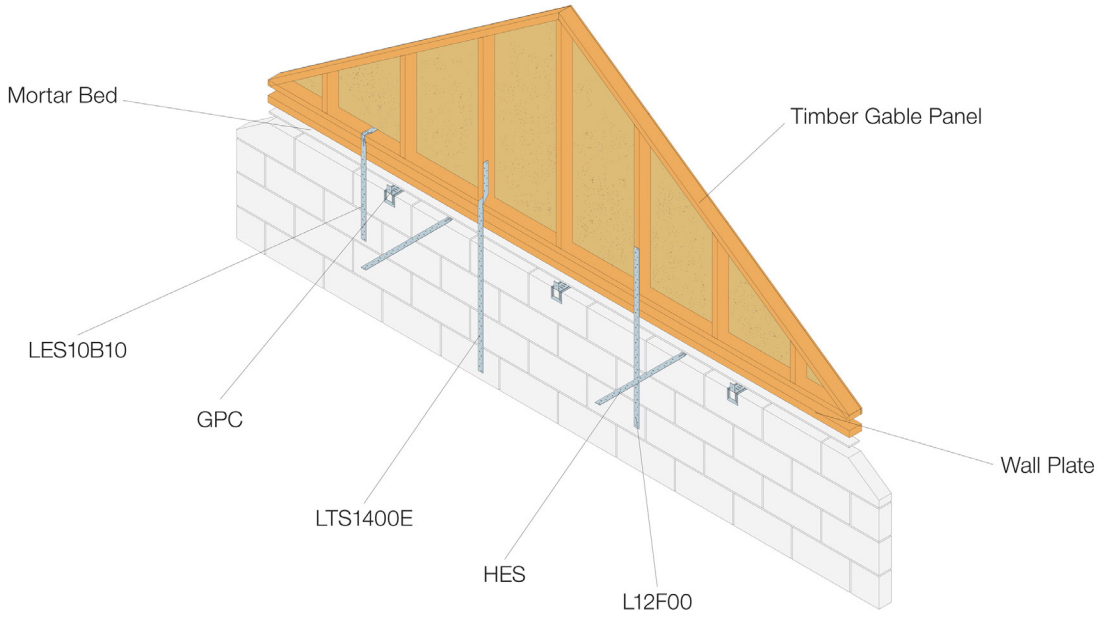
GPC

The GPC provides a verified connection when connecting timber gable panels to masonry walls and the roof structure.
The connectors have been developed to safely transfer lateral wind loads on the masonry and the timber gable ends into the braced diaphram, giving installation options onto a continuous wall plate as well as a raised wallplate.

Gable Panel Connections - Continuous Wallplate



Gable Panel Connections - Raised Wallplate



Connection details between the gable panel and wallplate are to be designed by the building designer ensuring required loads are transferred between the timber gable panel and the wallplate.

For the transfer of wind loads from the gable wall (timber gable panel and/or masonry) to the roof structure either LTS1400E (Page 160) or HES15B10 (Page 152) lateral restraint straps should be used.
To hold the timber gable panel down onto the supporting masonry wall either LES10B10, LTS1400E or L12F00 should be used.

The quantity and installation centres for the GPC, lateral restraint straps and hold down straps should be specified by the building designer.

Reference should be made to the Truss Rafter Association's technical guidance on Gable Wall/Spandrel Panels for additional construction details.

Joist End Support

The JES is a two piece metal-work system which enables the use of engineered timber I-joists in loft conversions, offering a safe and economic alternative to the traditional method which requires steel girders.

It provides reinforcement to the joist ends where they are cut to fit within the eaves of the existing roof. Each JES is supplied as 2 plates, as required for each joist end.

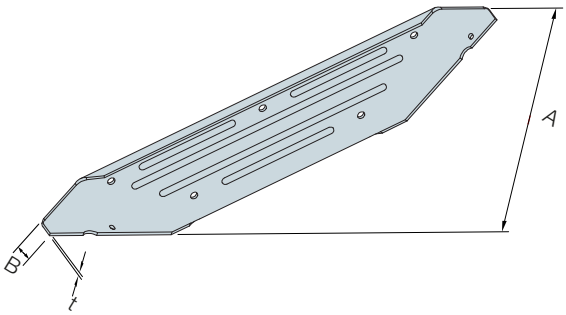
Material: Pre-galvanised mild steel.

Installation:

- The I-Joists are installed from wall plate to wall plate, which means there is no need for a costly Party Wall Agreement.
- Steel beams can be eliminated, so there is no need for a crane, or to remove all the roof tiles.

Product Dimensions

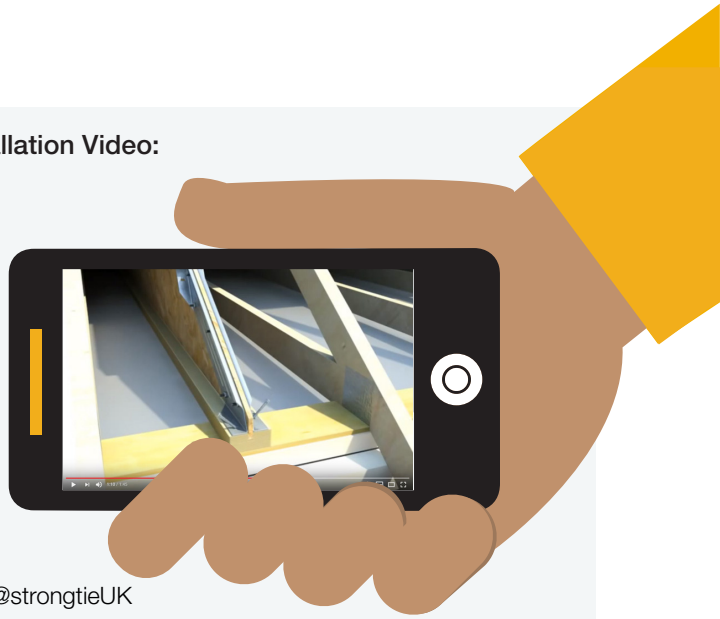
Model No.	Dimensions [mm]			Holes	
	A	B	t	Ø6.4	4 x 6 Obround
JES099SCR	99	18	2.5	2	2
JES116SCR	116	18	2.5	3	2
JES124SCR	124	18	2.5	3	2
JES136SCR	136	18	2.5	3	2
JES139SCR	139	18	2.5	3	2
JES149SCR	149	18	2.5	4	2
JES156SCR	156	18	2.5	5	2
JES179SCR	179	18	2.5	5	2
JES204SCR	204	18	2.5	5	2
JES216SCR	216	18	2.5	5	2
JES240SCR	240	18	2.5	5	2
JES254SCR	254	18	2.5	5	2
JES276SCR	276	18	2.5	5	2
JES294SCR	294	18	2.5	5	2
JES304SCR	304	18	2.5	5	2
JES316SCR	316	18	2.5	5	2



Why Convert Lofts Using I-Joists?

- No need to install steel girders.
- No need to hire a crane.
- I-joists installed from wall plate to wall plate.
- No need for a Party Wall Agreement.
- Light weight.
- Loft conversions also possible in timber frame houses.
- Suits roof slopes of 30° or greater.

Installation Video:



JES

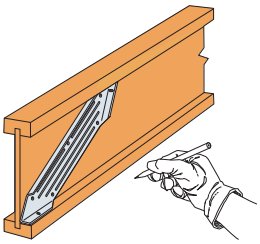
JES Installation

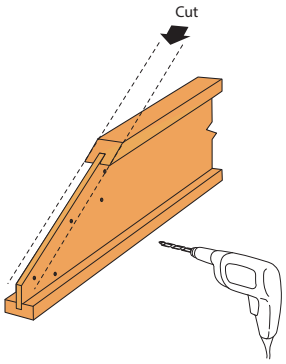
Step 1:
Use one plate as a template to mark the cut line and fastener hole positions on the end of the I-joist as shown, ensuring that the ends are flush. Remove the JES plate before cutting and drilling the I-joist.

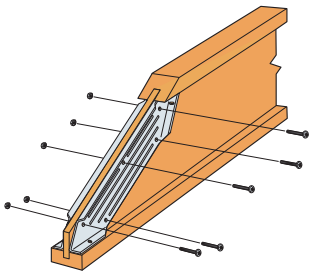
Step 2:
Cut and drill the I-joist. Use a 6mm diameter drill bit to create the holes.

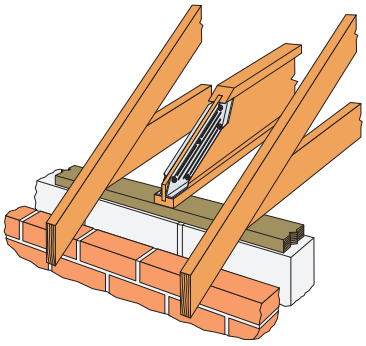
Step 3:
Securely install a JES plate on both sides of the I-joist using the M6 x 30mm Hex bolts and washers supplied. Note the position of the lip on the JES which must be installed with the lip following the top-most edge of the adapted I-joist.

Step 4:
Position I-joist in between the existing trusses as shown, ensuring that a minimum 90mm of end bearing is achieved.
Joist layouts will vary - please refer to engineer responsible for floor design.









Performance Values

I-Joist Manufacturer	I-Joist Dimensions [mm]		Model No.	Joist End Bearing Capacity [kN]			
				Characteristic Capacity	Safe Working Load		
	Width	Height			Long Term	Medium Term	Short Term
James Jones	47-97	195	JES099SCR	8.1	2.4	3.1	4.0
	47-97	220	JES124SCR	8.1	2.4	3.1	4.0
	47-97	235	JES139SCR	8.1	2.4	3.1	4.0
	47-97	245	JES149SCR	8.1	2.4	3.1	4.0
	47-97	300	JES204SCR	9.8	3.0	3.8	4.9
	47-97	350	JES254SCR	10.5	3.2	4.0	5.2
	47-97	400	JES304SCR	12.0	3.6	4.6	5.9
Masonite	47-97	220	JES116SCR	8.1	2.4	3.1	4.0
	47-97	240	JES139SCR	8.1	2.4	3.1	4.0
	47-97	300	JES179SCR	9.8	3.0	3.8	4.9
	47-97	350	JES240SCR	10.5	3.2	4.0	5.2
	47-97	400	JES294SCR	12.0	3.6	4.6	5.9
MetsaWood	45-96	200	JES116SCR	7.7	2.3	3.0	3.8
	45-96	220	JES136SCR	7.7	2.3	3.0	3.8
	45-96	240	JES156SCR	11.5	3.5	4.4	5.7
	45-96	300	JES216SCR	11.5	3.5	4.4	5.7
	45-96	360	JES276SCR	11.5	3.5	4.4	5.7
	45-96	400	JES316SCR	11.5	3.5	4.4	5.7
Steico	45-90	200	JES116SCR	7.7	2.3	3.0	3.8
	45-90	220	JES136SCR	7.7	2.3	3.0	3.8
	45-90	240	JES156SCR	10.9	3.3	4.2	5.4
	45-90	300	JES216SCR	10.9	3.3	4.2	5.4
	45-90	360	JES276SCR	10.9	3.3	4.2	5.4
	45-90	400	JES316SCR	10.9	3.3	4.2	5.4

VP

Loft Vent Plate

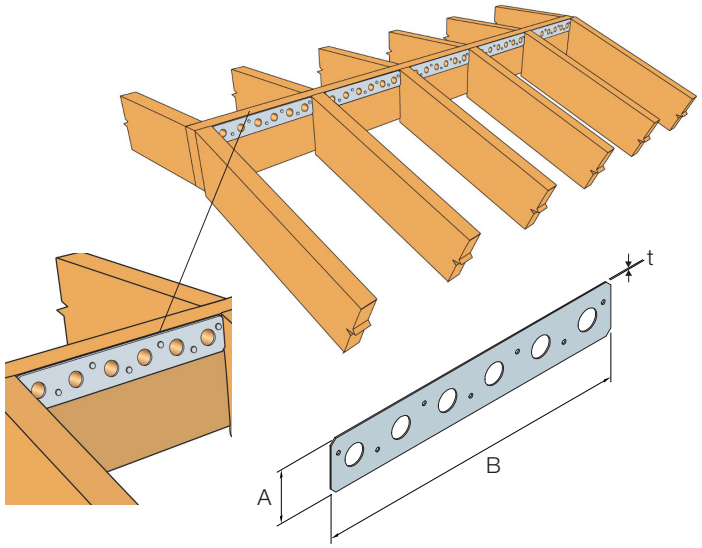
The VP is part of the I-Loft system.

The vent plate is galvanised steel plate which provides a fast and cost effective solution to providing ventilation in the roof space.

Once installed, it allows the six 20mm diameter holes to be drilled, whilst maintaining the strength of the solid sawn timber.

By providing a ventilation path though the roof, over the insulation in the loft conversion ceiling, the condensation problems arising from the difference in temperature between the inside and outside are avoided.

Material: Pre-galvanised mild steel.



Product Dimensions

Model No.	Dimensions [mm]			Holes		Fasteners N3.75x30
	A	B	t	Ø4.1	Ø20	
VP50/300	50	300	1.2	7	6	7

STN RECOMMENDED FIXINGS

RR

Ridge Rafter Connector

The RR ridge rafter connector provides alignment control and correct nailing locations. The RR may be used with any rafter slope up to 30°.

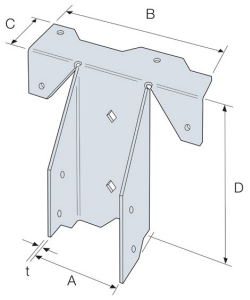
For back-to-back installations, the minimum width of the ridge plate is 38mm.

Material: Pre-galvanised mild steel.

Installation: Use all specified fasteners.

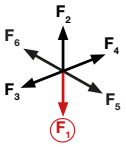
Product Dimensions

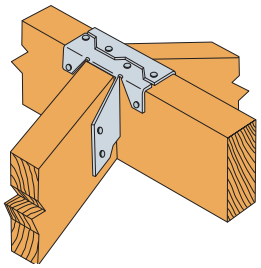
Model No.	Joist Dimensions [mm]			Dimensions [mm]					Header Holes	Joist Holes
	Width	Height								
	Max	Min	Max	A	B	C	D	t	Ø4	Ø4
RR	38	95	125	38	83	33	102	1.2	4	4
RR47	47	95	125	47	83	33	114	1.2	4	4



Performance Values

Model No	Fasteners		Safe Working Loads [kN]	Characteristic Capacities [kN]
	Header	Joist	$R_{1, SWL, Long Term}$	$R_{1,k}$
	Qty	Qty	N3.75x30	N3.75x30
RR - RR47	4	4	1.4	0.6





SPR

Timber Joist Hanger Slope Adjustable

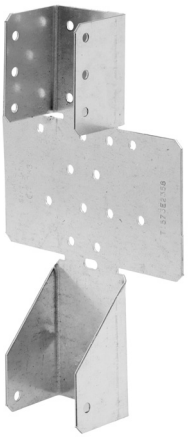
The SPR connector supports rafters from other timber members and can be sloped up or down by up to 45°

- Slope angle can be adjusted on-site.
- Adjustable between 0 and 45°, up or down.
- Supports a range of timber heights from 145mm to 250mm.

Material: Pre-galvanised mild steel.

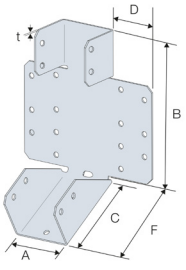
Installation:

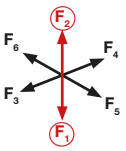
- Use all specified fasteners.
- Bend only once.
- To ensure proper seat installation, install the bottom nails prior to the side nails.
- Attach the sloped joist at both ends so that the horizontal force developed by the slope is fully supported by the carried members.



Product Dimensions

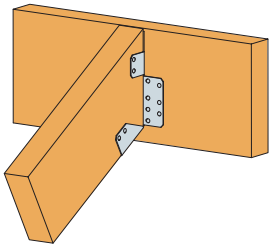
Model No.	Dimensions [mm]			Dimensions [mm]						Header Holes	Joist Holes	
	Width	Height										
	Max	Min	Max	A	B	C	D	F	t	Ø5	Ø5	Tri
SPR47/140	47	145	200	47	140	74	43	78	1.5	13	8	2
SPR47/200	47	200	250	47	200	74	43	78	1.5	17	14	2
SPR91/140	91	145	200	91	140	74	43	78	1.5	18	8	2
SPR91/200	91	200	250	91	200	74	43	78	1.5	24	14	2





Performance Values

Model No	Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]	
	Header	Joist	$R_{1,SWL,Long Term}$	$R_{1,SWL,Medium Term}$	$R_{2,SWL,Short Term}$	$R_{1,k}$	$R_{2,k}$
	Qty	Qty	N3.75x30	N3.75x30	N3.75x30	N3.75x30	N3.75x30
SPR47/140	13	10	2.5	2.9	3.0	6.0	6.0
SPR47/200	17	16	5.1	5.8	6.1	12.2	12.2
SPR91/140	18	10	3.5	4.0	4.2	8.3	8.3
SPR91/200	24	18	6.0	6.9	7.2	14.5	14.5



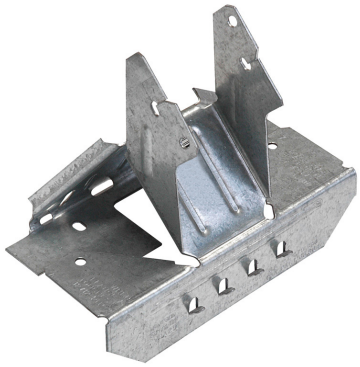
Variable Pitch Connector

The VPA is an engineered one-piece connector for attaching I-Joist rafters to wall plates.

- The VPA is adjustable to slopes between 15° and 45° with a special interlock design indicating when the maximum pitch is reached. This product complements the versatile LSSU.
- Designed for use with double 38mm top plates with a 50mm seat, which allows sufficient bearing area for most rafters.
- No notching of the I-Joist is required when using the VPA. This connector reduces the need for bevelled plates and toenailing. It has positive angle nailing to speed installation and to minimise wood splitting.

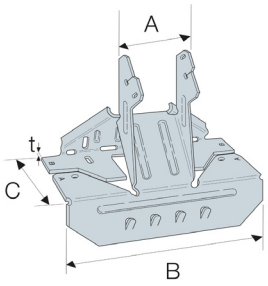
Material: Pre-galvanised mild steel.

Installation:
Use all specified fasteners.
Face fasteners attached to both upper and lower top plates. See VPA installation sequence shown below.



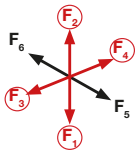
Product Dimensions

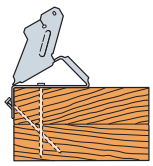
Model No.	Joist Width [mm]	Dimensions [mm]				Header Holes [mm]			Joist Holes
		A	B	C	t	Obrounds		Holes	Obrounds
						Ø4x6	PAN	Ø4.1	Ø4x6
VPA25	45	46	133	67	1.2	2	4	2	2
VPA50	47	50	124	62	1.2	3	4	2	2
VPA56	53	56	124	62	1.2	3	4	2	2
VPA63	63	63	132	62	1.2	3	4	2	2
VPA66	66	66	133	62	1.2	3	4	2	2
VPA71	71	71	137	62	1.2	3	4	2	2
VPA75	75	75	145	67	1.2	3	6	2	2
VPA4	90	90	183	67	1.2	3	6	2	2
VPA96	(2) 47	96	166	170	1.2	3	6	2	2
VPA100	100	100	170	67	1.2	3	6	2	2



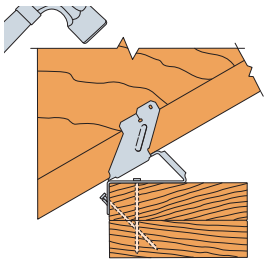
Performance Values

Model No.	Fasteners		Safe Working Loads [kN]			Characteristic Capacities [kN]								
	Header	Joist				Solid Section			I-Joists					
	N3.75x75	N3.75x30							LVL Flanges			Solid Flanges		
	Qty	Qty	$R_{2,SWL,Short\ Term}$	$R_{1,SWL,Med\ Term}$	$R_{1,SWL,Short\ Term}$	$R_{1,k}$	$R_{2,k}$	$R_{3\&4,k}$	$R_{1,k}$	$R_{2,k}$	$R_{3,k}=R_{4,k}$	$R_{1,k}$	$R_{2,k}$	$R_{3,k}=R_{4,k}$
VPA25	8	2	3.7	1.1	1.5	5.6	1.4	1.0	5.6	3.9	1.9	5.6	1.4	0.7
VPA50	9	2	2.5	0.7	0.5	5.2	1.4	1.0	5.2	3.9	1.9	5.2	1.4	0.7
VPA56	9	2	2.7	0.7	0.5	5.6	1.4	1.0	5.6	3.9	1.9	5.6	1.4	0.7
VPA63	9	2	2.7	0.7	0.5	5.6	1.4	1.0	5.6	3.9	1.9	5.6	1.4	0.7
VPA66	9	2	2.7	0.7	0.5	5.6	1.4	1.0	5.6	3.9	1.9	5.6	1.4	0.7
VPA71	9	2	2.7	0.7	0.5	5.6	1.4	1.0	5.6	3.9	1.9	5.6	1.4	0.7
VPA75	11	2	3.7	0.7	0.5	7.8	1.4	1.0	7.8	3.9	1.9	7.8	1.4	0.7
VPA4	11	2	4.6	1.1	1.5	7.8	1.4	1.0	7.8	3.9	1.9	7.8	1.4	0.7
VPA96	11	2	3.7	0.7	0.5	7.8	1.4	1.0	7.8	3.9	1.9	7.8	1.4	0.7
VPA100	11	2	3.7	0.7	0.5	7.8	1.4	1.0	7.8	3.9	1.9	7.8	1.4	0.7
VPA100	11	2	3.7	0.7	0.5	7.8	1.4	1.0	7.8	3.9	1.9	7.8	1.4	0.7
VPA96	11	2	3.7	0.7	0.5	7.8	1.4	1.0	7.8	3.9	1.9	7.8	1.4	0.7

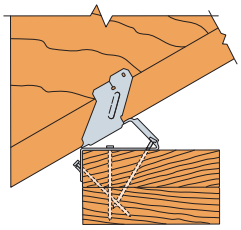




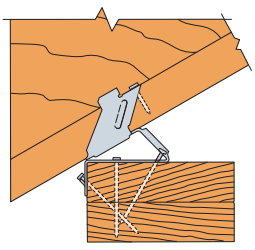
Install top nails and face PAN nails in the “A” flange outside wall top plate.



Seat rafter with a hammer, adjusting the “B” flange to the required pitch.



Install “B” flange nails in the obround nail holes, locking the pitch.



Install rafter PAN nails.

LSSU/LSU

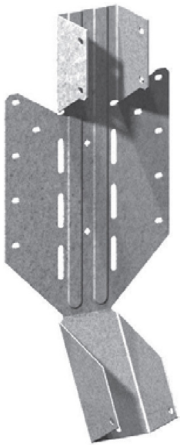
Light Slope & Skew Adjustable Hangers

With these site adjustable hangers, you can always have the right hanger available for those special rush projects. This versatile range of products attaches joists/rafters to timber supports at any slope, up or down or at any skew, left or right up to and including 45°. All models are slope and skew adjustable on site, excluding the LSU228/108, LSU228/120 and the LSU124/38 which are slope only.

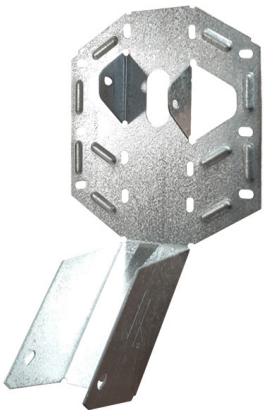
Material: Pre-galvanised mild steel.

Installation:

Use all specified fasteners. See "General Notes".
Bend only once.
To ensure proper seat installation, install the bottom nails before the side nails. Attach the sloped joist at both ends so the horizontal force developed by the slope is fully supported by the carried members. Web stiffeners are required with I-joists using this hanger style. For field skewing, see install sequence below.



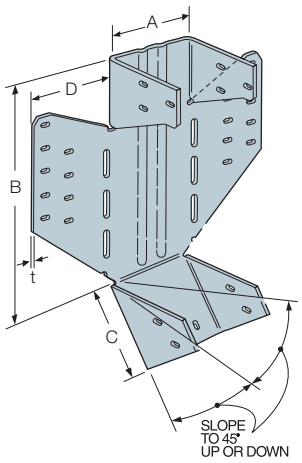
LSSU

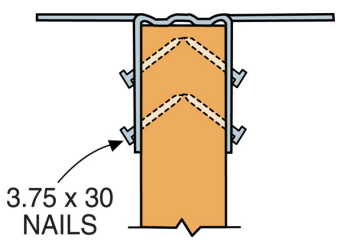


LSU

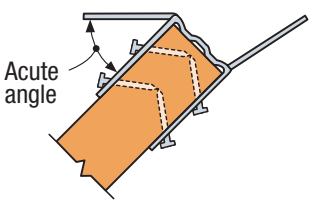
Product Dimensions

Model No.	Joist [mm]			Dimensions [mm]					Header Holes				Joist Holes
	Width	Height							Obrounds				Obrounds
	Max	Min	Max	A	B	C	D	t	Ø4x6	Ø5x17	Ø5x25	Ø5x44	Ø4x6
LSU124/38	38	150	150	38	124	75	38	1.2	14	-	-	-	5
LSSU181/38	38	241	241	38	181	90	44	1.2	10	-	6	-	5
LSSU216/38	38	302	302	38	216	90	44	1.2	10	-	6	-	7
LSSU216/45	45	241	356	45	216	90	44	1.2	10	-	6	-	7
LSSU170/50	50	195	245	50	170	90	58	1.2	10	6	-	-	11
LSSU275/50	50	300	450	50	275	90	58	1.2	18	-	-	6	11
LSSU216/52	52	241	356	52	216	90	47	1.2	10	-	6	-	7
LSSU216/60	60	241	356	60	216	90	50	1.2	10	-	6	-	7
LSSU170/66	66	195	245	66	170	90	58	1.2	10	6	-	-	11
LSSU275/66	66	300	450	66	275	90	58	1.5	18	-	-	6	11
LSSU170/71	71	195	300	71	170	90	65	1.2	10	6	-	-	11
LSSU275/71	71	195	450	71	275	90	65	1.2	18	-	-	6	11
LSSU170/75	75	195	300	75	170	90	65	1.2	10	6	-	-	11
LSSU275/75	75	300	400	75	275	90	65	1.2	18	-	-	6	11
LSSU216/78	78	241	241	78	216	90	75	1.6	18	-	6	-	12
LSSU216/90	90	241	356	90	216	90	69	1.6	18	-	6	-	12
LSSU170/96	96	195	300	96	170	90	80	1.2	10	6	-	-	11
LSSU275/96	96	300	450	96	275	90	80	1.2	18	-	-	6	11
LSSU170/100	100	195	300	100	170	90	80	1.2	10	6	-	-	11
LSSU275/100	100	300	400	100	275	90	80	1.2	18	-	-	6	11
LSU228/105	105	241	356	105	229	90	59	1.2	24		-	-	16
LSU228/120	120	241	356	120	229	90	89	2	24		-	-	16

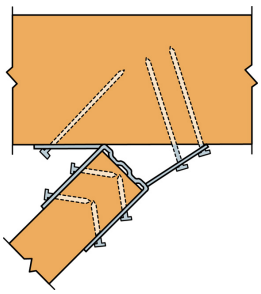




Nail hanger to slope-cut carried member, installing seat nail first. No bevel necessary for skewed installation.



Skew flange to form acute angle. Bend other flange back along centre line of slots. Bend once only.



Attach hanger to the carrying member, acute angle side first, install nails at an angle.

LSSU/LSU

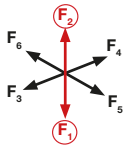
Performance Values - Sloped Hangers Only

Model No.	Fasteners			Safe Working Loads [kN]						Characteristic Capacities [kN]			
	Header		Joist	LVL Flanged I-Joist			Solid Sawn Flanged I-Joist or C24 Solid Section			LVL Flanged I-Joist		Solid Sawn Flanged I-Joist or C24 Solid Section	
	N3.75x75	N4.0x100	N3.75x30	$R_{1,SWL,Long\ Term}$	$R_{1,SWL,Medium\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,SWL,Long\ Term}$	$R_{1,SWL,Medium\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,k}$	$R_{2,k}$	$R_{1,k}$	$R_{2,k}$
	Qty	Qty	Qty										
LSU124/38	6	-	5	2.8	3.2	1.3	3.0	3.5	1.3	6.8	2.6	7.3	2.6
LSSU181/38	10	-	5	2.1	2.4	1.2	3.0	3.5	1.2	5.1	2.4	7.3	2.4
LSSU216/38	10	-	7	2.1	2.4	1.2	3.0	3.5	1.2	5.1	2.4	7.3	2.4
LSSU216/45	10	-	7	2.1	2.4	1.2	3.0	3.5	1.2	5.1	2.4	7.3	2.4
LSSU170/50	10	-	11	-	-	-	4.7	5.4	2.9	-	-	11.4	5.7
LSSU275/50	18	-	11	-	-	-	4.4	5.0	2.9	-	-	10.6	5.7
LSSU216/52	10	-	7	2.1	2.4	1.2	-	-	-	5.1	2.4	-	-
LSSU216/60	10	-	7	2.1	2.4	1.2	4.1	4.7	2.0	5.1	2.4	9.9	4.0
LSSU170/66	10	-	11	-	-	-	4.7	5.4	2.9	-	-	11.4	5.7
LSSU275/66	18	-	11	-	-	-	4.4	5.0	2.9	-	-	10.6	5.7
LSSU170/71	10	-	11	3.8	4.4	1.2	4.7	5.4	2.9	9.1	2.4	11.4	5.7
LSSU275/71	18	-	11	3.8	4.4	1.2	4.4	5.0	2.9	9.1	2.4	10.6	5.7
LSSU170/75	10	-	11	-	-	-	4.7	5.4	2.9	-	-	11.4	5.7
LSSU275/75	18	-	11	-	-	-	4.4	5.0	2.9	-	-	10.6	5.7
LSSU216/78	18	-	12	3.8	4.4	1.2	-	-	-	9.1	2.4	-	-
LSSU216/90	18	-	12	4.7	5.3	1.5	5.2	5.9	2.4	11.2	3.0	12.5	4.8
LSSU170/96	10	-	11	-	-	-	4.7	5.4	2.9	-	-	11.4	5.7
LSSU275/96	18	-	11	-	-	-	4.4	5.0	2.9	-	-	10.6	5.7
LSSU170/100	10	-	11	-	-	-	5.5	6.2	2.9	-	-	13.1	5.7
LSSU275/100	18	-	11	-	-	-	6.0	6.8	2.9	-	-	14.3	5.7
LSU228/105	-	24	16	4.7	5.3	3.0	-	-	-	11.2	6.0	-	-
LSU228/120	-	24	16	6.3	7.2	3.0	5.2	6.0	2.3	15.2	6.0	12.6	4.6

Performance Values - Skewed Hangers or Sloped & Skewed

Model No.	Fasteners			Safe Working Loads [kN]						Characteristic Capacities [kN]			
	Header		Joist	LVL Flanged I-Joist			Solid Sawn Flanged I-Joist or C24 Solid Section			LVL Flanged I-Joist		Solid Sawn Flanged I-Joist or C24 Solid Section	
	N3.75x75	N4.0x100	N3.75x30	$R_{1,SWL,Long\ Term}$	$R_{1,SWL,Medium\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,SWL,Long\ Term}$	$R_{1,SWL,Medium\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,k}$	$R_{2,k}$	$R_{1,k}$	$R_{2,k}$
	Qty	Qty	Qty										
LSSU181/38	9	-	5	1.4	1.6	0.7	1.4	1.5	1.2	3.5	1.5	3.2	2.4
LSSU216/38	9	-	7	1.4	1.6	0.7	1.4	1.5	1.2	3.5	1.5	3.2	2.4
LSSU216/45	9	-	7	1.4	1.6	0.7	3.4	3.9	1.2	3.5	1.5	8.1	2.4
LSSU170/50	9	-	11	-	-	-	2.6	3.0	2.9	-	-	6.3	5.7
LSSU275/50	15	-	11	-	-	-	4.5	5.1	2.9	-	-	10.8	5.7
LSSU216/52	9	-	7	1.4	1.6	0.7	-	-	-	3.5	1.5	-	-
LSSU216/60	9	-	7	1.4	1.6	0.7	3.4	3.9	2.0	3.5	1.5	8.1	4.0
LSSU170/66	9	-	11	-	-	-	2.6	3.0	2.9	-	-	6.3	5.7
LSSU275/66	15	-	11	-	-	-	4.5	5.1	2.9	-	-	10.8	5.7
LSSU170/71	9	-	11	2.8	3.2	1.2	2.6	3.0	2.9	6.8	2.4	6.3	5.7
LSSU275/71	15	-	11	2.8	3.2	1.2	2.6	3.0	2.9	6.8	2.4	6.3	5.7
LSSU170/75	9	-	11	-	-	-	2.6	3.0	2.9	-	-	6.3	5.7
LSSU275/75	15	-	11	-	-	-	4.5	5.1	2.9	-	-	10.8	5.7
LSSU216/78	14	-	12	2.8	3.2	1.2	-	-	-	6.8	2.4	-	-
LSSU216/90	14	-	12	3.0	3.4	1.5	3.0	3.4	2.4	7.2	3.0	7.1	4.8
LSSU170/96	9	-	11	-	-	-	2.6	3.0	2.9	-	-	6.3	5.7
LSSU275/96	15	-	11	-	-	-	4.5	5.7	2.9	-	-	10.8	5.7
LSSU170/100	9	-	11	-	-	-	2.0	2.2	2.9	-	-	4.7	5.7
LSSU275/100	15	-	11	-	-	-	3.4	3.9	2.9	-	-	8.2	5.7
LSU228/105	-	24	16	3.0	3.4	1.5	-	-	-	7.2	3.0	-	-
LSU228/120	-	24	16	4.6	5.3	1.8	5.0	5.7	2.3	11.1	3.7	11.9	4.6

Note: LSU228/105 and LSU228/120 are factory skewed, site sloped.



VTCR

Valley Truss Clip

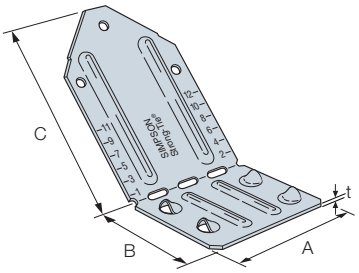
The VTCR is designed to connect valley trusses to common trusses.

- Structural valley connection.
- Single sided for new construction or retro fit.
- Site adjustment for pitch. Adjustable between 10 and 40 degrees.
- Eliminates bottom chord bevelling or wedging.
- Reduces valley installation cost.
- Reduces valley truss manufacture cost.

Material: Pre-galvanised mild steel.

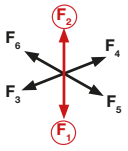
Product Dimensions

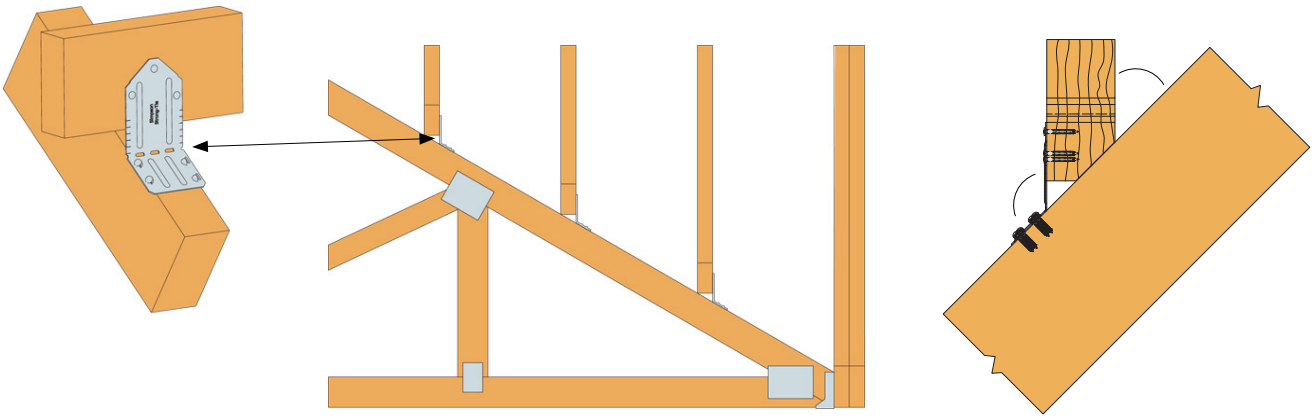
Model No.	Dimensions [mm]				Flange B	Flange C
	A	B	C	t	Ø3.8 Dome	Ø4
VTCR	64	51	90	1.2	4	3



Performance Values

Model No	Fasteners				Safe Working Loads [kN]		Characteristic Capacity [kN]	
	Common Truss (Flange A)		Valley Truss (Flange B)		$R_{1,SWL,Long\ Term}$	$R_{2,SWL,Short\ Term}$	$R_{1,K}$	$R_{2,K}$
	Qty	Type	Qty	Type				
VTCR	4	N3.35x65	3	N3.75x30	3.5	1.6	8.0	1.0





VTCR Installation

Hip Ridge Connector

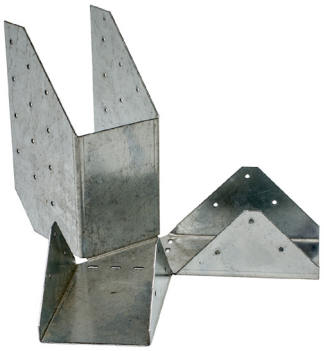
The HRC is a one-piece connector for supporting hip members from the ridge beam or rafters.

It is site adjustable for slopes up to 45°, to cater for the hip pitch for both left and right rafters.

Material: Pre-galvanised mild steel.

Installation:

- On the end of the ridge, use optional slots to secure the HRC50 and HRC1.81. Bend face flanges back flush with the ridge, and complete the nailing.
- On face of ridge, adjust to correct height and install nails.
- Obround nail holes ease rafter installation.
- Optional diamond holes on the HRC range (except HRC44) are for installation convenience.
- Double bevel cut hip members to achieve full bearing capacity.
- May be sloped to 45° with no reduction in loads.

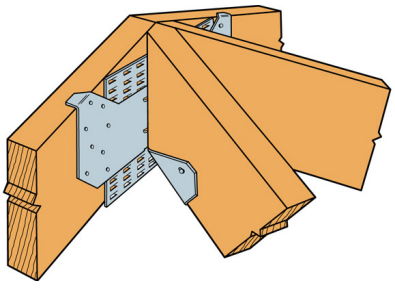


Product Dimensions

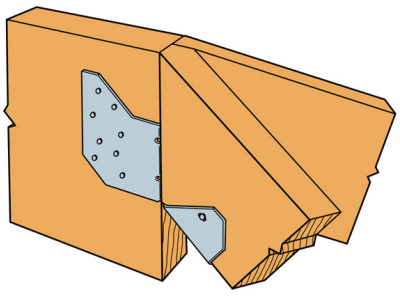
Model No.	Ridge Thickness [mm]	Dimensions [mm]					Header Holes		Joist Holes		
		A	B	C	D	t	Ø4	Ø4.3	Ø4.3	Ø4 3x8 Obround	Ø4x6 Obround
HRC1.81	38 - 50	46	118	87	218	1.5	-	16	-	4	-
HRC50	38 - 50	50	118	87	218	1.5	16	-	-	-	4
HRC44	90	90	216	148	90	2.0	-	24	12	-	-

Performance Values

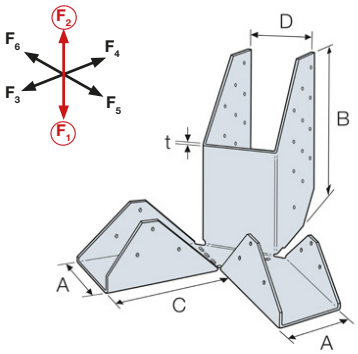
Model No.	Fasteners		Safe Working Loads [kN]				Characteristic Capacities [kN]			
	Header	Joist	$R_{1,SWL,Medium\ Term}$		$R_{2,SWL,Short\ Term}$		$R_{1,k}$		$R_{2,k}$	
	Qty	Qty	N3.75x30	N4.0x90	N3.75x30	N4.0x90	N3.75x30	N4.0x90	N3.75x30	N4.0x90
HRC	16	4	3.5	-	0.9	-	2.8	-	0.9	-
	24	12	-	6.8	-	1.9	-	10.4	-	3.5



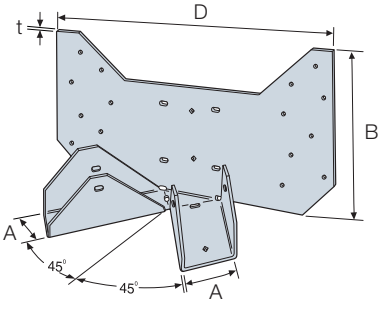
Typical HRC1.81 Installation



Typical HRC44 Installation



HRC44



HRC1.81 & HRC50

TFLS

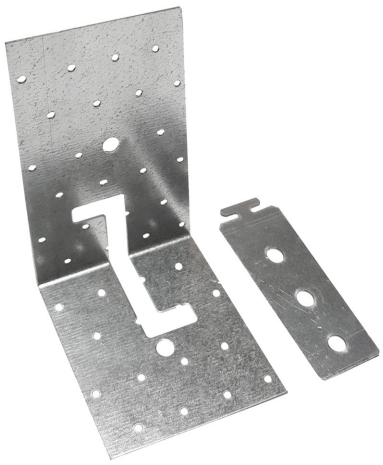
Levelling System

The TFLS provides the combined function of levelling and fixing the timber sole plate to the foundation or substructure.

It comprises of a universal base plate and packing pieces which can be added or removed as required. The system transfers vertical and lateral loads from the wall to the foundation.

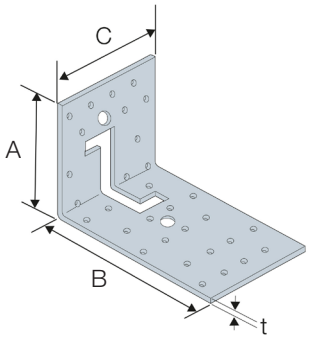
Material: Pre-galvanised mild steel.

- Suitable for use with traditional timber frame walls and closed panel systems.
- Adaptable - accommodates structural packing up to 30mm deep.
- Universal - suitable for walls widths of 89mm and 140mm.
- Flexible - packing pieces can easily be added or removed from the base plate to achieve the required depth.
- Structural - Satisfies NHBC requirements for permanent structural packing of the sole plate when installed at load points.
- Multiple nail holes in bracket offer a variety of nailing options.



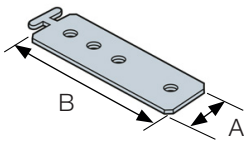
Product Dimensions - Bracket

Model No.	Dimensions [mm]				Holes			
					Flange A		Flange B	
	A	B	C	t	Ø3	Ø8	Ø3	Ø8
TFLSB	90	140	83	1	11	1	19	1

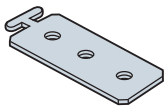


Product Dimensions - Packers

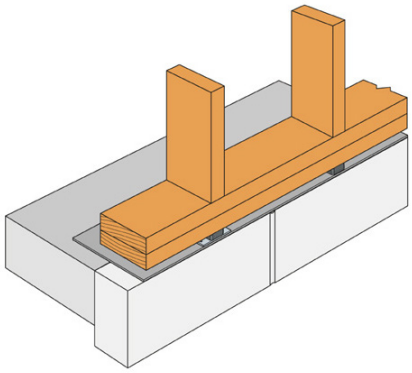
Model No.	Dimensions [mm]			Holes
	A	B	t	Ø8
TFLSPK89	39	89	2	3
TFLSPK140	39	140	2	4



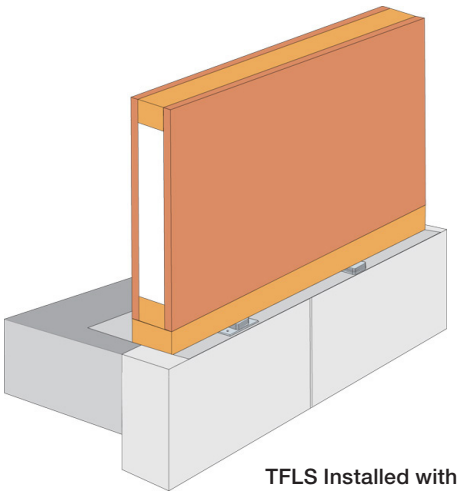
TFLSPK140



TFLSPK89



Typical TFLS Installation



TFLS Installed with SIP Panels

Please Note:

- The TFLS is laid on top of the DPC.
- Fixing of the TFLS bracket to the foundation and the sole plate shall be in accordance with the engineer's instructions.
- If the TFLS bracket and/or packers are installed at every load point then it is not necessary to fill the void between the underside of the sole plate and the foundation with structural grout (filling of void may be required to satisfy other regulations or requirements, i.e. Part L and Part E regulations).

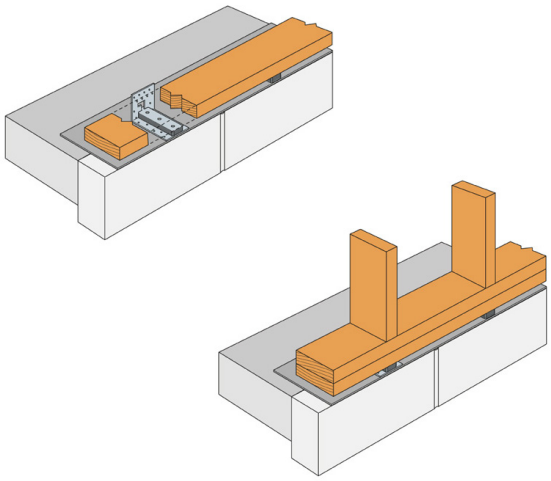
TFLS

Standard Installation.
Starting at the highest point of the foundation slab, position and install the TFLS bracket, including one packer underneath the sole plate.

Position and install a second TFLS bracket at one end of the sole plate and level to the first by adding packers to the second TFLS bracket. If necessary, install a third TFLS at the other end of the sole plate and level to the first.

Infill between TFLS brackets with additional brackets. Level by adding packers as necessary to each bracket. Ideally position infill brackets under load points (stud positions) at centres specified by the engineer/building designer.

Repeat process around the rest of the building. Once the ground floor walls are in situ, install packers under the load points not supported by a TFLS bracket.

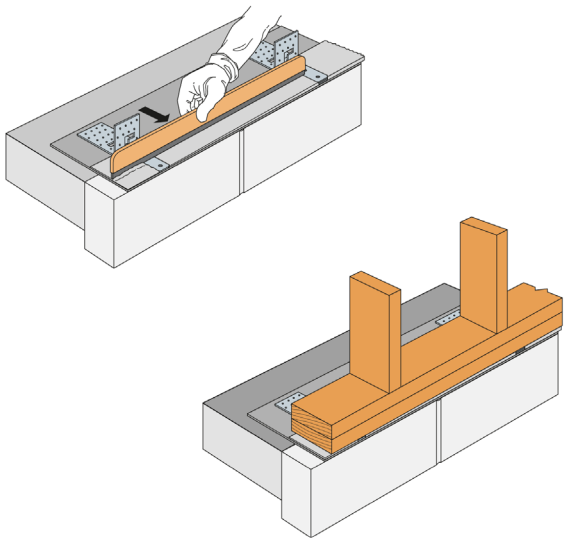


Alternate Installation (aids levelling the mortar bed).
Starting at the highest point of the foundation slab, position and install the TFLS bracket including one packer.

Position and install a second TFLS bracket at the opposite end of the foundation slab and level to the first by adding packers as necessary to the second TFLS bracket.

Infill between first and second TFLS brackets with additional brackets. Level by adding packers as necessary to each bracket.

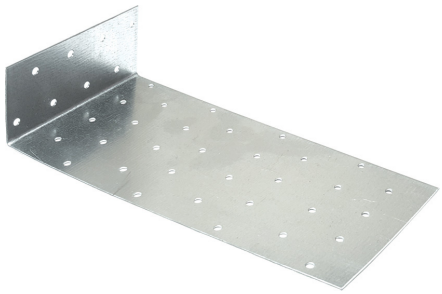
Using the levelled TFLS as a guide, mortar between the brackets to produce a level base for the sole plate to sit on - ensuring the mortar bed is the full width of the sole plate.



SPA

Sole Plate Anchor

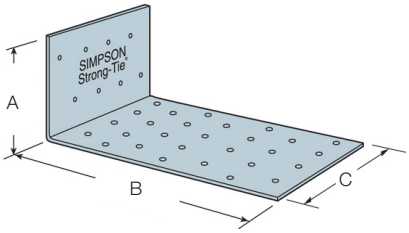
The SPA is a versatile bracket used to attach timber sole plates to concrete foundations.



Installation:

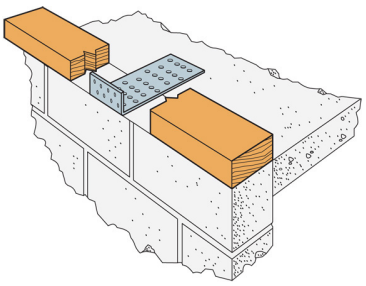
- Fasteners can be located where suitable.
- The SPA is laid on top of the DPC, lined up and shotfired to the concrete base.
- The timber is then laid down and secured with nails through the upright flange of the anchor.

Material: Pre-galvanised mild steel.



Product Dimensions

Model No.	Dimensions [mm]				Holes Flange A	Holes Flange B
	A	B	C	t	Ø3	Ø3
SPA38	37	191	83	1	8	28
SPA50	52	177	83	1	8	28



Hold Down Strap

ETFSS hold down strap provides restraint against uplift to timber frame structures keeping them firmly to the ground.

- Quick and simple to install.
- One size strap suits cavities from 50 to 100mm.
- Meets NHBC Technical requirements.
- Meets NSAI Technical requirements.

Material: Stainless steel.

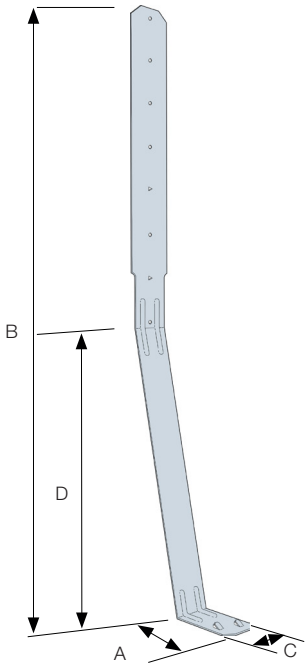
Installation: Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.

Note: Use 3.35x50mm Stainless steel annular ring shank nails.

Product Dimensions & Performance Values

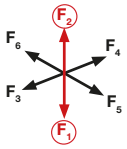
	Model No.	Dimensions [mm]					Holes		
							Flange A	Flange B	
		A	B	C	D	t	Ø4.6 Pan	Ø4.1	Tri
SS	ETFSS	75	723	33	380	1.2	2	6	2
SS	ETFSS06	75	533	33	380	1.2	2	4	-

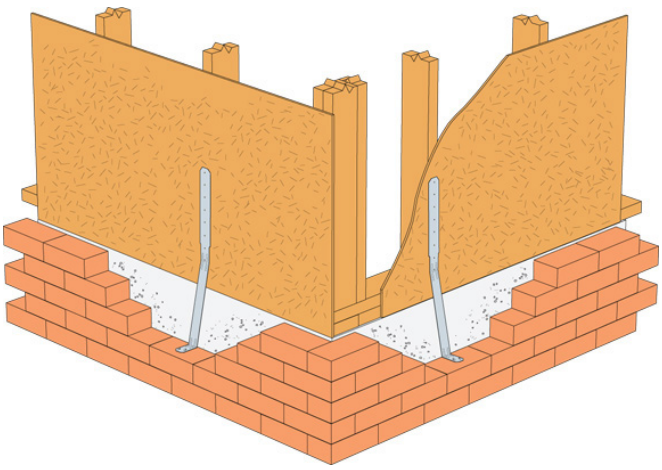
1. Fasteners to be 3.35x50mm S/S annular ring shank nails.



Performance Values

Model No.	Cavity [mm]	Fasteners	Safe Working Load [kN]	Characteristic Load [kN]
			$R_{2,SWL,Short\ Term}$	$R_{2,k}$
			NSS3.35x50	NSS3.35x50
ETFS	50	6	3.0	6.3
	51-100	8	1.5	3.2
ETFSS06	50	4	2.7	5.4
	51-100	4	1.4	2.9





Standard ETFSS Installation
Location and spacing of straps to be specified by the building designer.

Insulation Clip

The IC Insulation clip provides a quick and simple method of retaining rigid insulation within a timber frame panel, creating a controlled gap for services. The IC saves time by allowing the insulation to be installed from the same side as the sheathing, which elminates the need to turn the panel during construction.

Since it fixes to the stud via the speed prong feature - no nailing is required.

- Sizes to suit common stud widths.
- Multiple depths to suit common thickness of rigid insulation.
- Insulation installed same side as the sheathing - panel no longer needs to be turned during construction.
- No nails required, speed prong feature fixes into the stud.
- Split into two halves for single use around door and window openings, cripple studs and panel end studs.

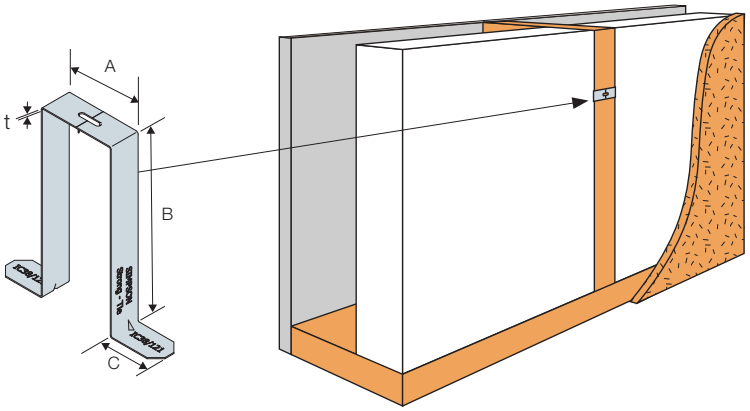
Material: Pre-galvanised mild steel.

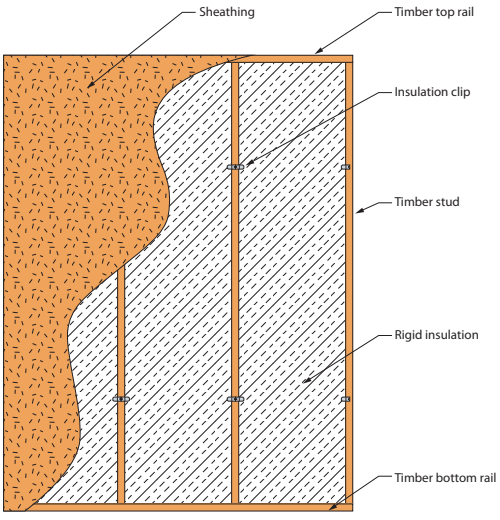
Product Dimensions

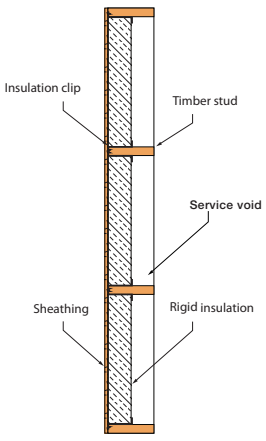
Model No.	Dimensions [mm]			
	A	B	C	t
IC71/38	38	71	18	0.55
IC81/38	38	81	18	0.55
IC91/38	38	91	18	0.55
IC101/38	38	101	18	0.55
IC106/38	38	106	18	0.55
IC111/38	38	111	18	0.55
IC121/38	38	121	18	0.55
IC136/38	38	136	18	0.55
IC165/38	38	165	18	0.55
IC176/38	38	176	18	0.55
IC71/45	45	71	18	0.55
IC91/45	45	91	18	0.55
IC101/45	45	101	18	0.55
IC106/45	45	106	18	0.55
IC111/45	45	111	18	0.55
IC121/45	45	121	18	0.55
IC165/45	45	165	18	0.55
IC176/45	45	176	18	0.55

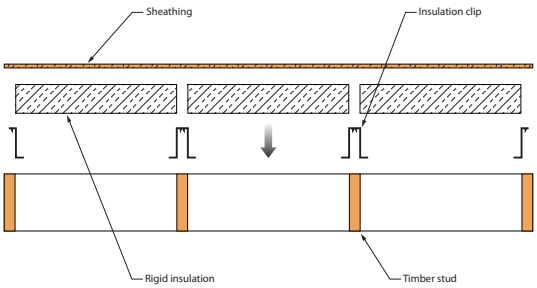
Installation:

1. Make up the timber frame panel with the top and bottom rails and studs.
2. Position IC clip on the studs and fix.
3. Cut rigid insulation to size and push fit between the studs.
4. Fix sheathing board onto the panel.









TFPC

Timber Frame Panel Closer

The TFPC timber frame panel closer is used to draw timber panels together.
It helps minimise air leakage at the joint between timber frame panels and avoids the damage to the exterior substrate when using screws alone. It can also be used for panel to sole plate applications. The unique (patent pending) screw guide ensures that the fastening is driven quickly and accurately.

- Screw guide ensures fast, accurate installation.
- Simple method of joining panels and reducing air leakage without damaging the exterior substrate.
- Screw thread design clinches the panels firmly together.
- For panel-to-panel or panel-to-sole plate connections.
- All fasteners supplied.

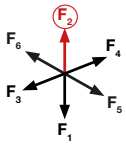
Material: Pre-galvanised mild steel.

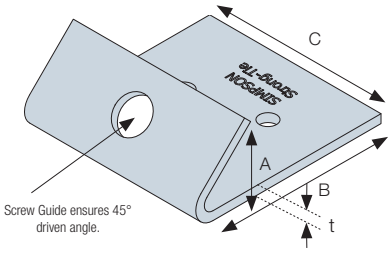
Product Dimensions

Model No.	Dimensions [mm]				Flange A Holes	Flange B Holes	
	A	B	C	t	Ø10	Ø5	Ø8x14 Obround
TFPC	21	54	50	2.5	1	2	1

Performance Values

Model No.	Fastener Qty		Characteristic Capacities [kN]	
	Flange A	Flange B	Shear	$R_{2,K}$
	SDW22458	N3.75x30		
TFPC	1	2	3.0	1.9



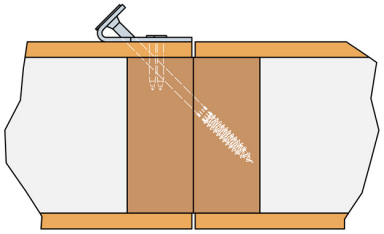


Panel-to-Panel Installation:

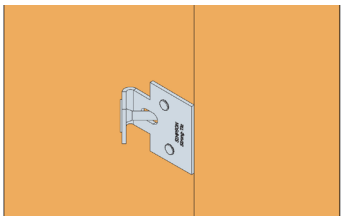
- Securely fix the first panel in place (propping if necessary). Position the second panel in line with the first and apply mastic to the vertical stud (if required). Connect the panels using the TFPC as follows:
- 1. Use 4 x TFPC per 2.4m vertical panel joint, starting 300mm from the base, then at 600mm centres.
- 2. Position the TFPC (panel closer) so that the edge of the TFPC is in line with the edge of the timber frame panel.
- 3. Fix the TFPC to the timber frame panel using two 3.75 X 30mm square twist nails (included).
- 4. Insert the SDW22458 structural screw into the panel closer, maintaing an angle of 45° to close the gap between the panels.
- 5. Fold the breather membrane over the TFPC and fix in place.
- 6. It is recommended to fit the bottom TFPC first, then the top one, followed by the two in the middle.

Panel-to-Sole Plate:

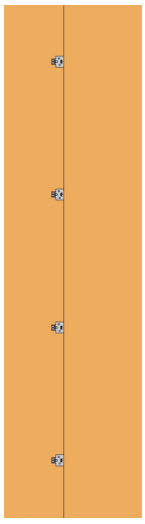
- 1. Use 1 x TFPC at 600mm centres horizontally or as specificed by the structural engineer.
- 2. Position the TFPC (panel closer) so that the bottom edge of the TFPC is in line with the bottom edge of the timber frame panel.
- 3. Fix the TFPC to the timber panel using two 3.75 X 30mm square twist nails.
- 4. Insert the SDW22458 structural screw into the panel closer, maintaining an angle of 45°, to fix the timber panel to the sole plate



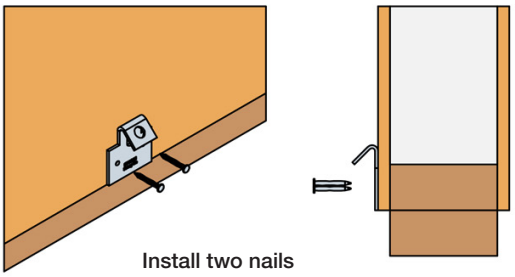
Panel closer installed cross section



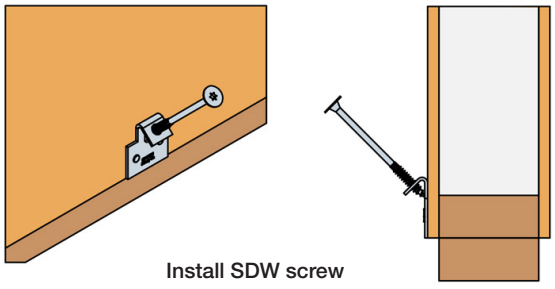
Panel to panel installation



4 x TFPC per 2.4m high panel



Install two nails



Install SDW screw

Party Wall Tie

The PWT200 is the first connector specifically designed and engineered to connect the party walls of timber framed buildings.

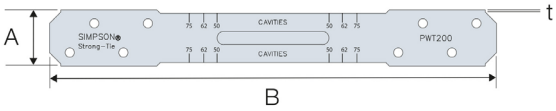
It's manufactured using minimum material section for optimum sound performance. This allows the tie to meet the requirements of Part E of the Building Regulations (Resistance to the Passage of Sound), whilst incorporating a unique stiffening rib for maximum structural capacity. The Party Wall Tie has cavity widths of 50, 62 and 75mm stamped on the upper surface to help check for a consistent cavity width up through the building.

- Meets the requirements of Part E of The Building Regulations (Resistance to the Passage of Sound).
- Suits timber frame party wall cavities from 50 to 75mm.
- Can be used on Closed Panel Construction – where 50mm stiffening rib helps to check that minimum 50mm cavity width has been achieved.
- Minimum material section for optimum sound performance.

Material: Pre-galvanised mild steel.

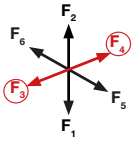
Product Dimensions

Model No.	Dimensions [mm]			Holes
	A	B	t	Ø4.1
PWT200	25	200	1.5	8



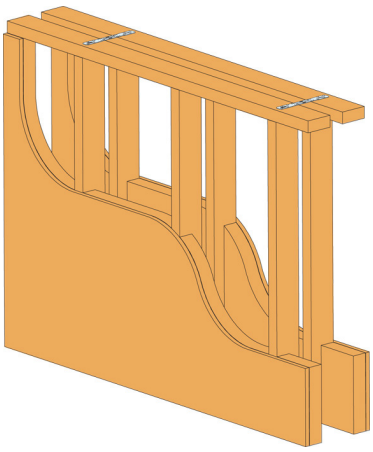
Performance Values

Model No.	Fasteners	Safe Working Load [kN]
		$R_{3\ \&\ 4,\ SWL,\ Long\ Term}$
		N3.75x30
PWT200	8	1.78

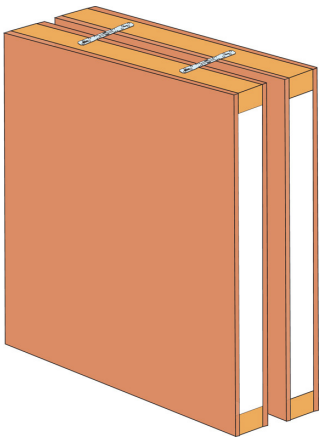


Installation:

- Quick and easy installation.
- Nail holes positioned to ensure Minimum Nail Edge Distances are always achieved.
- In order to minimise the risk of sound transfer, it is recommended that the PWT200 is installed at 1200mm centres, unless otherwise specified by the building designer or engineer.
- The PWT200 is to be installed at, or near ceiling level.



Typical PWT Installation



PWT Installed on SIP

A34E/A35E

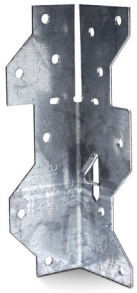
Framing Anchors

The A35E anchor's exclusive bending slot allows instant, accurate bending on site for all two and three-way connections.

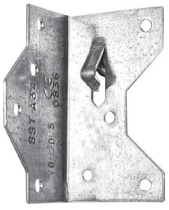
- Balanced, completely reversible design allows the A35E to be used to secure a wide variety of connections.

Material: Pre-galvanised mild steel.

Installation: Use all the specified fasteners.



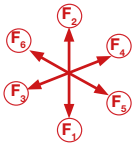
A35E

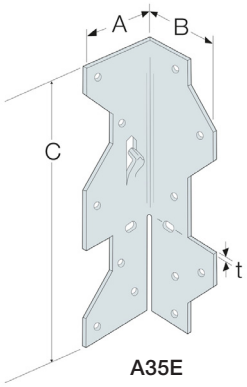


A34E

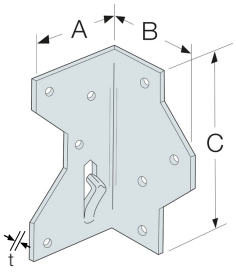
Product Dimensions

Model No.	Dimensions [mm]				Holes	
					Flange A	Flange B
	A	B	C	t	Ø4.1	Ø4.1
A34E	33	33	64	1.2	4	4
A35E	33	33	114	1.2	6	6





A35E



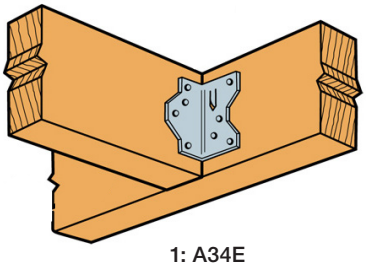
A34E

Performance Values

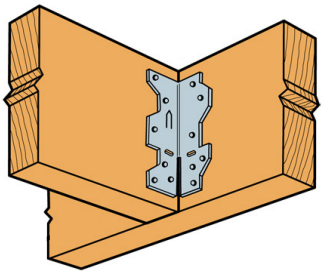
Model No.	Fasteners		Installation	Safe Working Loads [kN] - Timber C16												Characteristic Capacities [kN](3) Timber C24
	Flange A	Flange B		Long term						Medium Term						
	N3.75x30	N3.75x30		$R_{1,SWL}$	$R_{2,SWL}$	$R_{3,SWL}$	$R_{4,SWL}$	$R_{5,SWL}$	$R_{6,SWL}$	$R_{1,SWL}$	$R_{2,SWL}$	$R_{3,SWL}$	$R_{4,SWL}$	$R_{5,SWL}$	$R_{6,SWL}$	$R_{2,k}$
A34E	4	4	1	1.3	1.3	-	1.1	-	-	1.5	1.5	-	1.2	-	-	-
A35E	6	6	2	1.3	1.3	-	1.5	-	-	1.5	1.3	-	1.7	-	-	-
A35E	6	3	3	-	1.0	-	-	0.6	1.0	-	1.1	-	-	0.7	1.1	5.3
A35E	6	6	4	-	1.0	1.0	0.6	-	-	-	1.1	1.1	0.7	-	-	5.3

(3) Based upon 2 No brackets installed diagonally opposite to each other.

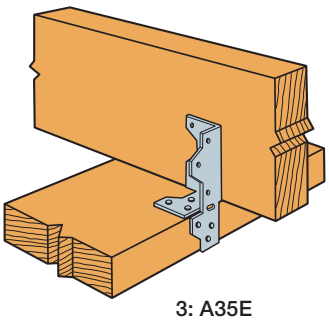
Type of connections



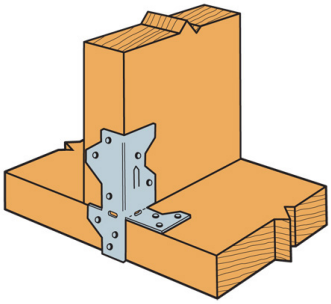
1: A34E



2: A35E

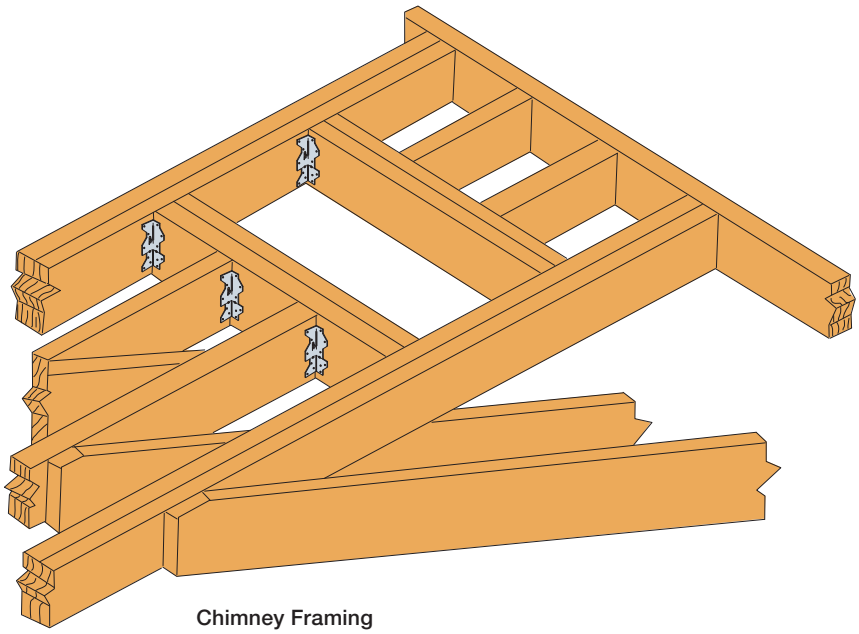


3: A35E

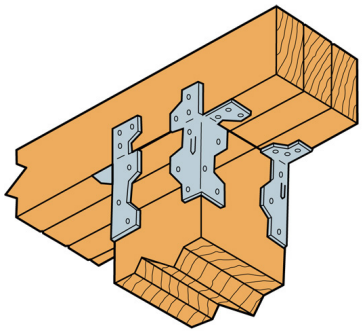


4: A35E

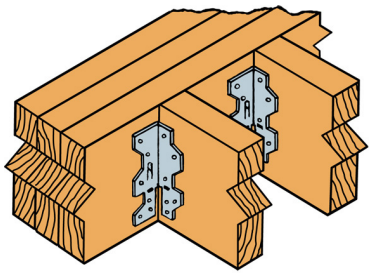
A34E/A35E



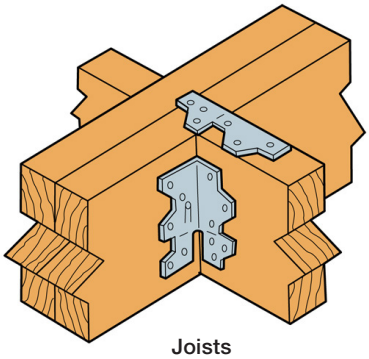
Chimney Framing



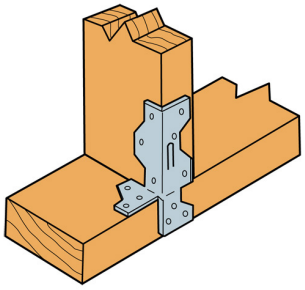
Beam to Posts
A and B Legs Outside



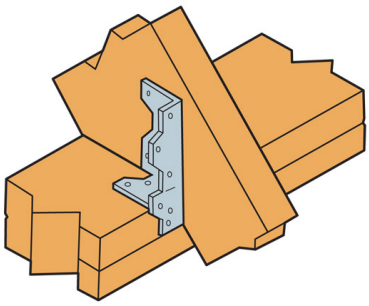
Ceiling Joists
To Beam



Joists
To Beam



Studs to Plate
with B Leg Outside



Joists to Plate
with A Leg Inside

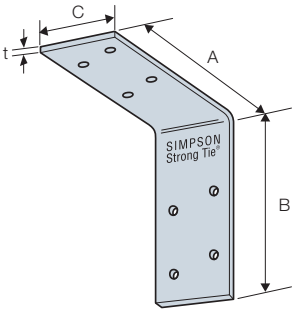
Angles

The 'A' angles versatility means it can be used in many applications requiring 90° fixing.

Material: Pre-galvanised Mild Steel.

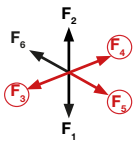
Product Dimensions

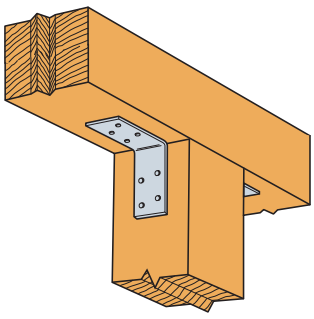
Model No.	Dimensions [mm]				Holes					
	A	B	C	t	Flange A			Flange B		
					Ø4.3	Ø4.0	Ø11	Ø4.3	Ø4.0	Ø11
A21	38	50	35	1.2	2	-	-	2	-	-
A23	38	50	70	1.2	4	-	-	4	-	-
A33	75	75	38	2.5	-	4	-	-	4	-
A88	200	200	50	2.5	-	4	3	-	4	3



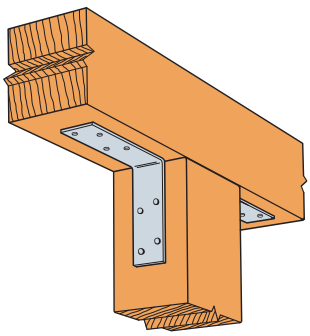
Performance Values

Model No.	Number of Fasteners						Safe Working Loads [kN]	
	Onto Post			Onto Beam				
	M10	N3.75x30	N3.75x75	M10	N3.75x30	N3.75x75	$R_{5, SWL, Long Term}$	$R_{3/4, SWL, Long Term}$
A21	-	2	-	-	2	-	0.6	0.5
A23	-	4	-	-	4	-	1.2	1.2
A33	-	-	4	-	-	4	1.8	1.8
A88	3	-	-	3	-	-	-	-

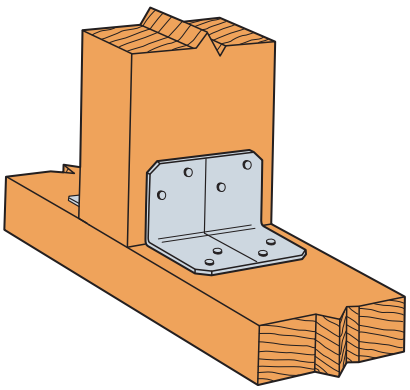




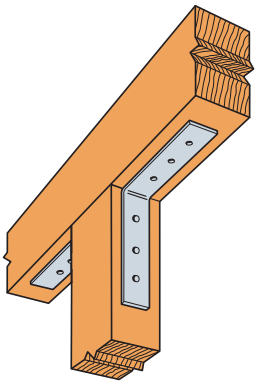
A23



A33



A21/23



A88

Angle Brackets and Ties

Characteristic Values

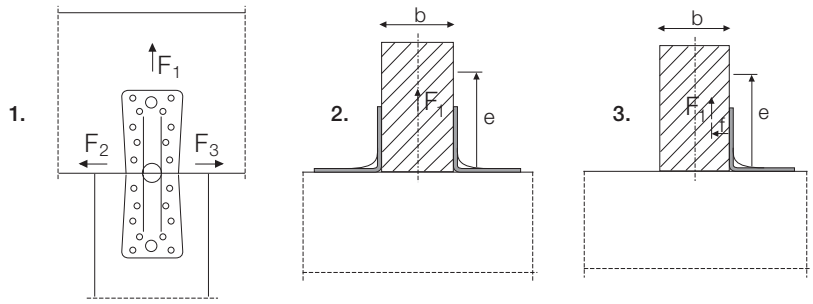
The characteristic values (F_k) have been determined in accordance with Eurocode 5 and ETAG 015, which are defined by the relevant European Technical Approval. The design values are obtained from the following formula:

$$F_{design} = \frac{F_k \times k_{mod}}{\gamma_m}$$

Where: K_{mod} - modification factor, dependent on the service class, the duration of load and the type of material used.

γ_m - partial safety factor.

Load Application



1. Beam or rigid support.
2. 2 Brackets per assembly.
3. 1 bracket per assembly.

F_1 - Tensile Force

When application is with 2 brackets the tensile force occurs in the central axis of the joint.

When application is with 1 bracket only:

If the structure prevents rotation or failure of the supported member, the tensile resistance is equal to half of the value for 2 brackets - otherwise:

The tensile resistance of the assembly depends on the distance << f >> between the vertical contact surface and the point of load application.

F_2 & F_3 - Lateral Force:

When application is with 1 bracket only: the value of resistance is equal half of that given for two brackets.

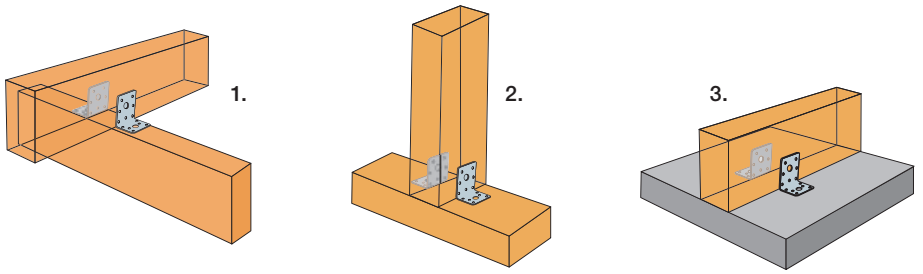
Combined Loads

In cases of combined loads, the following check shall be verified: F_2 and F_3 are opposing forces.

$$F_1 + F_2 + F_3 : \left(\frac{F_{1,d}}{R_{1,d}}\right)^2 + \left(\frac{F_{2,d}}{R_{2,d}}\right)^2 + \left(\frac{F_{3,d}}{R_{3,d}}\right)^2 \leq 1$$

Type of Application

The characteristic values published are dependent on the type of application and material to which they are fixed.
There are three main categories as shown below.



1. **Fixing -** Timber/Timber
   e.g. Beam/Beam
2. **Fixing -** Timber/Timber
   e.g. Post/Beam
3. **Fixing -** Timber/Concrete
   e.g. Beam/Rigid Support

For each of these types of application, full nailing conditions apply, ie. every nail hole is filled.
The above is only valid if the application is in accordance with the diagrams shown above. All units are in kilo Newtons [kN].

Timber Strength Class

The values correspond to the the use of timber class C24 for structural applications.

For a higher grade of timber the tabular values remain unchanged.
For a lower class of timber the tabulated values should be factored down with the k_{dens} coefficient as shown:

$$K_{dens} = \left(\frac{\rho_k}{350}\right)^2$$

Where ρ_k = Characteristic density of timber used in accordance with BS EN 338.
350 = Characteristic density of timber class C24 in accordance with BS EN 338.

Reinforced Angle Brackets

Heavy angles for general connecting of timber at 90° angles. Reinforced ribs add extra rigidity. Brackets vary in terms of holes/slots to allow for the use of different nails and/or screws.

Typical application include fixing trusses, purlins and posts. Suitable support materials include solid timber, composite timber, laminated timber and trusses.

Material: Pre-galvanised mild steel (except ABR10525S & ABR9020S: stainless steel).

E5/2C50

E2/2,5/7090

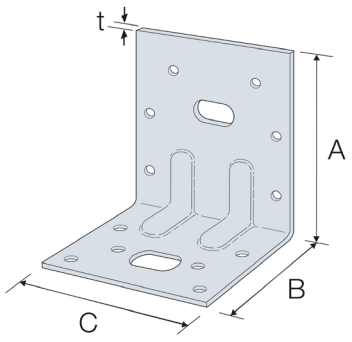
E9S/2,5

EB/7076

ABR

Product Dimensions

Model No.	Dimensions [mm]				Holes													
					Flange A							Flange B						
	A	B	C	t	Ø5	Ø8.5	Ø11	Ø12	Ø13	Ø14	Obround	Ø5	Ø8.5	Ø11	Ø12	Ø13	Ø14	Obround
ABR70	70	70	55	2.0	6	1	-	-	-	-	-	6	1	-	-	-	-	-
E5/2C50	75	48	65	2.0	7	-	-	-	-	-	1 x Ø11x22	6	-	-	-	-	-	1 x Ø11x22
ABR9020	88	88	65	2.0	10	-	1	-	-	-	-	10	-	-	-	1	-	-
SS ABR9020S	88	88	65	2.0	10	-	1	-	-	-	-	10	-	-	-	1	-	-
EB/7076	90	48	76	3.0	12	-	-	-	3	-	-	7	-	-	-	1	-	-
E2/2,5/7090	90	90	65	2.5	10	-	1	-	-	-	-	10	-	1	-	-	-	-
ABR98	98	98	88	3.0	10	-	-	-	3.0	-	-	12	-	-	-	3	-	-
E4/2,5	100	60	75	2.5	8	-	-	-	1	-	-	6	-	-	-	-	-	1 x Ø12x20
ABR100	103	103	90	2.0	10	-	-	1	-	-	1 x Ø12x32	14	-	-	1	-	-	-
ABR10525	105	105	90	2.5	10	-	2	-	-	1	-	14	-	-	-	-	1	-
SS ABR10525S	105	105	90	2.5	10	-	2	-	-	1	-	14	-	-	-	-	1	-
ABR105	105	105	90	3.0	10	-	3	-	-	-	-	14	-	1	-	-	-	-
E9S/2,5	150	90	65	2.5	14	-	1		-	-	1 x Ø11x33.5	8	-	1		-	-	-
E9/255	150	150	65	2.5	14	-	1		-	-	1 x Ø11x33.5	14	-	1		-	-	-



E5/2C50

ABR/E/EB

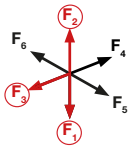
Connection with Timber/Timber type Beam /Beam: 2 Brackets

Model No.	Fasteners		Characteristic Values [kN]			
			$R_{1,k}$		$R_{2,k} = R_{3,k}$	
	Flange A	Flange B	CNA4.0x35	CNA4.0x50	CNA4.0x35	CNA4.0x50
ABR70	6	6	4.4	7.1	4.4	6.8
E5/2C50	7	6	6.1	8.6	9.8	13.0
ABR9020	10	10	9.7	11.9	9.4	12.2
ABR9020S(*)	10	10	9.7	11.9	9.4	12.2
EB/7076	12	7	4.9	7.9	10.7	16.3
E2/2,5/7090	10	10	6.6	10.6	7.6	10.5
ABR98	10	12	9.8	15.7	12.1	17.5
E4/2,5	8	6	5.6	7.2	7.6	10.2
ABR100	10	14	9.7	15.7	9.6	14.2
ABR10525	10	14	12.7	23.6	10.8	18.5
ABR10525S*	10	14	12.7	23.6	10.8	18.5
ABR105	10	14	8.9	14.3	13.6	19.1
E9S/2,5	14	8	4.7	7.7	8.7	11.9
E9/2,5	14	14	4.9	8.2	9.3	13.0

* Stainless Steel fixings should be used (e.g. CNA4.0x35S)

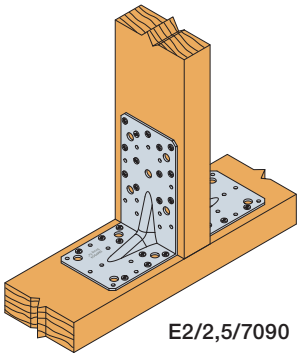
Connection with Timber/Timber type Post /Beam: 2 Brackets

Model No	Fasteners		Characteristic Values [kN]			
			$R_{1,k}$		$R_{2,k} = R_{3,k}$	
	Flange A	Flange B	CNA4.0x35	CNA4.0x50	CNA4.0x35	CNA4.0x50
E9/2.5	14	14	3.1	5.1	6.7	9.6
E9S/2.5	14	8	2.8	4.8	7.1	9.8

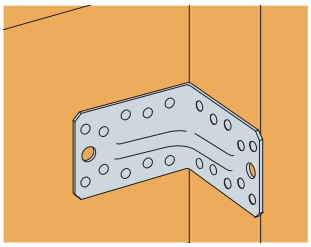


Connection with Timber/Concrete Suppport type Beam /Rigid Support: 2 Brackets

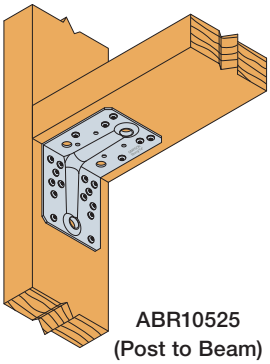
Model No	Fastneres		Characteristic Values [kN]			
			$R_{1,k}$		$R_{2,k} = R_{3,k}$	
	Flange A	Flange B	CNA4.0x35	CNA4.0x50	CNA4.0x35	CNA4.0x50
E5/2C50	7	1 x M10	8.4	8.4	-	-
E4/2,5	8	1 x M10	12.6	12.6	-	-
E9S/2,5	12	1 x M12	12.7	16.8	6.9	11.1



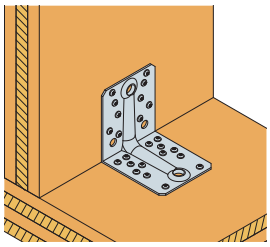
E2/2,5/7090



E2/2,5/7090



ABR10525
(Post to Beam)



ABR10525
CLT Application: Wall to Floor)

Reinforced Angle Bracket

NEW

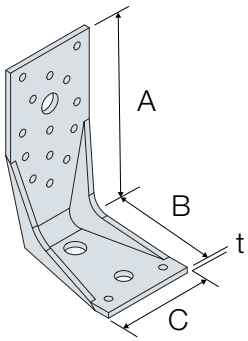
The AKR bracket is reinforced around the bend, which significantly increases the rigidity and strength of the bracket.

Material: Pre-galvanised mild steel.

- One-piece connector.
- Reinforced corners provide enhanced performance.
- CNA nails must be used to achieve the published loads.

Product Dimensions

Model No.	Dimensions [mm]				Holes					
					Flange A		Flange B			
	A	B	C	t	Ø5.2	Ø13.5	Ø5.2	Ø11	Ø13.5	Ø13.5x25
AKR95G	95	85	65	4.0	9	-	2	1	1	-
AKR95LG	95	85	65	4.0	9	-	2	1	-	1
AKR135G	135	85	65	4.0	14	1	2	1	1	-
AKR135LG	135	85	65	4.0	14	1	2	1	-	1
AKR285G	285	85	65	4.0	26	3	2	1	1	-
AKR285LG	285	85	65	4.0	26	3	2	1	-	1



Performance Values

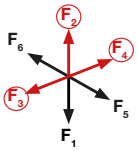
Model No.	Fasteners			Characteristic Capacities [kN]					
	Flange A	Flange B		$R_{2,k}$			$R_{3,k} = R_{4,k}$		
	Qty	Qty	Anchor	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x40	CNA4.0x50	CNA4.0x60
AKR95G	8	1	M12	8.8	11.3	13.2	2.5	3.1	3.5
AKR95LG	8	1	M12	6.7	8.7	10.4	2.2	2.8	3.2
AKR135G	13	1	M12	15.9	20.3	23.5	4.0	5.0	5.6
AKR135LG	13	1	M12	12.4	16.2	19.2	3.6	4.6	5.2
AKR285G	25	1	M12	22.6	29.5	35.2	4.4	5.8	7.0
AKR285LG	25	1	M12	16.5	21.7	26.4	3.3	4.4	5.4

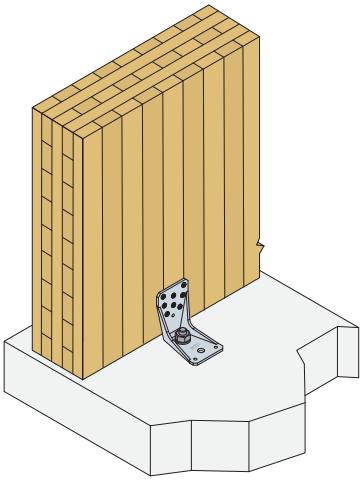
- The bolt should have sufficient capacity to achieve the above loads.
- For alternative installations and additional load directions refer to ETA-07/0285.

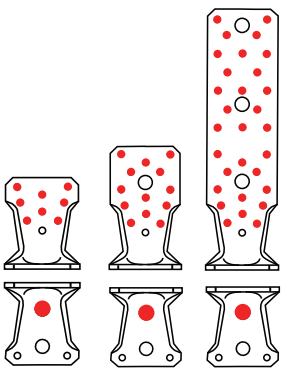
Bolt factors for AKR

Load Direction	Bolt capacity (one AKR)
F_2	$R_{b,ax,d} \geq F_{1,d} \times 1,0$
$F_{3/4}$	$R_{b,ax,d} \geq F_{2/3,d} \times 0,2$
	$R_{b,lat,d} \geq F_{2/3,d} \times 1,0$

(1) For combined loads, the bolt forces from each load direction must be added.







AKR95G AKR135G AKR285G

EA

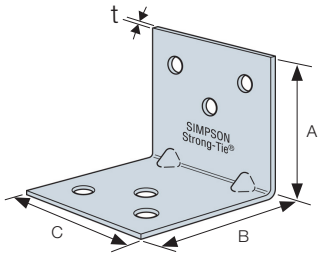
Light Reinforced Angle Bracket

The EA angle bracket are used to assemble structural joinery for internal applications.

Material: Pre-galvanised mild steel.

Product Dimensions

Model No.	Dimensions [mm]				Holes					
					Flange A			Flange B		
	A	B	C	t	Ø5	Ø11	Obround	Ø5	Ø11	Obround
EA444/2C50	40	40	40	2.0	3	-	-	3	-	-
EA446/2C50	40	40	60	2.0	4	-	-	4	-	-
EA554/2C50	50	50	40	2.0	4	1	-	4	1	-
EA664/2C50	60	60	40	2.0	6	-	1 x Ø10x20	6	-	1 x Ø10x30
EA756/2C50	50	70	60	2.0	4	-	1 x Ø12x20	6	-	1 x Ø10x42
EA1066/2,5	60	100	60	2.5	5	-	1 x Ø12x20	8	-	1 x Ø10x52



EA444/2C50

EC

Light Duty Angle Bracket

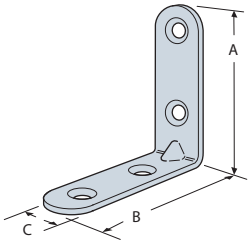
The EC angle bracket are used for many DIY applications. They are generally adapted to reinforce structural pieces of furniture.

Material: Pre-galvanised Mild Steel.

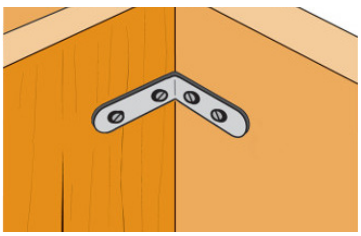
Product Dimensions

Model No.	Dimensions [mm]				Holes			
					Flange A		Flange B	
	A	B	C	t	Ø4	Ø5.8	Ø4	Ø5.8
EC40/2C50	40	40	15	2.0	2	-	2	-
EC60/2C50	60	60	15	2.0	2	-	2	-
EC80/2,5C50	80	80	18	2.5	2	-	2	-
EC100/3C50	98	98	20	3.0	-	2	-	2

1. Countersunk holes.



EC40/2C50



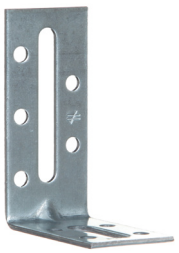
EFIXR

Adjustable Angle Bracket

The EFIXR angle bracket are used for internal connections.

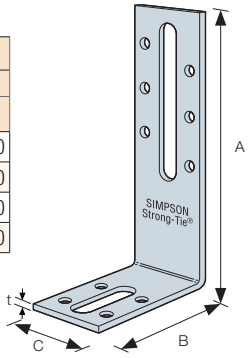
- Various bracket heights.
- Two slotted fixing holes for easier adjustment.

Material: Pre-galvanised Mild Steel.

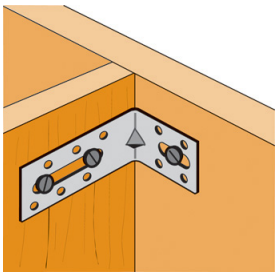


Product Dimensions

Model No.	Dimensions [mm]				Holes			
					Flange A		Flange B	
	A	B	C	t	Ø5	Obround	Ø5	Obround
EFIXR553C50	50	55	30	2.0	4	1 x Ø6.5x30	4	1 x Ø8.5x30
EFIXR753C50	70	55	30	2.0	5	1 x Ø6.5x50	4	1 x Ø8.5x30
EFIXR1053C50	100	55	30	2.5	6	1 x Ø6.5x65	4	1 x Ø8.5x30
EFIXR1253C50	120	55	30	3.0	6	1 x Ø6.5x65	4	1 x Ø8.5x30



EFIXR1253C50



ES

Nail Plate Angle Bracket

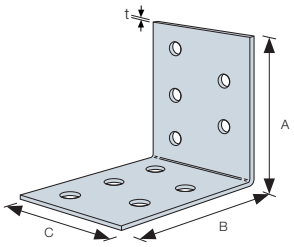
The ES angle bracket is very versatile, used for timber to timber connections.

Material: Pre-galvanised Mild Steel.

CNA RECOMMENDED FIXINGS

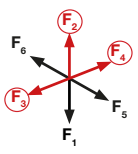
Product Dimensions

Model No.	Hanger Dimensions [mm]				Holes	
					Flange A	Flange B
	A	B	C	t	Ø5	Ø5
ES10/40C50	60	60	40	2.5	5	5
ES11/60	80	80	60	2.5	11	11



Performance Values

Model No.	Fasteners		Characteristic Values [kN]			
			$R_{2,k}$		$R_{3,k} = R_{4,k}$	
	Flange A	Flange B	CNA4.0x35	CNA4.0x40	CNA4.0x35	CNA4.0x40
ES10/40C50	3	3	2.7	3.1	2.7	3.2
ES11/60	8	6	3.6	4.9	7.3	9.8



EBC

Angle Bracket for Cladding

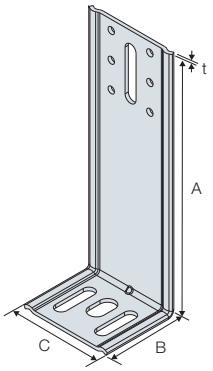
The EBC angle bracket has been designed to fix vertical battens directly to the supporting structure without the need for additonal battens, it creates a zone for insulation and/or ventilation between the wall and the cladding.

- Connects vertical battens directly to the supporting structure (Concrete).
- No need for horizontal battens.
- Creates a zone for insulation or ventilation.
- Reduces installation time, materials and cost.

Material: Pre-galvanised Mild Steel.

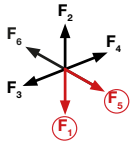
Product Dimensions

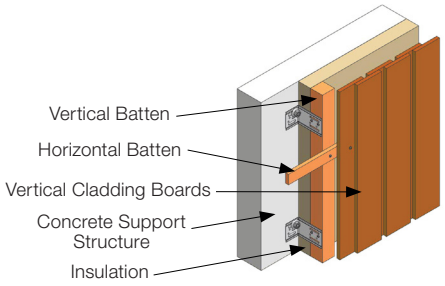
Model No.	Dimensions [mm]				Holes			
					Flange A		Flange B	
	A	B	C	t	Ø5	Ø8.5x40 Obround	Ø8.5x30 Obround	Ø11.5x30 Obround
EBC100/2.5	98	53	64	2.5	6	2	2	1
EBC120/2.5	118	53	64	2.5	6	2	2	1
EBC140/2.5	148	53	64	2.5	6	2	2	1
EBC160/2.5	158	53	64	2.5	6	2	2	1
EBC200/2.5	198	53	64	2.5	6	2	2	1
EBC210/2.5	208	53	64	2.5	6	2	2	1



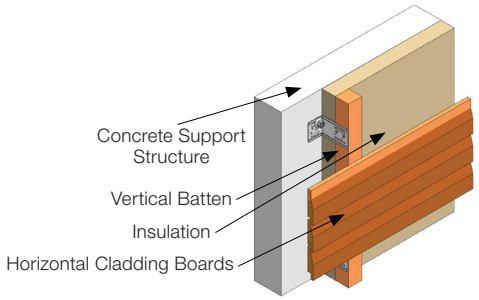
Performance Values

Model No.	Fasteners		Characteristic Capacities [kN] per Bracket		
			$R_{1,k}$ Slip under load measured at extremity of bracket		$R_{5,k}$
	CSA5.0x40	Anchor	1mm	3mm	
EBC100/2.5	2	1 x M8	0.22	0.36	1.56
EBC120/2.5	2	1 x M8	0.22	0.36	1.56
EBC140/2.5	2	1 x M8	0.18	0.31	1.56
EBC160/2.5	2	1 x M8	0.18	0.31	1.56
EBC200/2.5	2	1 x M8	0.07	0.19	1.56
EBC210/2.5	2	1 x M8	0.07	0.19	1.56





Vertical Cladding



Horizontal Cladding

END

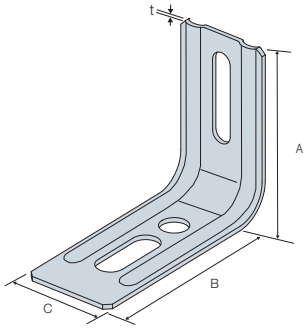
Multi Angle Bracket

The END angle bracket are designed to ensure versatility.

Material: Pre-galvanised Mild Steel.

Product Dimensions

Model No.	Dimensions [mm]				Holes			
					Flange A		Flange B	
	A	B	C	t	Ø6.5	Obround	Ø9	Obround
END55/1,5C50	55	71.5	30	1.5	-	1 x Ø6.5x30	1	1 x Ø9x20
END100/1,5C50	100	71.5	30	1.5	2	1 x Ø6.5x45	1	1 x Ø9x20



H2.5A

High Wind Tie

The H2.5A Tie is for trusses and rafters likely to be subject to high winds. This versatile connector may be used for general purposes, strongback attachments and
as an all-purpose tie where one timber crosses another.

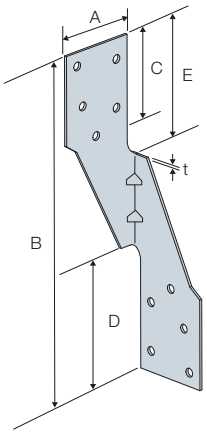
H2.5A may be installed in pairs to achieve twice the stated safe working loads.

Material: Pre-galvanised mild steel.

Installation:
- Use all specified fasteners.

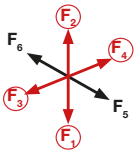
Product Dimensions

Model No.	Dimensions [mm]						Holes	
	A	B	C	D	E	t	Flange D Ø4	Flange E Ø4
H2.5A	35	150	41	55	55	1.2	5	5



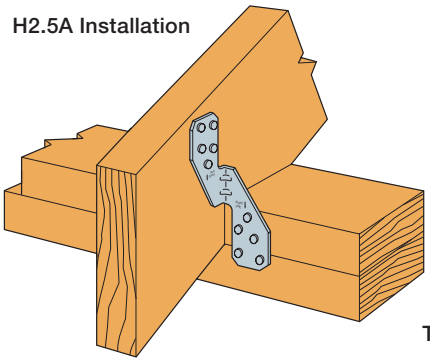
Performance Values

Model No.	Fasteners		Safe Working Loads		
	To Rafters	To Plates		Lateral Short	
	N3.75x30	N3.75x30	$R_{2,\ SWL,\ Short\ Term}$	$R_{3,\ SWL,\ Short\ Term}$	$R_{4,\ SWL,\ short\ Term}$
H2.5A	5	5	2.31	0.49	0.49

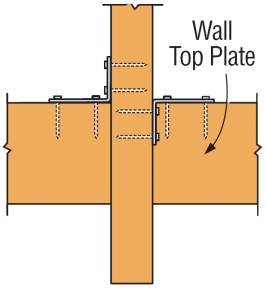


1. SWL's are for one anchor.
2. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist all such forces should be considered.

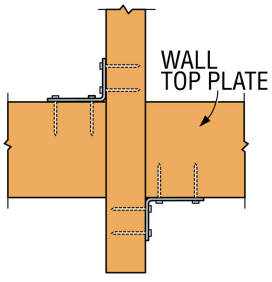
H2.5A Installation



Top View Installation to Achieve Twice the Load



H2.5A can be installed on the same side of the wall plate.



Install H2.5A diagonally across from each other for single ply 35mm or 47mm trusses.

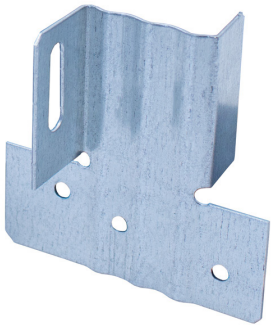
Partition Wall Restraint

The PWR connector is used to laterally restrain the top of a non-load bearing partition wall by connecting it to the floor joists above. The tapered slot allows for joist deflection when it is loaded, while still restraining the partition wall.

- Provides lateral restraint to non-load bearing partition walls.
- Allows joist deflection.

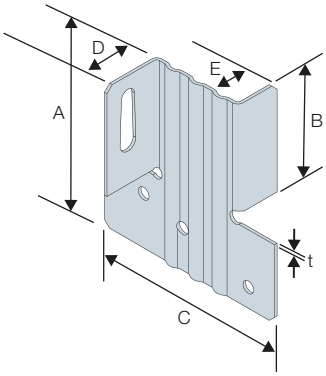
Material: Pre-galvanised mild steel.

- Position the connector on top of the header rail and against the floor joist.
- Secure the connector to the header rail with the specified fasteners.
- The bottom of the location tab should sit on the top of the header rail.
- Secure the connector to the joist with the specified fasteners, allowing a 1-2mm gap between the underside of the fastener head and the PWR connector.
- Maximum gap between the partition and the joist is 15mm.
- Ensure that the fastener is at the upper edge of the tapered slot as this allows for the deflection of the joist.



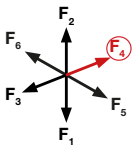
Product Dimensions

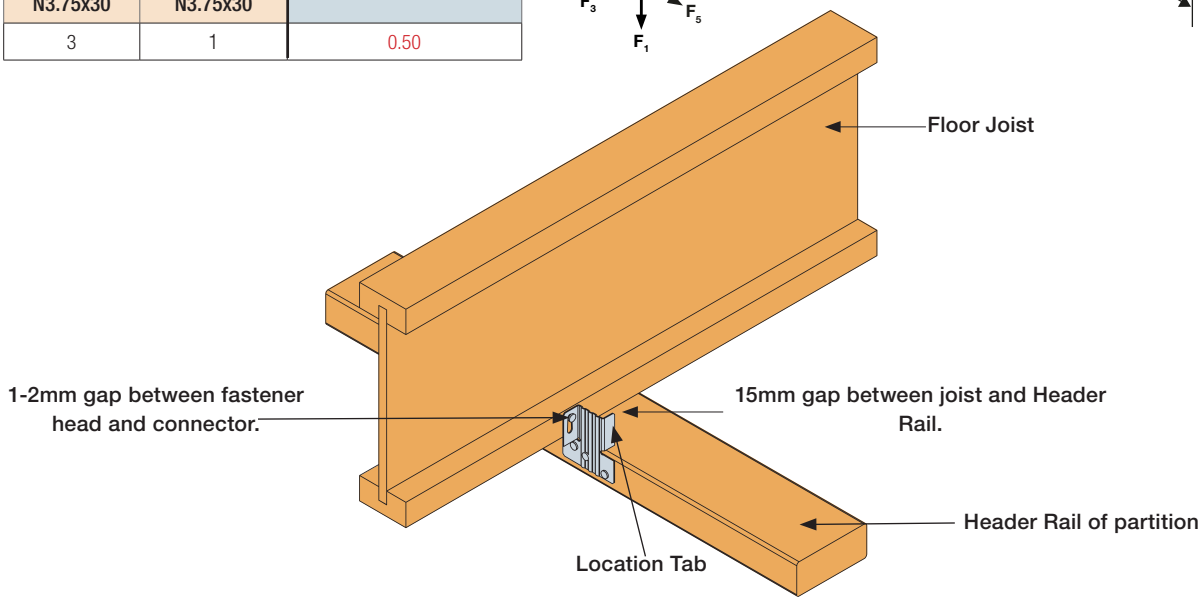
Model No.	Dimensions [mm]						Holes	
	A	B	C	D	E	t	Flange A	Flnage B
							Ø4.1	Ø4.1
PWR15	65	36	65	20	15	1	3	1



Performance Values

Fasteners		Safe Working Loads [kN]
Flange A	Flange B	$R_{4,\ SWL,\ Short\ Term}$
N3.75x30	N3.75x30	
3	1	0.50





SPF

Purlin Anchor

The SPF can be used to connect two timbers that cross over at 90 degrees to each other and can be used with a number of timber dimensions. The SPF are handed , left and right, and are sold separately.

Note: The brackets are manufactured in right and left versions and are sold individually.

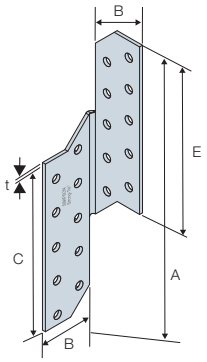
Material: Pre galvanised mild steel.

Installation:

- Where timbers cross, use two SPF's, diagonally opposite each other.
- Fill all nail holes.

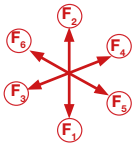
Product Dimensions

Model No.	Dimensions [mm]					Holes	
	A	B	C	E	t	Flange C	Flange E
						Ø5	Ø5
SPF290L	290	33	220	220	2.0	22	22
SPF290R	290	33	220	220	2.0	22	22
SPF370L	370	33	300	300	2.0	26	26
SPF370R	370	33	300	300	2.0	26	26

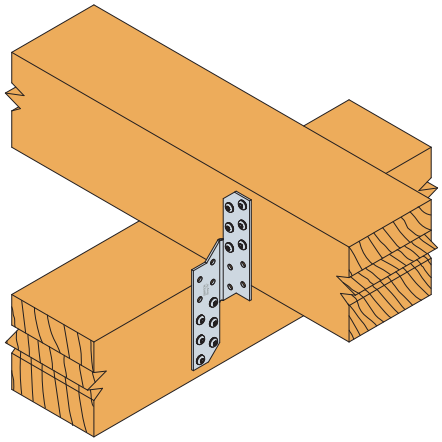


Performance Values

Model No.	Fasteners		Characteristic Loads Loads [kN]		
			$R_{2,k}$	$R_{3,k} = R_{4,k}$	$R_{5,k} = R_{6,k}$
			CNA4.0x50	CNA4.0x50	CNA4.0x50
SPF290	11	11	14.7	2.0	4.9
SPF370	15	15	14.9	2.0	4.9



- Capacities are for one SPF.
- Published capacities are based upon a short term load duration, in service class 2.
- Capacity for connections with two SPF are double the capacity of one SPF.

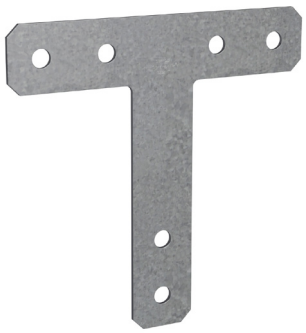


T Flat

"T" Shaped Bracket

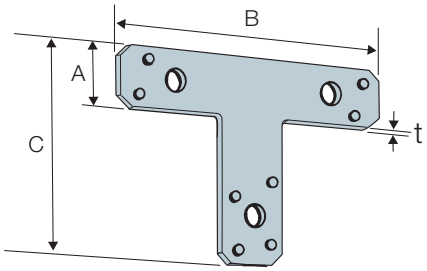
Material: Pre-galvanised mild steel.

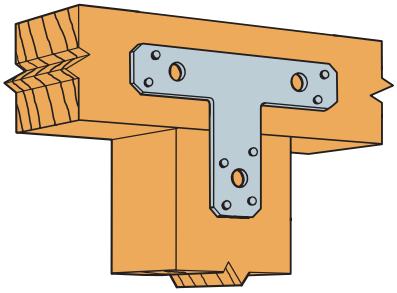
Benefits:
Can be used to reinforce the "T" junction in Post to Beam/Column to Beam connection in timber structures.



Product Dimensions

Model No.	Dimensions [mm]				Holes	
	A	B	C	t	Ø4.1	Ø11
66T	38	125	150	2.0	8	3





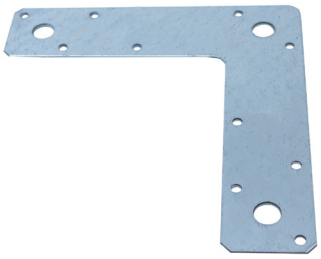
Typical 66T Installation

L Flat

"L" Shaped Bracket

Material: Pre-galvanised mild steel.

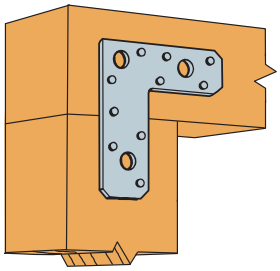
Benefits:
The "L" shaped bracket can be used to reinforce the junction between two timber members crossing to form an L shape.

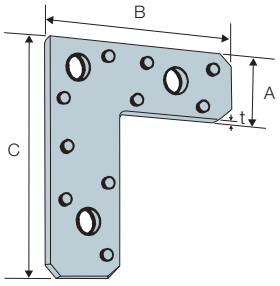


66L

Product Dimensions

Model No.	Dimensions [mm]				Holes		
	A	B	C	t	Ø4.0	Ø4.3	Ø11
55L	32	120	120	1.5	5	-	-
66L	38	152	152	1.8	-	10	3





Skewable Angle

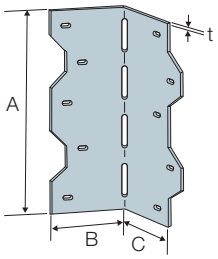
Designed to attach timber members at irregular angles, these connectors can be bent on site from 0° to 135°. The staggered nail pattern reduces the possibility for splitting the timber and allows installation on both sides of the member.

Material: Pre-galvanised mild steel.

Installation: Use all specified fasteners. Angles should be bent to suit installation only once. Joists must be constrained against rotation (for example, with solid blocking) when using a single LS Angle per connection.

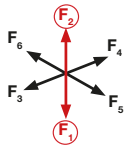
Product Dimensions

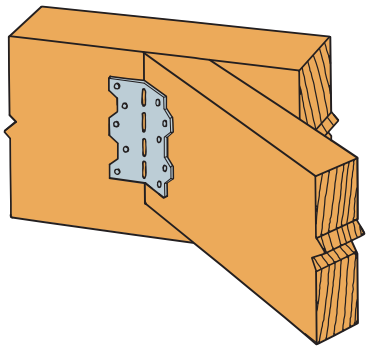
Model No.	Dimensions [mm]				Holes	
	A	B	C	t	Flange A	Flange B
					Ø4 x 7 Obround	Ø4 x 7 Obround
LS30	85	55	85	1.0	3	3
LS50	124	55	124	1.0	4	4
LS70	162	55	162	1.0	5	5

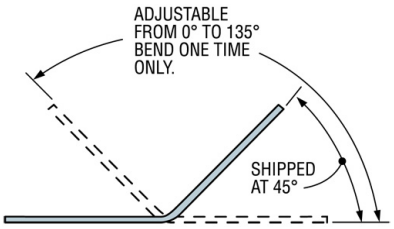


Performance Values

Model No.	Fasteners		Safe Working Loads [kN]		Characteristic Values [kN]
	Flange A	Flange B	$R_1 = R_{2,SWL,Long\ Term}$	$R_1 = R_{2,SWL,Mediun\ Term}$	$R_{1,k} = R_{2,k}$
			N3.75x75	N3.75x75	N3.75x75
LS30	3	3	1.29	1.60	2.80
LS50	4	4	1.73	2.16	4.30
LS70	5	5	2.16	2.58	4.40







LS70 Top View

DSTC/SSTC

Double & Single Sided Toothed Connectors

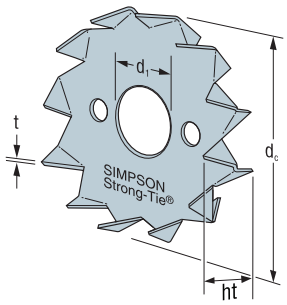
Single sided and double sided connector plates for enhanced bolt performance in timber. Conforms to BS EN 912: 1999 Annex C. Specification for toothed plate connectors.

Material: Pre-galvanised mild steel.

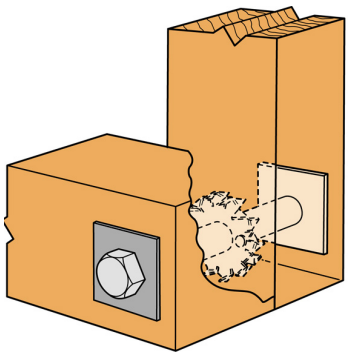
Product Dimensions

Model No.	Dimensions [mm]				Holes					
	d_c	h_t	t	Ø4	Ø4.5	Ø5	Ø12	Ø17	Ø21	Ø26
SSTC50	48	6.6	1.0	2	-	-	1	-	-	-
SSTC60	62	8.7	1.2	-	2	-	1	-	-	-
SSTC75	75	10.4	1.3	-	-	2	-	1	-	-
DSTC50C50	48	13.0	1.0	2	-	-	-	1	-	-
DSTC60	62	16.0	1.2	-	2	-	-	-	1	-
DSTC75	75	19.5	1.3	-	-	2	-	-	-	1

NOTE: Products contain 2 nail holes for temporary fixing.



DSTC



Typical DSTC Installation

SSTC

Concealed Post Base

The CPT post base provides a clean look while providing a 25mm stand off height above the ground. reducing the potential for decay at the post end.

The CPT can be fixed to a concrete base with M12 resin anchors (sold separately).

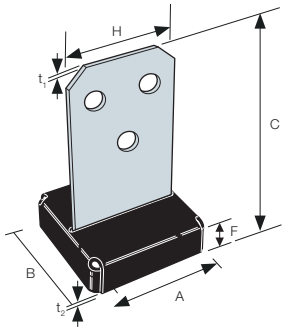
Material: Flitch plate, washers and standoff base are pre-galvanised steel. The standoff base has an additional textured, flat black powder coat finish for aesthetic purposes.

The dowels (included) are mechanically galvanised.

- Not recommended when the top of post/column is not restrained (e.g. fence post).

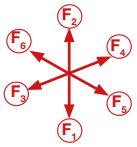
Product Dimensions

Model No.	Timber Post Size [mm]	Connector Dimensions [mm]							Washer	Holes	
		A	B	C	D	E	t_1	t_2		Top Plate Ø13.5	Bottom Plate Ø13.5
CPT44Z	89 x 89 to 100 x 100	89	89	145	25	79	3.5	2.7	36x29x3.5	3	2
CPT66Z	133 x 133 to 150 x 150	133	133	145	25	114	3.5	2.7	36x29x3.5	3	2
CPT88Z	184 x 184 to 203 x 203	184	184	145	25	114	3.5	2.7	36x29x3.5	3	2

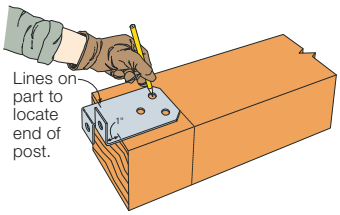


Performance Values

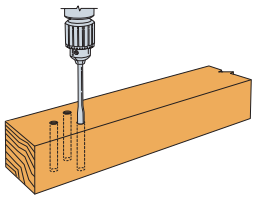
Model No.	Fasteners				Characteristic Values - Timber C24 [kN]			
	Post		Concrete		$R_{1,k}$	$R_{2,k}$	$R_{3,k} = R_{4,k}$	$R_{5,k} = R_{6,k}$
	Qty	Dowels	Qty	Anchors				
CPT44Z	3	Ø13 x 70	2	Ø12	59.4	11.2	7.3	3.9
CPT66Z	3	Ø13 x 120	2	Ø12	91.2	16.3	9.1	5.6
CPT88Z	3	Ø13 x 120	2	Ø12	123.1	16.3	9.1	5.6



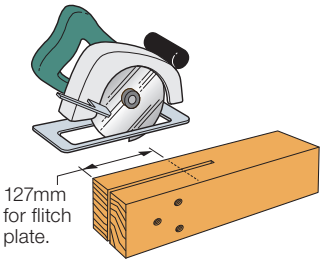
Installation:



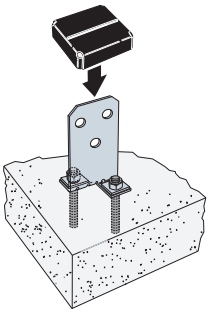
Step 1: Use the flitch plate as a template to mark dowel locations.



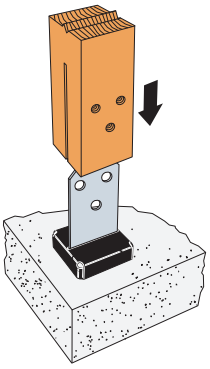
Step 2: Drill 13mm holes perpendicular to the post at marked locations.



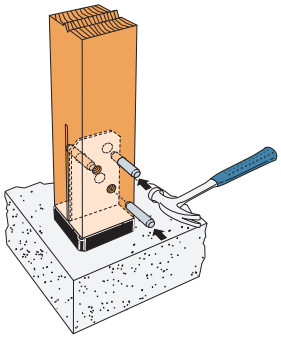
Step 3: Cut a 5mm wide slot on the side adjacent the drilled holes. Check that the flitch plate slides freely.



Step 4: Fix down the flitch plate to concrete foundation and lower the standoff base over the flitch plate.



Step 5: Lower the post onto the flitch plate with the drilled holes aligned with the three holes in the flitch plate. Be careful to avoid rotating the post during installation.



Step 6: Drive the dowels into the post and through the flitch plate they should be roughly centred within the post.

PPRC

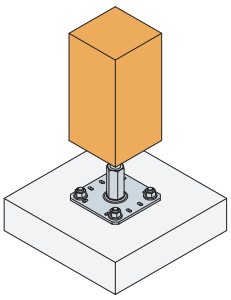
Adjustable Post Base

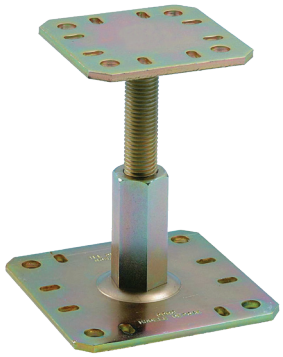
The PPRC allows the structure to be adjusted after it has been built. Adjust the off the ground height from 100 to 150mm even after the post has been installed.

Material: Dichromate coated galvanised mild steel.

Installation:

- Fix to the foundation with M10 anchors. Fix to the post using M10 coach screws.
- 130 x 130mm plate fixes to the ground.
- 100 x 100mm plate fastens to the post.
- PPRC can be adjusted with a 30mm wrench after both plates are attached.
- Not recommended when the top of post/column is not restrained (e.g. fence post).

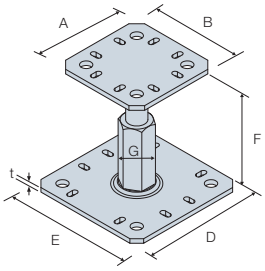




OUTDOOR

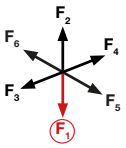
Product Dimensions

Model No.	Timber Post Size [mm]	Dimensions [mm]							Holes flange A/B		Holes flange C/D	
		A	B	D	E	G	F	t	Ø12	Slots Ø16 x 12	Ø12	Slots Ø16 x 12
PPRC	100x100 to 200x200	100	100	130	130	30	100-150	5	4	8	4	8



Performance Values

Model No.	Fasteners		Characteristic Capacity [kN]
	Post	Concrete	$R_{1,K}$
PPRC	4 - M10 Coach Screw	4 - M10 Anchor	48.8



APB

Adjustable Elevated Post Base

The APB features a post mounting plate on a screw allowing it to be adjusted to a specific standoff height ranging from 100-150mm.

Material: Pre-galvanised mild steel.

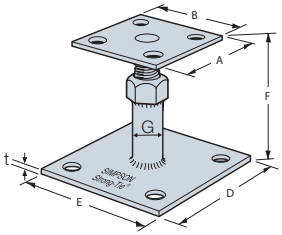
Installation:

- Fix to the foundation with 10mm resin anchors.
- Adjust to the required stand off height.
- Fix post to top plate using M10 coach screws.
- Not recommended when the top of post/column not restrained (e.g. fence post).

OUTDOOR

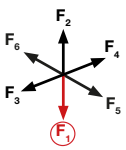
Product Dimensions

Model No.	Timber Post Size [mm]	Dimensions [mm]							Holes Flanges A/B	Holes Flange C/D
		A	B	D	E	G	F	t	Ø12	Ø12
APB100/150	100x100 to 200x200	100	100	130	130	20	100-150	4	4	4



Performance Values

Model No.	Fasteners		Characteristic Capacity [kN]
	Post	Concrete	$R_{1,K}$
APB	4 - M10 Coach Screw	4 - M10 Anchor	69.3



ABW

Adjustable Post base with Stand Off

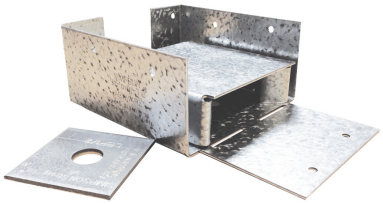
The ABW is an adjustable post base with a stand off for the post to help prevent moisture induced decay to the timber post. Designed for versatility and cost effectiveness.

- Slot in the base enables flexible positioning around the anchor bolt.
- Can be installed onto a threaded bar in poured concrete or with a resin or mechanical anchor into solid concrete (sold separately).

Material: Pre-galvanised mild steel.

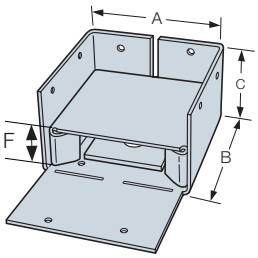
Installation:

- Place the base, washer and nut on the anchor bolt, loosely fasten the nut.
- Place the stand off base and then the post in the ABW and fasten on three vertical sides.
- Make any necessary adjustments to post placements and tighten the nut anchor securely, via the open side.
- Bend up the fourth side of the ABW and fasten.
- Not recommended when the top of post/column is not restrained (e.g. fence post).



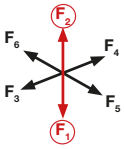
Product Dimensions

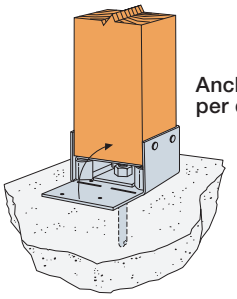
Model No.	Timber Post Size [mm]	Dimensions [mm]							Top Holes	Base Holes
		A	B	C	F	t1	t2	Washer	Ø4.1	Ø14
ABW44Z	89x89	91	91	60	25	1.6	1.6	50x50x3.5	4	1
ABW44RZ	100x100	102	102	50	25	1.6	1.6	50x50x3.5	4	1
ABW66Z	133x133	140	140	76	25	1.8	2.7	76x76x6.0	12	1
ABW66RZ	150x150	152	152	71	25	1.8	2.7	76x76x6.0	12	1



Performance Values

Model No.	Fasteners				Characteristic Capacity [kN]	
	Post		Concrete		$R_{1,K}$	$R_{2,K}$
	Qty	Type	Qty	Anchors		
ABW44Z	8	N3.75x75	1	M12	53.9	3.1
ABW44RZ	8	N3.75x75	1	M12	58.2	-
ABW66Z	12	N4.0x90	1	M12	105.9	7.4
ABW66RZ	12	N4.0x90	1	M12	110.4	6.6





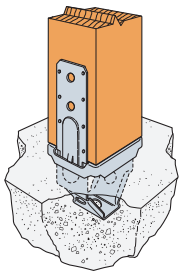
PBS

Post Base with Stand Off

The PBS post base is designed to be installed into wet concrete and features a stand off to help prevent moisture induced decay to the timber post.

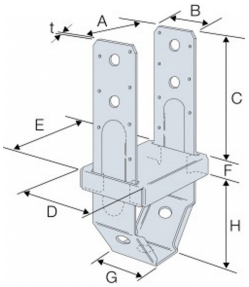
Material: Pre-galvanised mid steel.

Installation: Embed into wet concrete up to the bottom of the 25mm stand off base.



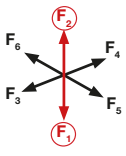
Product Dimensions

Model No.	Timber Post Size [mm]	Dimensions [mm]									Top Holes		Base Holes
		A	B	C	D	E	F	G	H	t	Ø4.3	Ø14	Ø19
PBS44A	89x89	91	57	159	89	91	25	57	84	2.5	14	4	3



Performance Values

Model No.	Fasteners [1]				Characteristic Capacity [kN] - Timber C24		
	Post				$R_{1,K}$	$R_{2,K}$	
	Nails		Bolts			Nails	Bolts
	Qty	Type	Qty	Type			
PBS44A	12	N3.75x75	2	M12	60.9	24.0	16.0



1. Use EITHER nails or bolts into the post.

PBH

Heavy Duty Elevated Post Base

The PBH is suitable for heavy duty post support applications including Glulam timber posts, with a standoff height of 216mm. Dowel's included.

Material: Hot-dip galvanised mild steel plate.

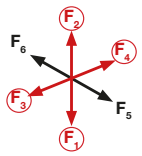
Installation:

- Use the flitch plate to mark and drill the 8mm diameter holes for the dowels.
- Cut a 9mm slot in the side adjacent to the drilled holes, for the flitch plate.
- Fix to the foundation with M12 anchors.
- Lower the post onto the flitch plate, align the holes and fit the dowels.
- Not recommended when the top of post/column is not restrained (e.g. fence post).
- Stainless steel option available to order.

HDG 50 µm | OUTDOOR | CE | CL.3

Product Dimensions

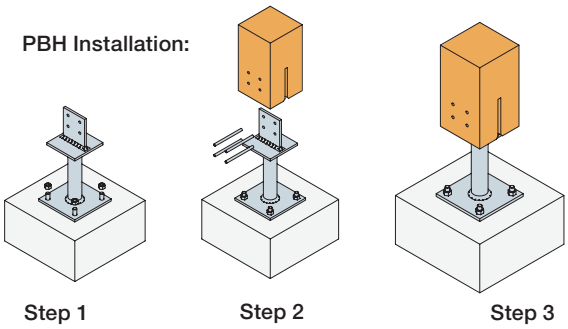
Model No.	Timber Post Size [mm]	Dimensions [mm]									Holes	
											Top Plate	Bottom Plate
		A	B	C	D	E	F	H	t_1	t_2	Ø8.5	Ø14
PBH75	75x75 - 120x120	75	75	110	160	100	216	45	8	8	2	2
PBH120	120x120 - 200x200	120	120	110	155	155	216	90	8	8	4	4



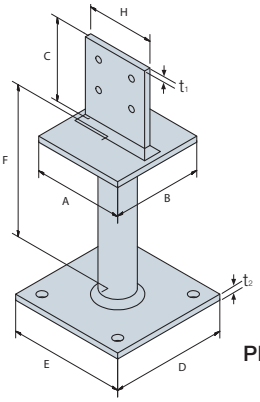
Performance Values

Model No.	Fasteners				Characteristic Capacities - Timber C24 [kN]									
	Post		Concrete		$R_{1,k}$	$R_{2,k}$			$R_{3,k} = R_{4,k}$			$R_{5,k}=R_{6,k}$		
	Qty	Dowels	Qty	Anchor		Width of the post [mm]			Width of the post [mm]			Width of the post [mm]		
PBH75	2	Ø8x80	4	M12	105.5	8.1	9.5	10.4	5.5	6.5	7.1	5.8	6.6	7.3
PBH120	4	Ø8x120	4	M12	156.4	20.7	20.7	20.7	7.7	7.7	7.7	7.3	7.9	8.5

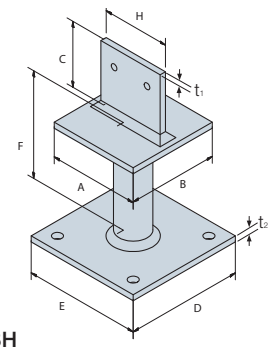
PBH Installation:



Step 1 Step 2 Step 3



PBH



PISBMAXI

PISBMAXI

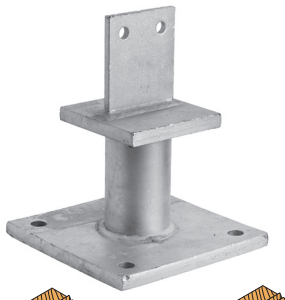
Post Base with Stand Off

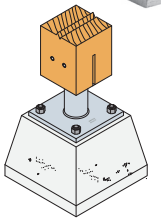
NEW

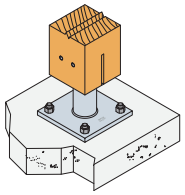
The PISBMAXI is a heavy duty elevated post base to suit various sizes of timber and Glulam posts.

Material: Hot dip galvanised mild steel plate.

HDG 50 µm | OUTDOOR | CE | CL.3





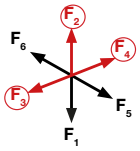


Product Dimensions

Model No.	Timber Post Size [mm]	Dimensions [mm]										Holes	
												Top Plate	Bottom Plate
		A	B	C	D	E	F	G	H	t_1	t_2	Ø13	Ø17
PISBMAXIG-B	120x120 - 200x200	120	120	105	200	200	148	70	90	8	15	2	4

Performance Values

Model No.	Fasteners				Characteristic Capacities - Timber C24 [kN]									
	Post		Concrete		$R_{1,K}$	$R_{2,K}$			$R_{3,K}$			$R_{4,K}$		
	Qty	Dowels	Qty	Anchor		Dowel Length [mm]			Dowel Length [mm]			Dowel Length [mm]		
						120	140	160	120	140	160	120	140	160
PISBMAXIG-B	2	Ø12	4	M16	272.2	34.5	38.5	42.1	22.5	20.1	20.1	7.7	9.9	12.3



PPA

Elevated Post Base with 100mm Stand Off

The PPA is for post base installations requiring a higher standoff distance.

Material: Hot Dip Galvanised Mild Steel.

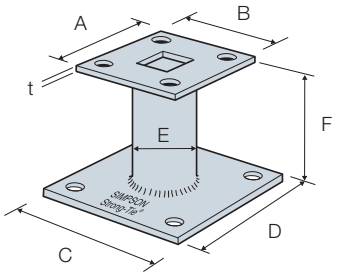
Installation: Fix to the foundation with concrete screw/mechanical anchor or Resin anchor system. Fix to the post using M10 coach screws.

- Not recommended when the top of post/column is not restrained (e.g. fence post).

HDG 50 µm | OUTDOOR | CE | CL.3

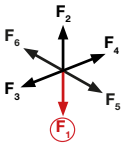
Product Dimensions

Model No.	Timber Post Size [mm]	Dimensions [mm]							Holes	
		A	B	C	D	E	F	t	Top Plate Ø12	Bottom Plate Ø12
PPA100	100x100 - 200x200	100	100	130	130	Ø48	100	4	4	4



Performance Values

Model No.	Fasteners				Characteristic Capacity [kN] C24 Download
	Post		Concrete		
	Qty	Type	Qty	Anchor	$R_{1,k}$
PPA100	4	M10 Coach Screw	4	M10	85.7



CB

Post Base (Made to Order)

The CB post base for pre-pour concrete applications and is made to order within parameters below.

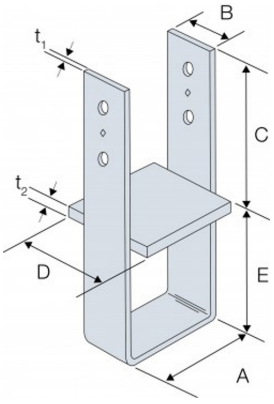
Material: Mild steel, hot dip galvanised.

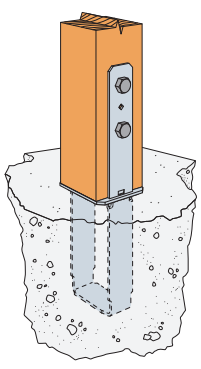
- Not recommended when the top of post/column is not restrained (e.g. fence post).

HDG 50 µm | OUTDOOR | CL.3

Product Dimensions

Model No.	Dimensions [mm]									Holes
	A		B	C	D		E	t_1	t_2	Ø18
	Min	Max			Min	Max				
CB	75	200	50	220	75	200	205	5	5	4





PBP

Post Base

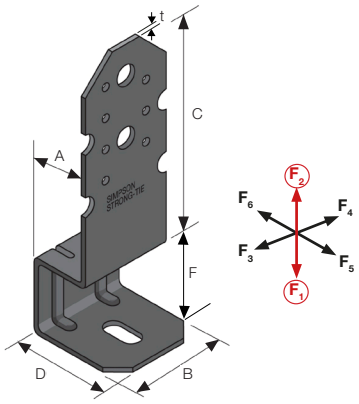
The PBP60/50 post base is most commonly use for pergola or porch type construction, but can be used in other situations.

Material:
Mild Steel, Sherardized Class C30.

- Can be used with diffferent post sizes.
- 50mm standoff.
- Order as separate item, use in pairs.
- Not recommended when the top of post/column is not restrained (e.g. fence post).

Product Dimensions

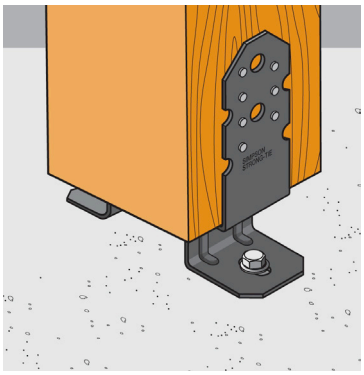
Model No.	Dimensions [mm]						Holes		
							Top		Base
	A	B	C	D	F	t	Ø5	Ø13	Ø12 x 25 Slot
PBP60/50	35	60	140	62	49	2.5	7	2	1

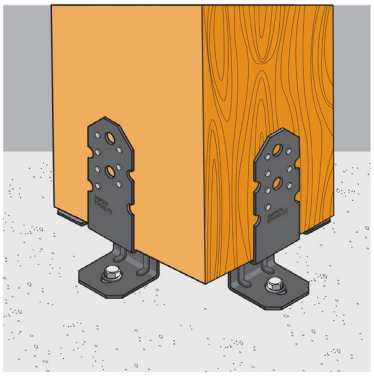


Performance Values

Model No.	Timber Post Size [mm]	Post Bases	Fasteners				Characteristic Capacities - Timber C24 [kN]	
			Post		Concrete			
		Qty	Qty	Nail	Qty	Anchor	$R_{1,k}$	$R_{2,k}$
PBP	70x70 - 150x150	2	14	CNA4.0x50	2	M12	40.0	11.9
	150x150 - 250x250	4	28	CNA4.0x50	4	M12	90.0	11.9

1. The published characteristic capacity is based on medium term load duration and service class 3 according to EC5 (EN 1995) (kmod = 0.7). For other load duration and service class, please refer to the ETA.
2. Typical anchor solutions are Simpson AT-HP resin and LMAS anchors, depending on the concrete type, spacing and edge distances. See Pages 189 & 191.





PBP Installation:

Step 1: Measure positions and bolt down to floor with appropriate fixing (M10). ensuring the post bases are parellel to one another. (Length of fixing to be advised by structural engineer).

Step 2: Lower the post onto the post bases (2 or 4) ensuring they are aligned with the centre of the post.

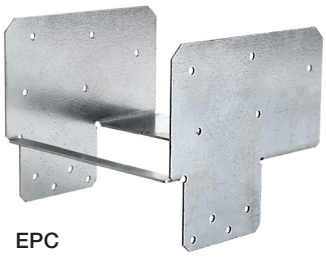
Step 3: Install CNA4.0x50 nails into the timber as shown, CSA 5.0x50 screws can also be used as an alternative.

PC/EPC

Post Cap & EPC End Post Cap

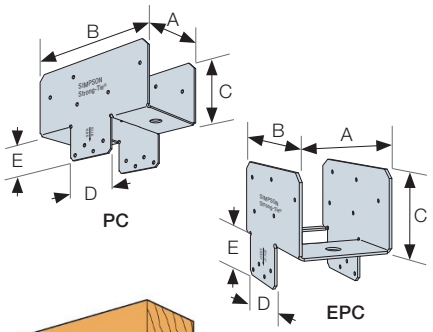
The PC extension side plates function as tie straps where splices occur. EPC option should be used where the beam ends at the post. Standard connectors for post to beam connections.

Material: Pre-galvanised mild steel.


EPC

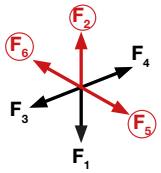
Product Dimensions

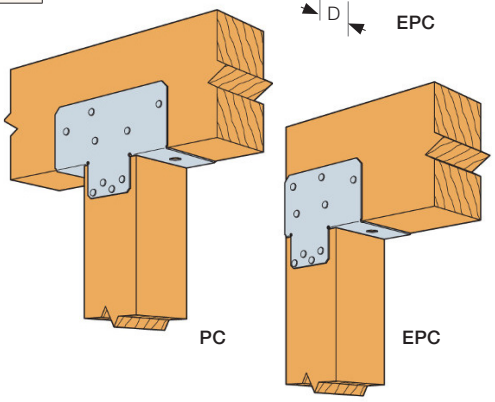
Model No.	Post Size [mm]	Dimensions [mm]						Holes	
		A	B	C	D	E	t	Post	Beam
								Ø4.1	Ø4.1
PC4Z	89x89 89x140 89x185	90	178	76	67	41	1.6	8	10
EPC4Z	89x89 89x140 89x185	90	133	76	67	41	1.6	8	10



Performance Values

Model No.	Post Size [mm]	Fasteners		Safe Working Loads [kN]	
		Post	Beam		
		N3.75x75	N3.75x75	$R_{2,SWL,Short\ Term}$	$R_{5,=}$ $R_{6,SWL,Short\ Term}$
PC4Z	89x89	8	10	6.6	5.6
	89x140	8	10	6.6	5.6
	89x185	8	10	6.6	6.1
EPC4Z	89x89	8	10	5.0	4.8
	89x140	8	10	5.0	5.5
	89x185	8	10	5.0	5.5





CC

Column Cap (Made to Order)

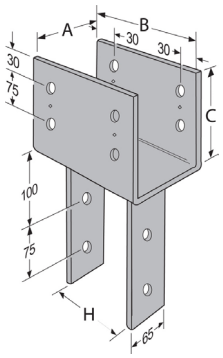
The CC Column Caps can be made to order for standard timber or engineered wood sizes. Contact Simpson Strong-Tie® for details. Specify dimensions as detailed in the table below and using our made to order form.

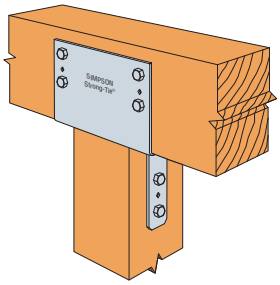
Material: 5mm mild steel, hot dip galvanised.
Installation: use 16mm bolts.

Product Dimensions

Model No.	Dimensions [mm]									Holes	
	A		C		B	H		t_1	t_2	Body(1)	Legs
	Min	Max	Min	Max		Min	Max			Ø18	Ø18
CC	75	225	100	200	280	75	250	5.0	5.0	8	4

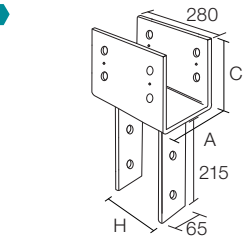
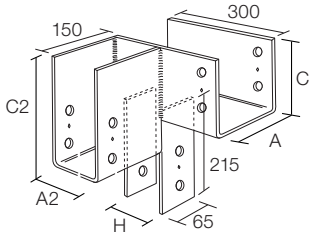
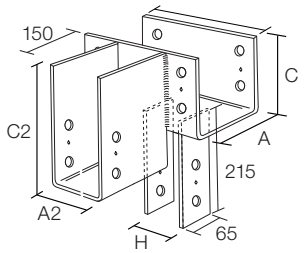
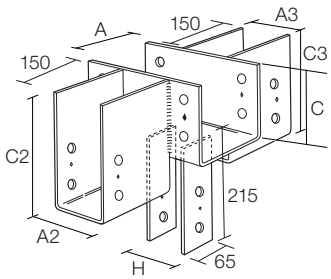
1. When C <= 150mm, 4 No holes in body.





Column Cap Made to Order Form

Name:	Tel:
Email:	Fax:
Make a note of the dimensions (in millimeters) next to the relevant product diagram below. Fax the form to: 01827 255616 or email UKsales@strongtie.com	

 **SPEC CC / SPEC ECC** End Column Caps also available.	**A**		75 - 225mm
	C		100 - 200mm
	H		75 - 250mm
 **SPEC ECCLL** ECCLR = opposite hand.	**A**		75 - 225mm
	A2		75 - 225mm
	C		100 - 200mm
	C2		100 - 200mm
	H		75 - 250mm
 **SPEC CCT**	**A**		75 - 225mm
	A2		75 - 225mm
	C		100 - 200mm
	C2		100 - 200mm
	H		75 - 250mm
 **SPEC CCC**	**A**		75 - 225mm
	A2		75 - 225mm
	A3		75 - 225mm
	C		100 - 200mm
	C2		100 - 200mm
	C3		100 - 200mm
	H		75 - 250mm

Heavy/Light Engineered Restraint Straps

A direct replacement for traditional restraint straps, the innovative design of these lightweight straps allows ease of handling and installation whilst maintaining the structural strength and robustness of much heavier weight types.

The HES (heavy engineered strap) & LES (light engineered strap) replace traditional heavy and light restraint straps in roof and floor construction. Reducing the thickness to 1.5mm allows the HES strap to span the bottom chords of trusses and over floor joists without the need for notching. HES straps are less than 40% of the weight, quicker to fit, and overcome many fixing problems associated with traditional heavy straps.

The LES is designed for vertical applications e.g. holding down wall plates.

- Formed edge design gives additional strength on bend.
- Quicker to install - can fit over top of floor joists and truss bottom chords.
- Easier to course with blockwork.
- No need to notch joists.

Material: Pre galvanised mild steel

Horizontal strap installation: Approved Document A of the Building Regulations requires lateral restraint to be provided at each floor at a maximum of 2 metre centres.

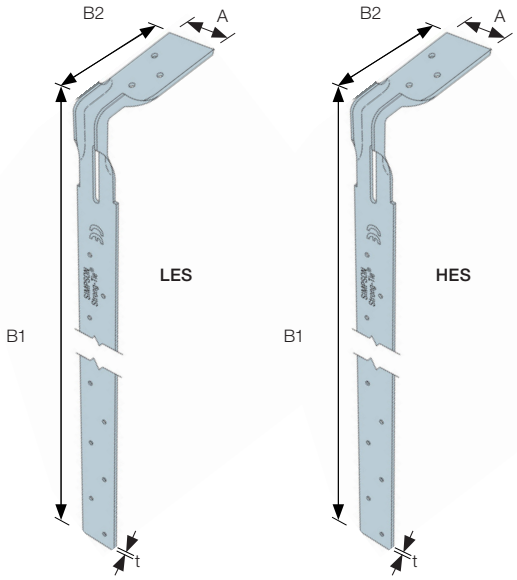
Restraint straps “perpendicular” to the floor joists are required to be held tight against the masonry and fixed across the first 3 joists.

Restraint straps “parallel” to the floor joists are required to be held tight to the masonry and be at least 1200mm long.

The characteristic tensile strength for horizontal restraint straps should not be less than 8kN.

Vertical strap installation: Vertical strapping, at least 1 metre in length, should be provided at eaves level to hold down timber wall plates, at intervals not exceeding 2 metres.

Patent GB 2423532



Product Dimensions

Type	Model No.	Dimension [mm]				Holes		
						Flange B2	Flange B1	
		A	B1	B2	t	Ø4.1	Ø4.1	Ø6.1
Heavy Engineered Strap	HES06B10	38	500	100	1.5	3	8	8
	HES08B10	38	700	100	1.5	3	12	12
	HES10B10	38	900	100	1.5	3	16	16
	HES12B10	38	1100	100	1.5	3	20	20
	HES15B10	38	1400	100	1.5	3	26	24
Light Engineered Strap	LES06B10	35	500	100	1.5	3	8	8
	LES08B10	35	700	100	1.5	3	12	12
	LES10B10	35	900	100	1.5	3	16	16
	LES12B10	35	1100	100	1.5	3	20	20

- Wood screws to be plugged and screwed into masonry. The lowest fixing to be within 150mm of the bottom of the strap.

Heavy/Light Restraint Straps

The H and L straps are designed to The Building Regulations for horizontal and vertical restraint.

- Heavy restraint straps meet requirements for lateral restraint of roof trusses, rafters and joists tied into masonry walls.
- Light restraint straps are designed for vertical loads such as wall plates on top of masonry walls.
- All common sizes in stock from 500 to 2000mm long, 100mm increments. Longer lengths avaialble to order, contact techincal support.

Material: Pre-galvanised mild steel.
SS Stainless Steel straps are available, to order.

Installation: Use all specified fasteners.

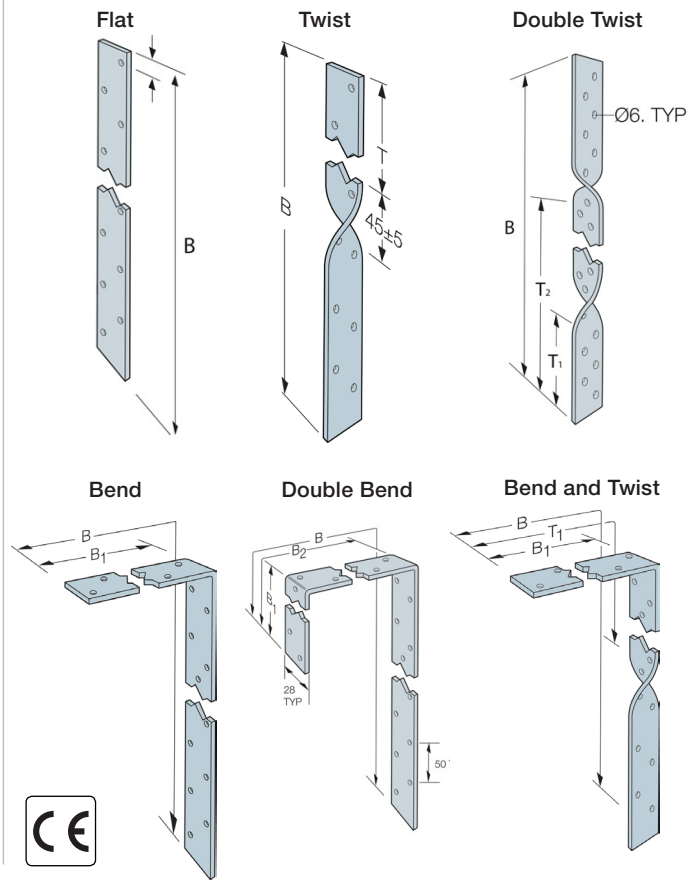
- Horizontal lateral restraint straps should be spaced not more than 2m centres and attached to at least 3 timber members through the use of noggings and packing. Attach to timber members using specified fasteners. The bend length should be a minimum of 100mm and should be positioned at the centre of an uncut block or brick.
- Vertical restraint strapping should be at least 1m long. Where straps are fixed to masonry, hardened nails Ø4mm x 75mm long or wood screws into plastic plugs Ø5.5 x 50mm long should be used. The lowest fixing should be located within 150mm of the bottom of the vertical strap.

Non standard straps are available to order.

To order: Specify model series, overall length, bend (B) dimension and/or twist (T) dimension.

Example: Heavy strap that has an overall length of 1m, a bend at 10cm and a twist at 20cm. (See illustration for detail on measuring bend & twist dimensions).

H	10	B10	T20
Strap Type	Strap Length (dm)	Bend Length (cm)	Twist Length (cm)



Common Bent Strap

Model No.	Installation Type	Dimension [mm]				Holes	
						Total	Flange B1
		A	B	B_1	t	Ø6	Ø6
H06B10	Horizontal	28	600	100	4.0	23	3
H08B10		28	800	100	4.0	31	3
H10B10		28	1000	100	4.0	39	3
H12B10		28	1200	100	4.0	47	3
H15B10		28	1500	100	4.0	59	3
H16B10		28	1600	100	4.0	63	3
H06B15		28	600	150	4.0	23	5
H08B15		28	800	150	4.0	31	5
H10B15		28	1000	150	4.0	39	5
H12B15		28	1200	150	4.0	47	5
H15B15		28	1500	150	4.0	59	5
H16B15		28	1600	150	4.0	63	5
L06B10	Vertical	28	600	100	2.0	23	3
L08B10		28	800	100	2.0	31	3
L10B10		28	1000	100	2.0	39	3
L12B10		28	1200	100	2.0	47	3

Common Twisted Strap

Model No.	Dimension [mm]				Holes	
					Total	Flange T1
	A	B	t_1	t	Ø6	Ø6
H06T15	28	600	150	4.0	22	6
H10T15	28	1000	150	4.0	38	6
L06T10	28	600	100	2.0	22	4
L10T10	28	1000	100	2.0	38	4
L12T10	28	1200	100	2.0	46	4
L12T15	28	1200	150	2.0	46	6

Common Flat Strap

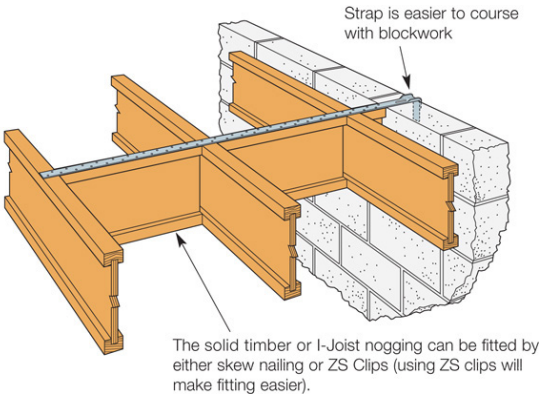
Model No.	Dimension [mm]			Holes
				Total
	A	B	t	Ø6
H10F00	28	1000	4.0	40
H12F00	28	1200	4.0	48
L10F00	28	1000	2.0	40
L12F00	28	1200	2.0	48

Bent Strap Performance Value

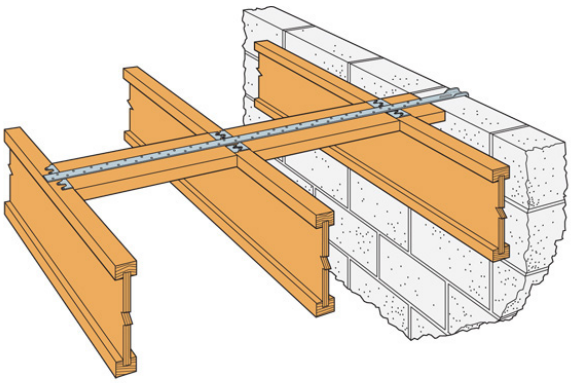
Model No.	Fasteners			Characteristic Load [kN]
	Masonry Wall	Floor Joist or Rafter	Wall Plate	
HxxBxx	-	8 - N3.75x30	-	8.0
LxxBxx	5 - 5.5x50mm Wood Screw	-	3 - N3.75x30	4.0

- Wood screws are to be plugged and screwed in the masonry. The lowest fixing shall be within 150mm of the bottom of the strap

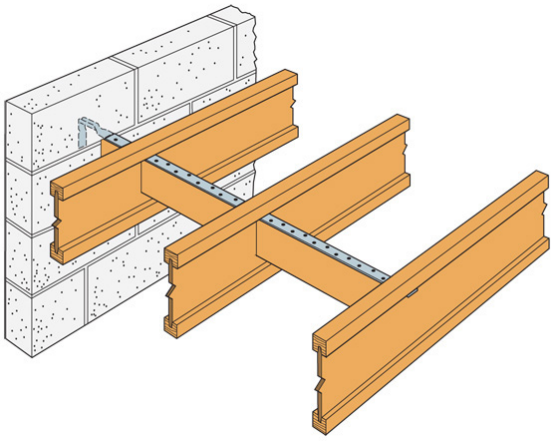
Restraint Straps Guide



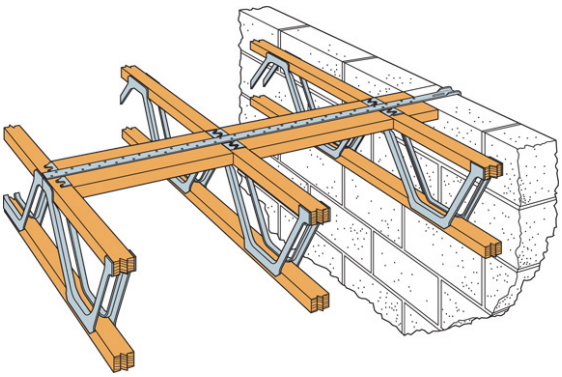
The HES strap can be fitted over joists without the need to notch the web or flange.



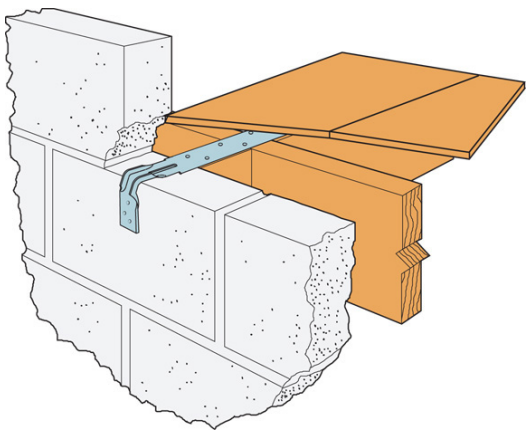
The HES strap can be used in conjunction with solid timber noggins.



The HES or H strap can also be fitted underneath the top flange of the I-Joist.



The HES strap can be fitted over metal web joists without the need to notch the flange.



HES strap used in conjuntion with solid timber joists.

Installation:

Horizontal lateral restraint straps should be spaced not more than 2m centres and attached to at least 3 timber members through the use of noggings and packing.

Attach to timber members using a minimum of 8 no. 3.75 x 30mm square twist nails. The bend length should be a minimum of 100mm and should be positioned at the centre of an uncut block or brick.

The downturn of strap is to be held tight against the cavity face of the inner leaf of blockwork.

Restraint Straps Guide

Fixing to Solid Noggings

- Straps to be installed at not more than 2m centres (or 1.25m where appropriate) along pitch of gable end.
- Ensure the position of the straps coincides with the block bed joint.
- Install HES or H strap to underside of solid noggings. Noggings to be fixed horizontally to avoid twisting of the restraint straps. **(1)**
- The downturn of strap is to be held tight against the cavity face of the inner leaf of blockwork **(2)**, preferably located and bedded on a substantial piece of blockwork, i.e. over the centre of a full block, with a single cut block over the strap. **(3)**
- Fix straps to noggings/trusses with eight 3.75 x 30mm square twist nails, evenly distributed along the length of the strap. (For NHBC warrantied buildings, in accordance with NHBC Standards 2017, section 7.2.8, four 50mm (minimum) x 4mm steel screws or four 75mm x 4mm round wire nails, with one fixing into the third rafter, shall be used instead of the square twist nails).
- Strap to be of sufficient length to be fixed to a minimum of three trusses.

Fixing to Longitudinal Binder to Truss Rafter

- Straps to be installed at not more than 2m centres (or 1.25m where appropriate) along pitch of gable end.
- Install HES or H strap on the 25 x 100mm longitudinal Rafter bracing **(1)**
- Where the position of the strap does not coincide with an existing longitudinal binder, and block bed joint, then the strap can be fixed to an additional 25 x 100mm binder. The binder is to be fixed over four trusses and nailed twice to each rafter with 3.35 x 65mm round wire nails.
- Ensure the position of the additional binder and strap coincide with the block bed joint
- The downturn of strap is to be held tight against the cavity face of the inner leaf of blockwork **(2)**, preferably located and bedded on a substantial piece of blockwork, i.e. over the centre of a full block, with a single cut block over the strap **(3)** (notch the block to accommodate the twist of the strap and ensure notch is fully mortared).
- Fix straps to bracing with eight 3.75 x 30mm square twist nails, evenly distributed along the length of the strap (For NHBC warrantied buildings, in accordance with NHBC Standards 2017, section 7.2.8, eight 25mm x 4mm steel screws shall be used instead of the square twist nails).
- Strap to be of sufficient length to be fixed to a minimum of three trusses.

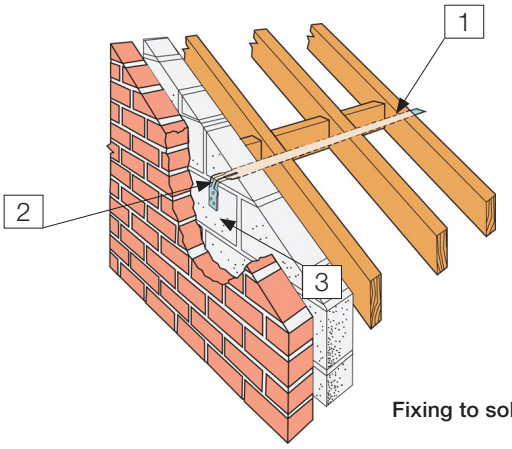
Vertical Application:

Fix LES or L strap to wall plate with 3 No. 3.75 x 30mm square twist nails and to masonry with 5 off dia. 5.5 x 50mm wood screws, plugged and screwed into masonry.

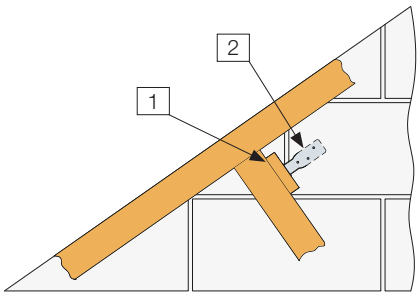
The lowest fixing should be located within 150mm of the bottom of the vertical strap.

Where L strap is fixed to truss, install with 3.75 x 30mm square twist nails, quantity depending on required uplift values.

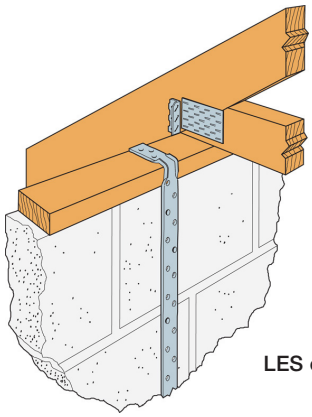
Roof Applications



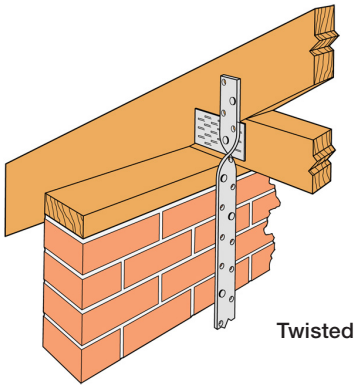
Fixing to solid noggins



Fixing to Longitudinal Binder to Truss Rafter



LES or L Strap to Wall Plate



Twisted L Strap to Truss

Folded Mini Strap

The FMS strap range provides restraint to masonry walls when the walls are supporting joist ends. They make installation easier, quicker and more cost effective - without compromising on wall stability.

In place of the traditional heavy strap at 2.0m c/c spacing, the FMS strap is installed to provide restraint at every joist end, whether built in or on hangers. So there's no need to calculate where the straps go, or worry about getting one in the wrong place. Every job gets done quicker and more smoothly.

The FMS strap goes on every joist end up to 600mm c/c spacing, and blockwork up to 125mm thick.

Material: Pre-galvanised mild steel.

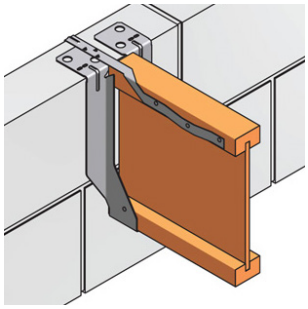
- Ideal solution for 2 ½ & 3 storey buildings which require straps on joist ends when built in to masonry walls or on hangers.
- Improves quality of build.
- Saves time and labour costs.
- Greatly reduces scope for installation errors.
- Simplifies on-site inspection process.

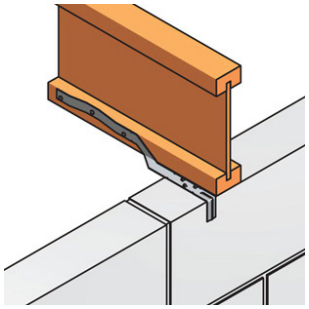
Product Dimensions

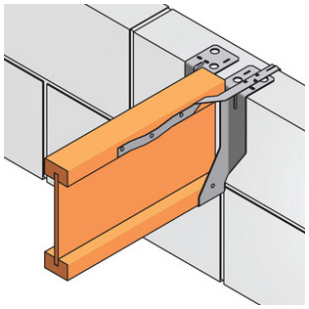
Model No.	Dimensions [mm]					Holes
	A	B	C	D	t	Ø4
FMS	40	375	135	20	1.5	3
FMSB	40	375	135	20	1.5	3
FMSC	40	375	135	20	1.5	3

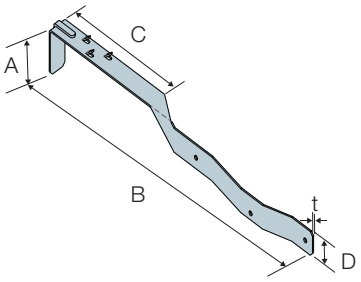
Performance Values

Model No.	Fasteners		Characteristic Load [kN]
	Masonry Wall	Floor joist	
FMS	-	3 - N3.75x30	2.4









FMS - For use where the joist and hanger are the same height:
1. Place carried joist into hanger, securing joist into the hanger by installing all specified fixings.
2. Sit FMS strap on top of joist as shown above, ensuring the return is hooked over supporting masonry and is tight against outer face of masonry.
3. Install 3 No 3.75x30mm square twist nails into the side of joist.
4. Build remaining block work above joist and strap.

FMSB - For use in conjunction with joists built into walls:
1. Sit joist onto blockwork, ensuring that joist is fully bearing onto supporting masonry.
2. Fit FMSB strap to side of joist at the bottom as shown above, ensuring the return is hooked over supporting masonry and is tight against outer face of the masonry.
3. Install 3 No 3.75x30 square twist nails through holes into side of joist.
4. Build remaining blockwork between and above joist and strap. See note 2.

FMSC - For use with coursing masonry hangers:
1. Place carried joist into hanger, securing joist into the hanger by installing all specified fixings.
2. Fit FMSC strap to side of joist as shown below, ensuring the return is hooked over supporting masonry and is tight against outer face of the masonry.
3. Install 3 No 3.75x30mm square twist nails through holes into the side of joist.
4. Build remaining block work above joist and strap

Notes:
1. All joist ends require a folded mini strap.
2. Standard masonry hangers require a minimum of 3 courses (675mm)of blockwork with mortar fully cured before applying a load to the floor.

HSA

Herringbone Strut

The HSA is a superior alternative to unreliable, slow and costly timber struts. Meets bracing requirements for long span domestic floors.

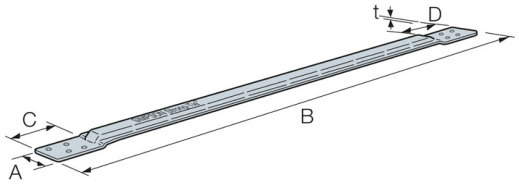
Material: Pre-galvanised mild steel.

Installation:

- Use all specified fasteners.
- Generally required at centre of span when floor joists exceed 2.5 metres. Spans exceeding 4.5 metres require two rows spaced at 1/3 and 2/3 span.
- HSA come sized to suit joist centre spacing of 400, 450 & 600mm.

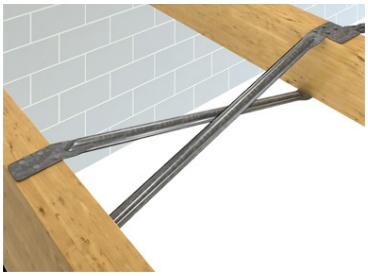
Product Dimensions

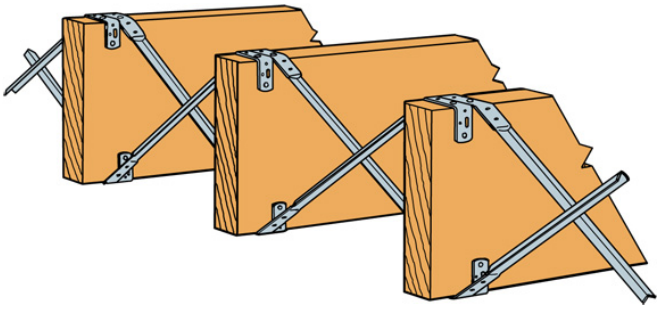
Model No.	Dimensions [mm]					Holes	
	A	B	C	D	t	End C	End D
						Ø4.1	Ø4.1
HSA400	27	480	53	53	1.0	4	4
HSA450	27	530	53	53	1.0	4	4
HSA600	27	660	53	53	1.0	4	4



Selection guide

Joist Size [mm]	Model No.			Fasteners	
	Joist Spacing [mm]			End C	End D
	400	450	600	N3.75x30	N3.75x30
50x175	HSA400	HSA450	HSA600	2	2
50x200	HSA400	HSA450	HSA600	2	2
50x225	HSA400	HSA450	HSA600	2	2





Standard HSA Installation

LSTA

Strap Tie

The LSTA strap tie is used to Install strap ties where tension connections are required. Commonly used as ridge ties and at wall intersections.

Material: Pre-galvanised mild steel.

Installation: Use all specified fasteners.

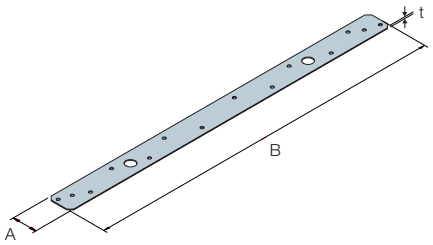
• Members must have the same number of installed nails at each end. Otherwise, the load is limited by the least number of nails in either member.

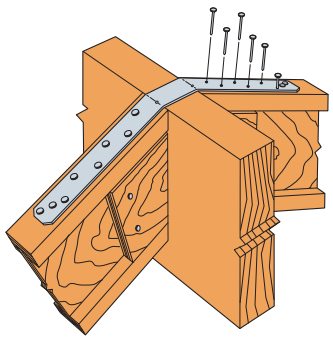
Product Dimensions

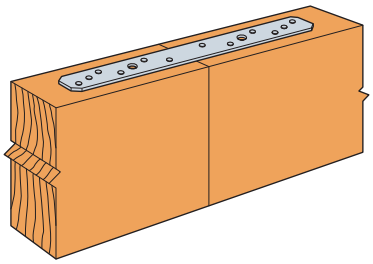
Model No.	Dimensions [mm]			Holes	
	A	B	t	Ø4.1	Ø12
LSTA9	32	228	1.0	8	2
LSTA12	32	304	1.0	10	2
LSTA18	32	457	1.0	14	2
LSTA24	32	610	1.0	18	2

Performance Values

Model No.	Fasteners	Safe Working Load [kN]	Strap Characteristic Capacity [kN]
	N3.75x30	N3.75x30	
LSTA9	8	5.1	1.4
LSTA12	10	5.1	1.8
LSTA18	14	5.1	2.5
LSTA24	18	5.1	3.2







Fixing Band

The FB fixing band is for all general light strapping needs. Perfect for DIY, industrial and agricultural applications. Comes in convenient 10 metre rolls.

FB20A fixing band is supplied in a plastic dispenser, which keeps it secure making it much easier to unroll. Suitable for all general light strapping applications.

Material: FB20A: Pre-galvanised mild steel
FB20S: stainless steel.

Installation:

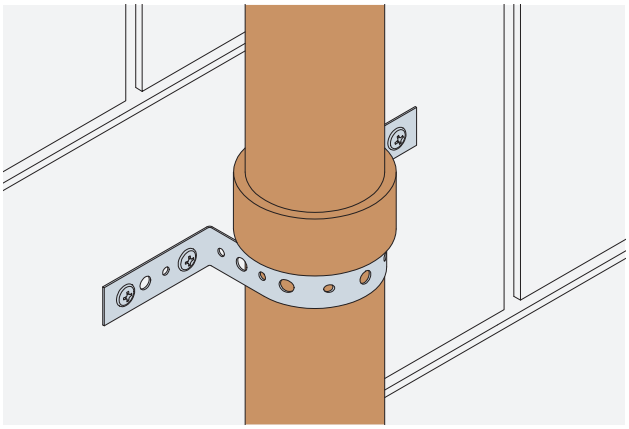
- FB can be easily bent or twisted for many versatile installations.
- Install FB20S using stainless steel fasteners

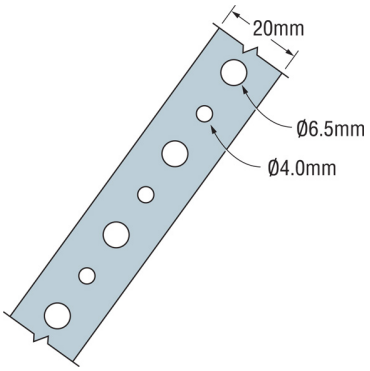
Product Dimensions

Model No.	Dimensions [mm]			Holes [mm]	
	Width	Length	t	Round	Square
FB20A	20	10 m	0.9	Ø4 & Ø7	7x7
SS FB20S	20	10 m	1.0	Ø4 & Ø6.5	-

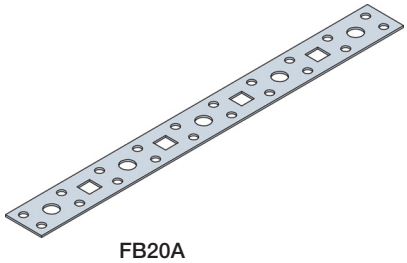
Performance Values

Model No.	Strap Characteristic Capacity [kN]
FB20A	3.0
FB20S	5.0





FB20S



FB20A

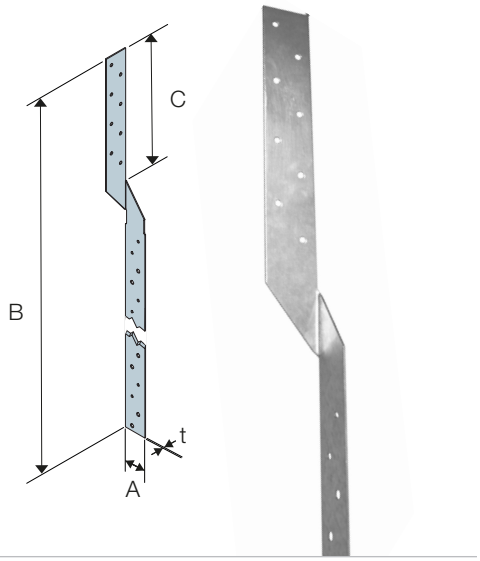
Twisted Strap Ties

- Restraint strap with a formed twist for timber to timber and timber to masonry connections.
- LTS1400E suitable for use in providing lateral / vertical restraint for timber gable panels.

Material: Pre-galvanised mild steel.

General Installation:

- Unless otherwise specified the building designer or structural engineer is to specify the type and quantity of fasteners to be installed, depending on the loading requirements.
- The quantity, type and/or size of fixings; spacings, edge distances and fixing substrait will dictate the capacity of each end of the strap. The lesser of these or the capactiy of the strap itself dictates the final capacity.



Product Dimensions & Performance Values

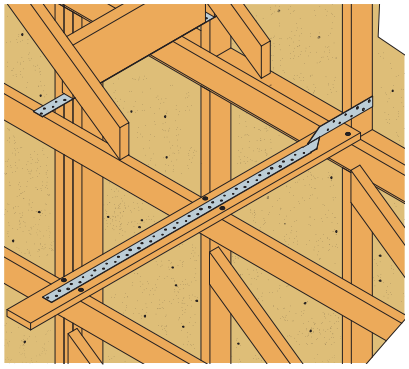
Model No.	Dimensions [mm]				Holes				Strap Characteristic Tensile Capacity [kN]
	A	B	C	t	Ø4	Ø5	Ø6	Ø9.5	
LTS18	32	457	194	1.2	26	-	-	2	2.9
NEW LTS1400E	38	1400	225	1.5	14	8	14	-	8.0

1. LTS18 fixings quantity and type are to be specified by building designer / structural engineer, unless otherwise stated.

LTS1400E – Lateral Restraint

Fixing to Truss Rafter Longitudinal Bracing / Binder:

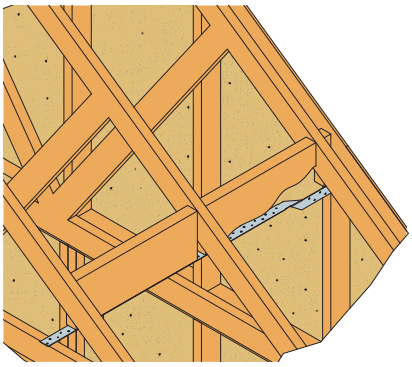
- LTS1400E is to be fixed to a 25mmx100mm longitudinal truss bracing.
- In instances where position of strap does not coincide with existing longitudinal bracing, the strap can be fixed to an additional 25mm x 100mm binder. The binder is to be fixed over four trusses and nailed twice to each truss bottom chord with 3.35x65mm round wire nails.
- Ensure the position of the additional binder and strap coincide with the gable panel vertical timber stud.
- LTS1400E is to be fixed to the side of the gable panel vertical stud with a minimum of three 3.75x30mm square twist nails.
- LTS1400E is to be fixed to the bracing / binder with eight 3.75x30mm square twist nails, evenly distributed along the length of the strap. (For NHBC warrantied buildings, in accordance with NHBC Standards, eight 25mmx4mm steel screws, shall be used instead of the square twist nails).
- The strap is to be of sufficient length to be fixed to a minimum of three trusses.



LTS1400E – Lateral Restraint

Fixing to Solid Noggins:

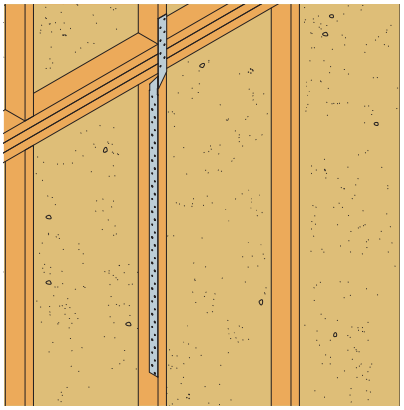
- LTS1400E is to be fixed to the side of the gable panel vertical stud with a minimum of three 3.75x30mm square twist nails.
- LTS1400E is to be fixed to the noggins / trusses with eight 3.75x30mm square twist nails, evenly distributed along the length of the strap. (For NHBC warrantied buildings, in accordance with NHBC Standards four 50mm (minimum) x4mm steel screws or four 75mmx4mm round wire nails, with one fixing into the third rafter, shall be used instead of the square twist nails).
- The strap is to be of sufficient length to be fixed to a minimum of three trusses.



LTS

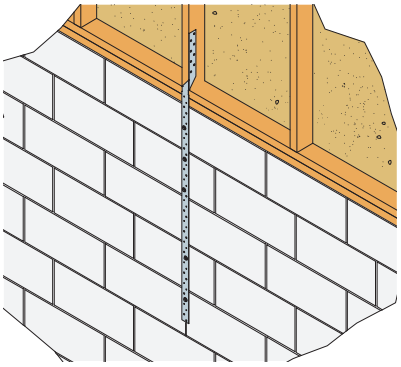
LTS1400E – Vertical Restraint
Fixing to Timber Frame Walls:

- LTS1400E is to be fixed to the face of the gable panel vertical stud with 3.75x30mm square twist nails.
- LTS1400E is to be fixed to the side of the timber frame panel vertical stud with 3.75x30mm square twist nails, evenly distributed along the length of the strap.
- The number of fixings should be in accordance with the design requirements and the lowest fixings should be located within 150mm of the bottom of the strap.



Fixing to Timber/Masonry Walls:

- LTS1400E is to be fixed to the side of the gable panel vertical stud with 3.75x30mm square twist nails.
- LTS1400E is to be fixed to the face of the masonry with either Ø4mmx75mm hardened nails, or Ø5.5mmx50mm wood screws into plugs .
- The number of fixings should be in accordance with the design requirements and the lowest fixings should be located within 150mm of the bottom of the strap.



MTS

Twisted Strap Ties

- Twist straps provide tension resistance for timber to timber connections.

Material: Pre-galvanised mild steel.

General Installation:

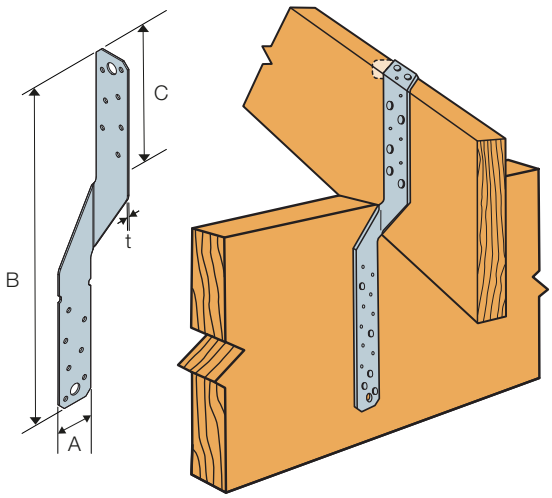
- The building designer or structural engineer is to specify the type and quantity of fasteners to be installed, depending on the loading requirements.
- The quantity, type and/or size of fixings; spacings, edge distances and fixing substrait will dictate the capacity of each end of the strap. The lesser of these or the capactiy of the strap itself dictates the final capacity.

CE

Product Dimensions & Performance Values

Model No.	Dimensions [mm]				Holes		Strap Characteristic Tensile Capacity [kN]
	A	B	C	t	Ø4	Ø9.5	
MTS12	32	305	117	1.5	14	2	4.0
MTS20	32	508	219	1.5	30	2	4.0
MTS30	32	762	219	1.5	35	2	4.0

1. Characteristic Tensile Capacity is the capacity of the strap only.
2. Fixings quantity and type are to be specified by building designer / structural engineer.



C2K

Crocodile Wall Extension Profile

The C2K is the UK's most popular solution to the tying-in of new walls to existing masonry walls/columns. The only system with "snap out" ties which can be positioned anywhere along the channel for a universal fit.

The C2K Crocodile Wall Starter is a quality engineered wall connector system that has been developed for use with most brick and block modules. This system has been designed for multi-purpose use where reliability and durability are important requirements. It provides lateral support to masonry wall panels in conversion, extension and new building work.

- BBA Approved for up to 8m, 3 storey work.
- Accommodates 10mm of vertical movement.
- Adjustable anchor ties to accommodate variation in brick courses.
- All fixings and ties provided within the packs.

The multi-purpose 'no flange profile' that has been designed to cater for brick and block walls of widths from 60 to 250mm. Ideal for internal and external applications where both sides of the new wall are to be fair faced.

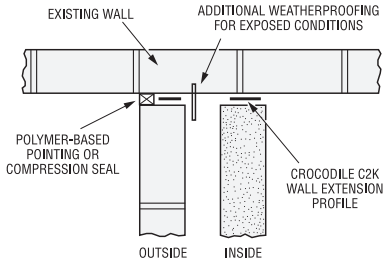
Material: Stainless Steel Profiles: Austenitic stainless steel.
Mild Steel Profiles: Pre-galvanised mild steel and powder coated.
Coach Screws: M6 x 50mm **Masonry Plugs:** High density polythene.

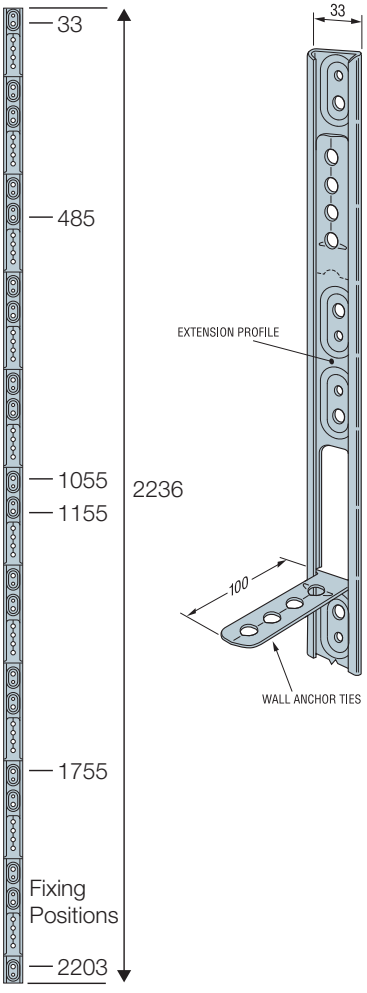
Product Dimensions

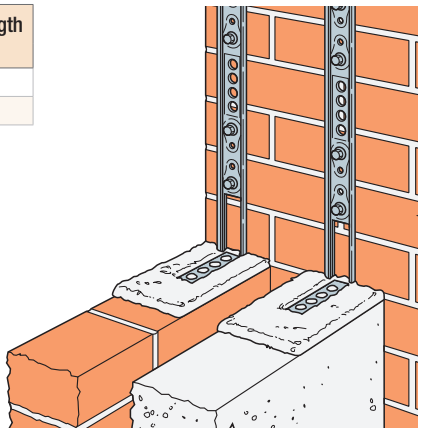
Model No.	Material	Dimensions [mm]	
		Width	Overall Length
C2KG	Galvanised	33	2236
SS C2KS	Stainless Steel	33	2236

Performance Values

Model No.	Wall Thickness	Fasteners	Shear Strength [kN]
		M6x50	
C2KG	60 - 250	6	3.5
C2KS	60 - 250	6	3.5







Typical C2K Installation.
The appropriate fixings and fastenings are included in the C2K packaging.

Installation:

- Use all specified fasteners.
- Fasteners must be spaced evenly, unless otherwise specified, and installed into the bricks or block and not into mortar joints.
- Insert wall ties provided at maximum 300mm centres, bedding the ties into the mortar joints.
- Detailed site work instructions are provided with each wall connector system.
- In exposed locations it may be necessary to incorporate additional protection, for example the insertion of a vertical dpc.

If a magnet sticks to it, then the steel is NOT austenitic.

"... ferritic stainless steel is unlikely to have sufficient corrosion resistance for use in cavity walls..."

According to the BRE (Building Research Establishment)

C2KG C2KS

Channel & Tie System

The CH is an accepted method of tying masonry to a framed structure using steel channels and ties. The channel can be fixed to the framed structure during or shortly after construction and the ties to be applied later by the bricklayer as the masonry is raised.

Material: Channels are available in epoxy powder coated galvanised steel.
Ties - Stainless Steel

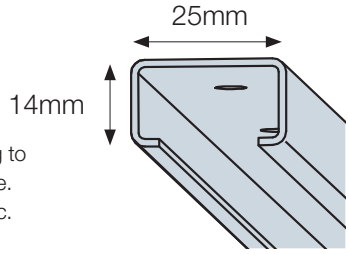
Tie

Channel

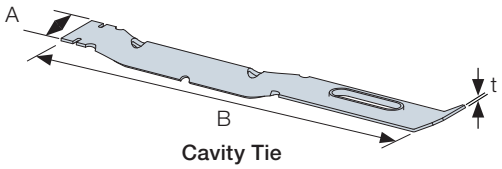
Product Dimensions

Model No.	Length [mm]
CH25/14PG2700	2700

- Structural engineer determines the correct fixing to be used for securing the channel to the structure.
- Hole diameter in channel = Ø5.5mm at 75mm cc.



CH25 Channel



Cavity Tie

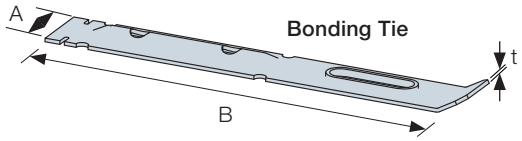
Cavity Ties Dimensions

Model No.	Dimensions [mm]		
	A	B	t
SS CH/T50C	21.5	117.5	1.0
SS CH/T75C	21.5	142.5	1.0
SS CH/T100C	21.5	167.5	1.0

Cavity ties are used to tie masonry back to framework across a cavity, yet resist the ingress of moisture.

Bonding Ties Dimensions

Model No.	Dimensions [mm]		
	A	B	t
SS CH/T150B	21.5	142.5	1.0

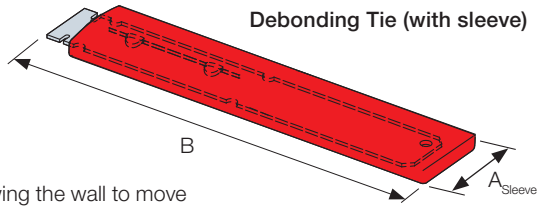


Bonding Tie

Bonding ties are designed to bond masonry firmly back to the frame, resisting both lateral and longitudinal forces. One example of their use would include a short run of masonry fixed to a column adjacent to an opening. In such cases the wall is particularly vulnerable to lateral loads, hence bonding ties are a solution.

CH Debonding Ties Dimensions

Model No.	Dimensions [mm]				
	Tie			Sleeve	
	A	B	t	A_{Sleeve}	B_{Sleeve}
SS CH/T150DB	21.5	142.5	1.0	25	140



Debonding Tie (with sleeve)

Debonding ties are designed to provide a level of lateral stability whilst allowing the wall to move longitudinally. This is achieved by providing plastic sleeves for the ties within which the tie can slip.

Performance Values

Model No.	Clear Cavity Width [mm]	Characteristic Capacities [N]					
		Tension		Compression		Shear	
		1mm Serviceability	Ultimate	1mm Serviceability	Ultimate	1mm Serviceability	Ultimate
CH/T50C	50	400	1200	700	2100	-	-
CH/T75C	75	400	1200	700	2100	-	-
CH/T100C	100	400	1200	700	2100	-	-
CH/T150B	-	-	-	-	-	240	720
CH/T150DB	-	-	-	-	-	240	720

WST

Stainless Steel Wall Starter Tie

The WST is a screw-in wall starter tie designed to join new masonry to existing walls without the need for jointing. Each tie is supplied with a nylon wall plug.

- Provides lateral stability for brickwork to blockwork.
- Suitable for use with interior or exterior walls.
- Simply drill a hole, place the wall plug and screw the tie into place.

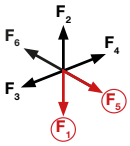
Material: Wall Tie: Austenitic Stainless Steel
Wall Plug: Nylon.

Product Dimensions

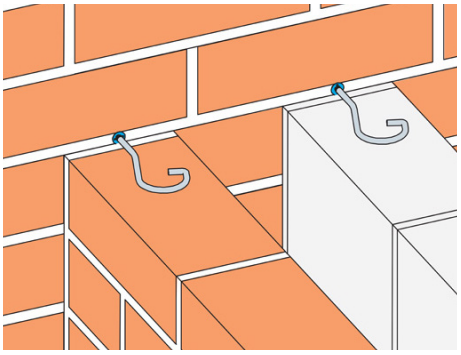
Model No.	Dimensions [mm]		
	L	T_L	t
WST135	135	38	Ø5

Performance Values

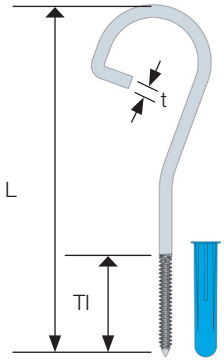
Model No.	Characteristic Capacities [N]			
	Tension		Shear	
	1mm Serviceability	Ultimate	1mm Serviceability	Ultimate
WST	1450	1560	940	1860



Note: Performance values stated are based upon tests undertaken with the wall plug installed into mortar of compressive strength class M2 designation (iv), that had cured for 28 days.



Typical WST Installation.



Installation

- Ties should be fixed at 225mm vertical centres and be central to each leaf of the new wall.
- Drill a hole for the wall plug (Ø10 x 45mm) and insert the nylon wall plug.
- Ties may be fixed horizontally into the mortar joint of the existing wall, or at an angle of 30° to the horizontal and then bent into the bed joint of the new brickwork. When fixing the tie into the mortar joint, ensure the mortar is sound (i.e. not soft or crumbly) and is capable of taking the fixings and the loads applied to it.
- Build the tie into the new leaf of the blockwork, ensuring that it is surrounded by mortar.

Wall Ties

The selection and spacing of wall ties depends upon the type of masonry to be tied, the cavity width, the type and height of the building, its location, tie embedment, installation density, positioning and design life.

Masonry wall ties are classified in accordance to PD6697 whilst timber frame wall ties are classified in accordance to BS 5268-6.1 (BS 5268-6.1 was officially withdrawn on the implementation of Eurocodes in March 2010, however, until further guidance is made available, timber frame wall ties should still be selected from the type classifications given in Annex B of BS 5268-6.1:1996).

Construction products that fall within the scope of a harmonised standard must be CE marked before they can legally be sold. Wall ties fall into the scope of BS EN 845-1, thus must carry the CE marking.

Wall ties type classifications and minimum performance requirements are as stated in the following tables:

Classification of Wall Ties by end use

Tie Type	Application	Building Height	Location
Masonry Wall Ties			
Type 1 (Heavy Duty)	Suitable for most masonry cavity and cladding walls and most building sizes. Not very flexible and not recommended for applications where there is expected to be excessive differential movement between leaves.	Any	Suitable for use on most sites. For relatively tall buildings located in vulnerable locations, and for buildings of unusual shapes, the necessary tie provision should be calculated.
Type 2 (General Purpose)	Suitable for domestic dwellings and small commercial buildings.	Up to 15m	Suitable for buildings on flat sites where the fundamental basic wind speed velocity is up to 31 m/s, except areas where the site is at an altitude of 150m or more above sea level.
Type 3 (Basic)	As Type 2.	Up to 15m	As Type 2 but fundamental basic wind velocity limited to 27 m/s.
Type 4 (Light Duty)	Suitable only for masonry cavity walls, comprising two leaves of similar thickness in the range of 90mm to 150mm. Suitable for internal separating cavity walls in most buildings.	Up to 10m	Suitable for flat sites within towns and cities anywhere in the UK except the north western fringes of Scotland and Ireland (where the fundamental basic wind velocity exceeds 27 m/s) and any areas where the site is at an altitude of 150 m or more above sea level.
Timber Frame Wall Ties			
Type 5	Suitable for tying masonry outer cladding on to softwood structural framework of residential and industrial/commercial buildings up to three storeys.	Up to 15m	Flat sites within towns and cities where the basic wind speed does not exceed 25 m/s and altitude is not more than 150m above sea level.
Type 6	As Type 5, but suitable for developments of up to four storeys.	Up to 15m	Flat sites within towns and cities where the basic wind speed does not exceed 25 m/s and altitude is not more than 150m above sea level.
Type 7	As Type 5, but suitable for developments of between 5 and 7 storeys, being designed to accommodate the increased vertical differential movement.	Up to 18m	Calculated for actual performance value required for each location.

Performance of Wall Ties

The tensile and compressive load capacity of tie types should be equal to, or greater than, the specified load capacity for a specified embedment length, but should not be less than the figures given in the following table.

Minimum declared tensile load capacity and compression load capacity for tie type for design embedment length.

Tie Type	Minimum Mortar Class & Designation	Declared Tensile Load Capacity [N]	Declared Compressive Load Capacity [N]
1	M2 (iv)	2500	2500 (2000)
2	M2 (iv)	1800	1300 (1050)
3	M2 (iv)	1100	800 (650)
4	M2 (iv)	650	450 (350)
5	M4 (iii)	600	425
6	M4 (iii)	630	440
7	M4 (iii)	To be declared by the Wall Tie Manufacturer	

Note: Values in brackets for Declared Compressive Load Capacity are those confirmed for inclusion in the next issue of PD6697 following a change to test procedures in BS EN 846-5. Therefore, ties originally tested to BS EN 846-5:2002 need to achieve the un-bracketed performance values whilst new ties tested to BS EN 846-5:2012 need to achieve the bracketed performance values.

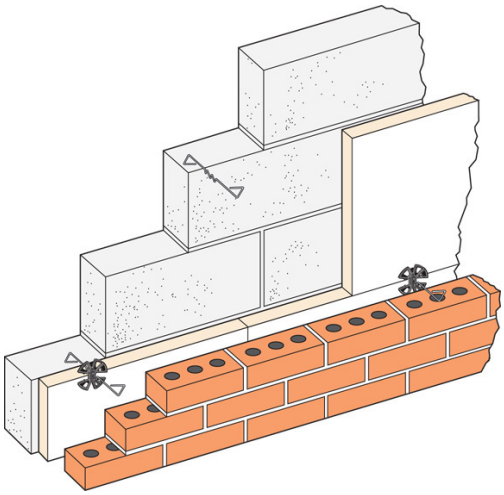
Recommended Density & Positioning

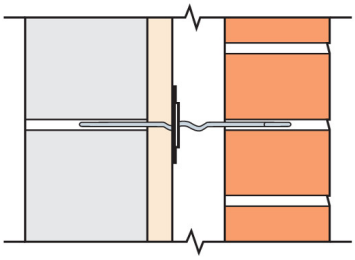
Masonry wall ties should be evenly distributed, typically at a density of 2.5 ties/m2 (900mm horizontal x 450mm vertical) except around openings, and should preferably be staggered. At the vertical edges of openings and at vertical unreturned or unbonded edges (for example at movement joints and up the sloping verge of gable walls), additional wall ties should be used at a rate of one tie per 300 mm height or equivalent, placed not more than 225 mm from the edge.

Insulation Board

Where insulation board is installed within the cavity and restrained by wall ties with insulation clips, it may be necessary to reduce the horizontal spacing of the ties to 600mm, to suit board widths.

Timber frame masonry wall ties should be evenly distributed, typically at a density of 4.4 ties/m2 (600mm horizontal x 375mm vertical). However in more severe locations the tie density should be increased to 7 ties/m2 (600mm horizontal x 225mm vertical)





Length of Tie and Embedment

Wall ties should be of the correct length to ensure they are fully embedded in the masonry.

The tie should have a minimum embedment of 50mm in each leaf, but also allow for site tolerances relating to the cavity width of the tie.

The recommended tie lengths will therefore achieve an embedment of between 62.5mm and 75mm.

Installation

To ensure wall ties are effective they should be installed as the inner leaf is constructed and not pushed into a mortar joint. The wall ties should be pressed into fresh mortar, NOT positioned directly onto the masonry with mortar placed around. It is important that the embedded portion of the tie is surrounded by mortar.

Ideally, ties should be installed level, or with a slight fall towards the outer leaf with the installed ties being free of mortar droppings to ensure the drip functions correctly.

The tie should be positioned such that the minimum required embedment is achieved and the drip portion of the tie is central within the open cavity.

The practice of 'bending up' installed wall ties should be discouraged as this can adversely affect the performance of the tie.

Sound Resistance

As stated within the Approved Document E 2003 - Resistance to the Passage of Sound - wall ties used in external and separating cavity walls have to have a minimum value of dynamic stiffness to reduce the transmission of airborne noise. Ties are separated into Type A and Type B.

- Type A: Can be used in separating walls and external walls subject to them also having the required structural capacity. They can be butterfly ties or other ties with a dynamic stiffness of less than 4.8 MN/m3.
- Type B: Can only be used in external cavity walls subject to them also having the required structural capacity. They can be butterfly ties or other ties with a dynamic stiffness of less than 113 MN/m3.

Strip Cavity Wall Tie

The CWT is a range of wall ties designed for connecting masonry walls to masonry walls, type 1 Cavity Wall Tie.

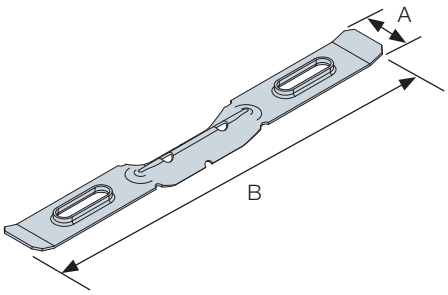
- Suitable for use with cavities 50-175mm.
- Deep 'V' profiled drip reduces mortar build up during construction and prevents water from crossing to the inner leaf of the masonry.

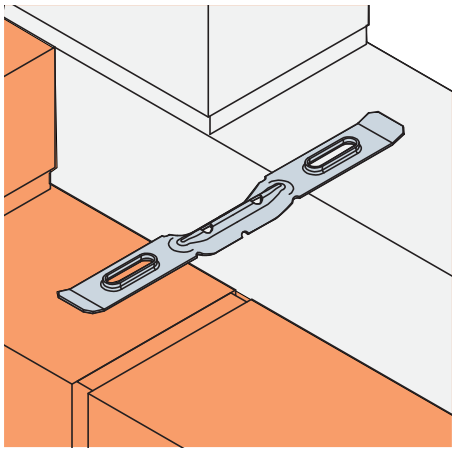
Material: Austenitic stainless steel.

Installation: Refer to Wall Tie notes, Pages 167 & 168.

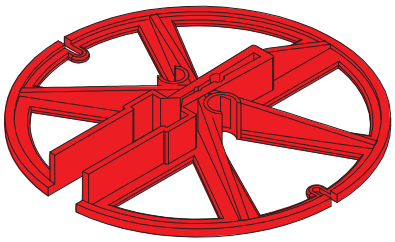
Product Dimensions

	Model No.	Type Classification	Cavity Width [mm]	Dimensions [mm]	
				A	B
SS	CWT50	Type 1	50	21.5	175
SS	CWT75		51-75	21.5	200
SS	CWT100		76-100	21.5	225
SS	CWT125		101-125	21.5	250
SS	CWT150		126-150	21.5	275
SS	CWT175		151-175	21.5	300





Typical CWT Installation.
Please Note: Tie should be embedded into the mortar.



IRC001 Retaining Clip

- Suitable for use with all cavity wall ties.
- Used to hold rigid insulation material back to structure.

WTS

Wire Wall Tie

The WTS is a range of wall ties designed for connecting masonry walls to masonry walls.

- Available in Type 2,3 and 4.
- Suitable for use with cavities ranging from 50mm to 175mm.
- Use in conjunction with IRC001 to hold rigid insulation in place.

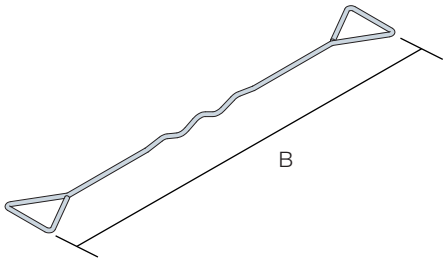
Material: Austenitic stainless steel.

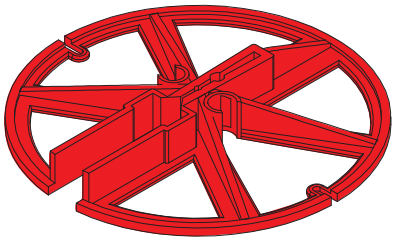
Installation: For walls in which both leaves are 90mm or thicker, masonry ties need to be placed at not less than 2.5 per square metre (900mm horizontal x 450mm vertical centres). The ties should be evenly distributed throughout the wall areas, with the exception of around openings and should be staggered where possible.

Product Dimensions

	Model No.	Type Classification	Cavity Width [mm]	B mm]
	Central Drip			
SS	WTS2-200	Type 2	50-75	200
SS	WTS2-225		76-100	225
SS	WTS2-250		101-125	250
SS	WTS2-275		126-150	275
SS	WTS3-300	Type 3	151-175	300
SS	WTS4-200	Type 4	50-75	200
SS	WTS4-225		76-100	225
SS	WTS4-250		101-125	250
SS	WTS4-275		126-150	275
	Offset Drip			
SS	WTODS2-225IRCP50	Type 2	76-100	225
SS	WTODS2-250IRCP50		101-125	250
SS	WTODS2-275IRCP50		126-150	275
SS	WTODS2-300IRCP50	Type 3	151-175	300

Note: The offset drip variation is for use where insulation materials are in the cavity. Box contains wall ties and insulation disc.



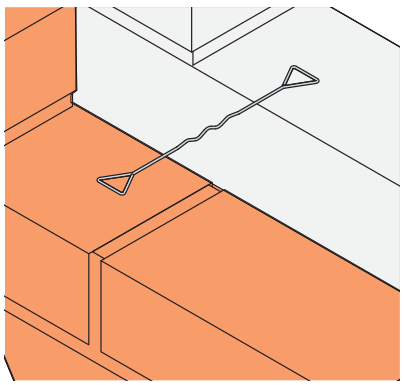


IRC001 Retaining Clip

- Suitable for use with all cavity wall ties.
- Used to hold rigid insulation material back to structure.

WTS4: Type A Approval

WTS4-200 and WTS4-225 ties meet the requirements of Approved Document E: Resistance to the passage of Sound and are suitable for use in separating party walls of new build attached dwellings.



Typical installation

Please note: Tie should be embedded into the mortar. Not shown above for clarity.

LWTS

Strip Cavity Wall Tie

The LWTS is a range of wall ties designed for connecting masonry walls to masonry walls.

General purpose ties suitable for cavity widths up to 75mm.

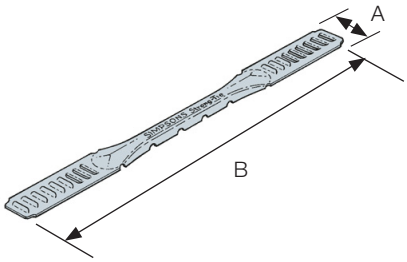
Material: Austenitic stainless steel.

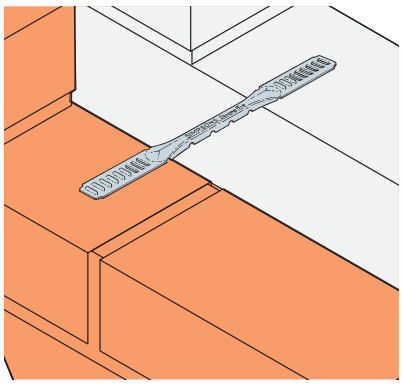
Installation: Refer to Wall Tie notes, Pages 167 & 168.

Ties should be embedded into each leaf by at least 50mm, however to allow for normal tolerances of cavity widths this is usually increased.

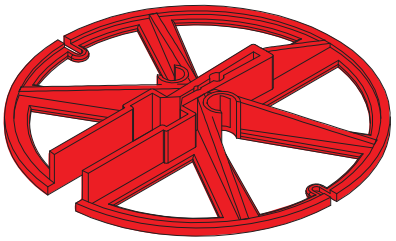
Product Dimensions

	Model No.	Type Classification	Cavity Width [mm]	Dimensions [mm]	
				A	B
SS	LWTS	Type 3	50 - 75	18	205





Typical installation
Please note: Tie should be embedded into the mortar. Not shown above for clarity.



IRC001 Retaining Clip

- Suitable for use with all cavity wall ties.
- Used to hold rigid insulation material back to structure.

BTS/SWT

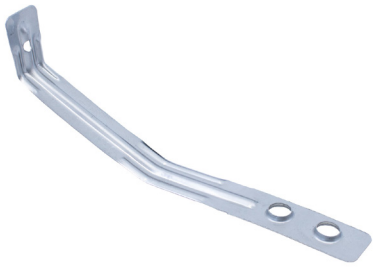
Brick to Timber & Brick to SIP Tie

The BTS and SWT wall ties used to restrain external brickwork back to timber frame building structures.

The BTS and SWT offer an outstanding combination of performance and cost in a wall tie for use with timber frame or SIP (Structural Insulated Panels).

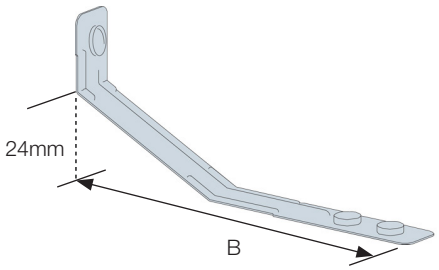
Allows up to 24mm of differential movement.

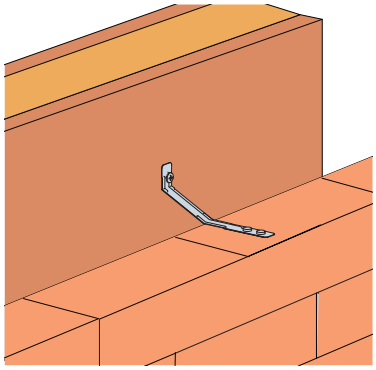
Material: Austenitic stainless steel.



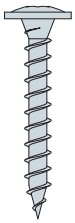
Product Dimensions

	Model No.	Application	Type Classification	Cavity Width [mm]	B
SS	BTS50N	Timber Frame Cavity Wall Tie	Type 6	50	124
SS	BTS75N	Timber Frame Cavity Wall Tie	Type 6	75	149
SS	BTS100N	Timber Frame Cavity Wall Tie	Type 6	100	174
SS	SWT50	SIP Cavity Wall Tie	Type 6	50	124
SS	SWT75	SIP Cavity Wall Tie	Type 6	75	149
SS	SWT100	SIP Cavity Wall Tie	Type 6	100	174

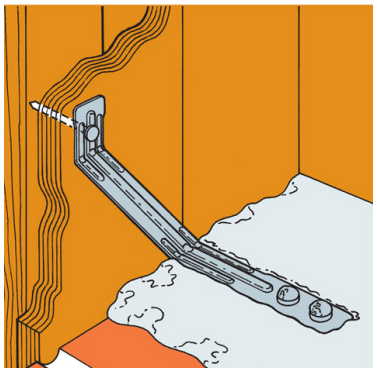




SIP Installation using SWT
Due to having to fix to OSB alone, when building with SIP, a stainless steel screw (supplied with the tie) is required to maintain the strength of the connection.



SCSS4.0x30mm Screw Supplied with SWT.



Timber Frame Installation using BTS
Installed with 3.35mm x 50mm stainless steel annular ring shank nails (supplied with tie).

NSS3.35x50mm Nail Supplied with BTS.

HMBTS

High Movement Timber Frame Tie

NEW

The HBMTS type 7 timber frame wall tie is designed to connect the masonry outer leaf to a structural timber frame.

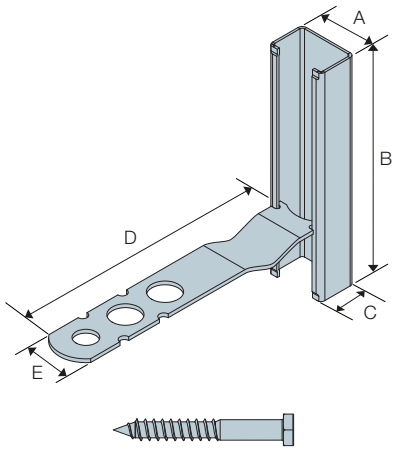
- Available in a range of sizes to suit cavities from 50mm to 150mm.
- The HMBTS can accommodate up to 65mm of vertical movement.
- Type 7 wall tie used in instances where the amount of required deflection exceeds that of the standard type 6 wall tie.

Material: Austenitic stainless steel.

CE

Product Dimensions

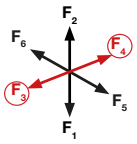
	Model No.	Cavity Width [mm]	Product Dimensions [mm]				
			A	B	C	D	E
SS	HMBTS50N	50	24	90	16	115	19
SS	HMBTS75N	75	24	90	16	130	19
SS	HMBTS100N	100	24	90	16	150	19
SS	HMBTS150N	150	24	90	16	200	19

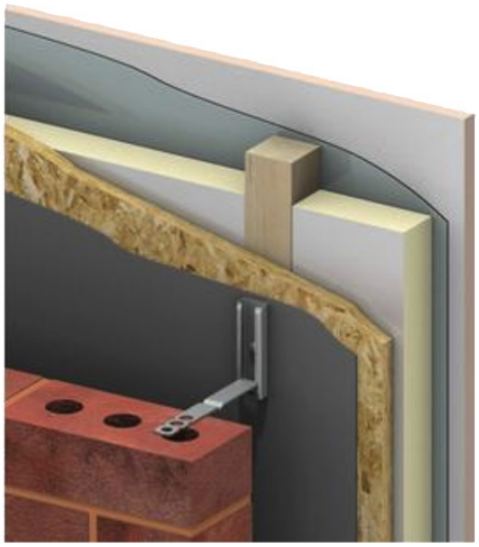


HMBTS Stainless Steel Channel, Strip Tie & M6x50mm Stainless Steel Fixing.

Performance Values

Model No.	Characteristic Capacities [N]	
	Tension	Compression
	Ultimate	Ultimate
HMBTS	1210	970





Installation:

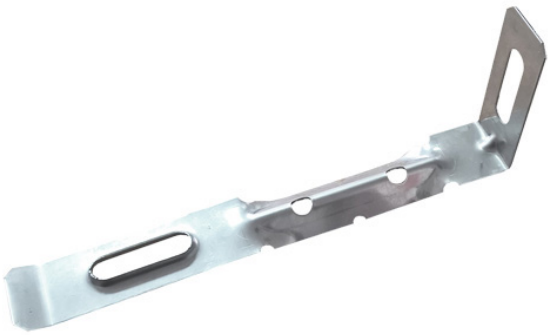
- HMBTS is installed with the M6x50mm Stainless Steel Coach Screw (supplied).
- The channel is to be positioned onto the timber frame so that the coach screw is installed through the OSB sheathing and into the timber frame stud.
- Position the HMBTS so that when the tie is installed it sits 10mm to 12mm from the bottom of the channel.
- The density of ties required for the building is to specified by the building designer / structural engineer.

Cavity Frame Tie

The FTC is a cavity frame tie which can be used for masonry to masonry, concrete to masonry or steel to masonry construction.

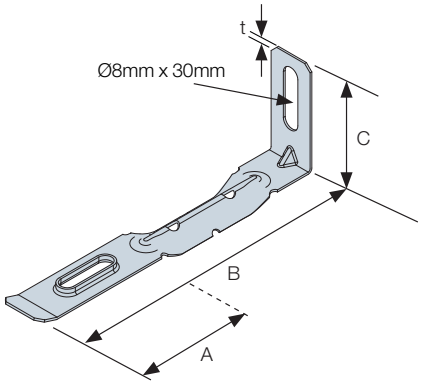
- 8mm diameter vertical slot to accomodate M6 fixings.
- Suitable for use on cavities ranging from 50mm to 150mm.
- Deep 'V' profiled drip reduces mortar build up during construction and prevents water from crossing the cavity to the building's inner leaf.

Material: Austenitic stainless steel.



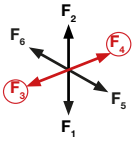
Product Dimensions

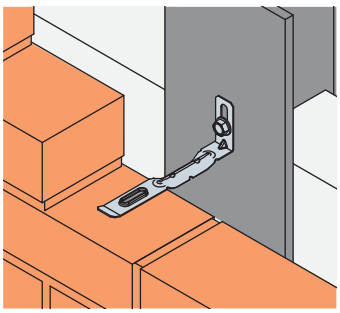
	Model No.	Cavity Width [mm]	Dimensions [mm]				Holes
			A	B	C	t	Flange C
SS	FT175C	50	21.5	125	50	1.0	1 - Ø8x30 Slot
SS	FT200C	51-75	21.5	150	50	1.0	1 - Ø8x30 Slot
SS	FT225C	76-100	21.5	175	50	1.0	1 - Ø8x30 Slot
SS	FT250C	101-125	21.5	200	50	1.0	1 - Ø8x30 Slot
SS	FT275C	126-150	21.5	225	50	1.0	1 - Ø8x30 Slot



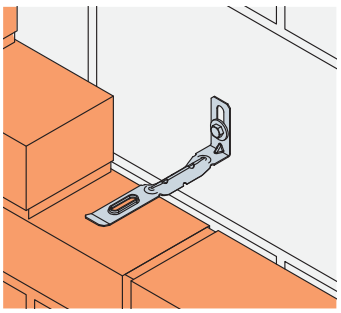
Performance Values

Model No.	Characteristic Capacities [N]			
	Tension		Compression	
	1mm Serviceability	Ultimate	1mm Serviceability	Ultimate
FTC	556	1670	1011	2410

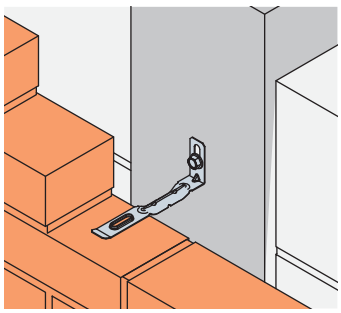




Brick to steel Installation



Brick to block Installation



Brick to concrete Installation

Installation:

- Install to concrete with mechanical or resin anchors, to steel with self drilling screws and to masonry with suitable plastic plugs and screws.
- Minimum 18mm diameter washer required in all instances. For stated tension loads to apply, the fixing must be installed at the bottom of the slot.
- Isolation pads or sleeves are required to isolate stainless steel frame ties from mild steel support or fixings.

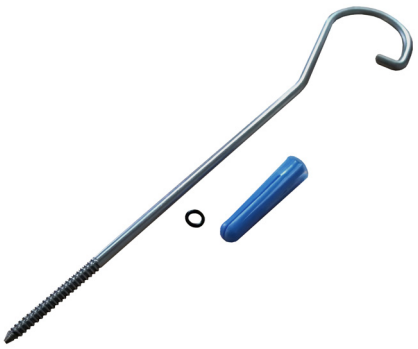
WSTC

Stainless Steel Cavity Wall Tie

The WSTC is a screw-in cavity wall tie suitable for connecting a new leaf of masonry to an existing structure.

- Supplied with nylon wall plug and neoprene 'O' ring.
- Suits cavities 50 to 125mm.

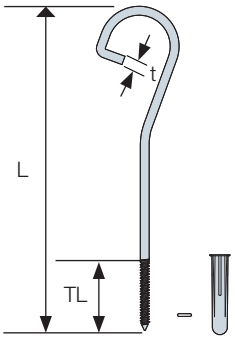
Material:
- Wall Tie: Austenitic stainless steel.
- Wall Plug: Nylon.
- 'O' Ring: Neoprene.



CE

Product Dimensions

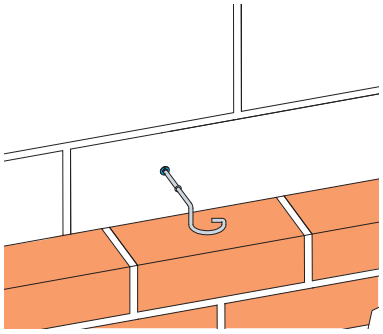
	Model No.	Cavity Width [mm]	Dimensions [mm]		
			L	TL	t
SS	WSTC180	50 - 75	180	38	Ø5
SS	WSTC200	76 - 100	200	38	Ø5
SS	WSTC230	101 - 125	230	38	Ø5



Performance Values

Model No.	Characteristic Capacities [N]				
	Tension		Shear		
	1mm Serviceability	Ultimate	1mm Serviceability	Ultimate	Compressive Strength at 1mm Displacement [N]
WSTC	1150	1560	1860	2250	1011

Installation:
- Tie should be fixed into brickwork, blockwork or stone.
- Tie must be installed horizontally.
- Drill a hole for the wall plug (Ø10 x 45mm) and insert the nylon wall plug.
- Slide the neoprene 'O' ring onto the tie and screw into the plug.
- Build the tie into the new leaf of blockwork ensuring that it is surrounded by mortar.



Typical WSTC Installation

Thin Joint Masonry & Timber Frame Helical Wall Tie

Stainless Steel cavity wall ties for thin joint blockwork systems, and timber frame structures to masonry facades.

- A continuous helix ensures multiple drip points to prevent moisture crossing the cavity.
- Suitable for cavities ranging from 50mm to 150mm (See table below).
- Can be used in conjunction with the IRC Insulation Retaining Clip when insulation has to be retained within the cavity.

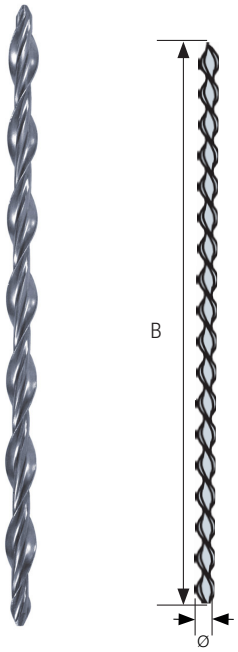
Timber Frame Tie Application

- Cold Roll Formed & Twisted, helical ties have a nominal diameter of 5mm and a cross sectional area of 6.25mm^2.
- Ties are hammered directly into the timber frame studs.
- The frame tie is encapsulated within the mortar bed at the outer leaf connection.
- An installation tool is required to hammer the tie into the timber frame.

Thin Joint Masonry Tie Application

- Cold Roll formed & twisted, helical ties have a nominal diameter of 7mm, with a cross sectional area of 9mm^2.
- Ideal for applications where the inner & outer joints of masonry do not course.
- Ties can be hammered directly into the AAC concreate block without the need for pre-drilling.
- An installation tool is required to hammer the tie into the AAC Block.

Material: Austenitic stainless steel.



Product Dimensions

	Model No.	Type Classification	Cavity Width [mm]	Dimensions [mm]		Minimum Tie Embedment Depth [mm]		
				B	Ø	Timber Frame	AAC Block 3.5N/mm^2	Mortar
M SS	HELI07205A2	Type 3	50	205	7	-	80	70
SS	HELI07230A2	Type 3	50-75	230	7	-	80	70
SS	HELI07255A2	Type 3	75-100	255	7	-	80	70
SS	HELI07280A2	Type 3	100-125	280	7	-	80	70
SS	HELI07305A2	Type 3	125-150	305	7	-	80	70
TF SS	HELI05180A2	Type 6	50	180	5	35	-	70
SS	HELI05205A2	Type 6	50-75	205	5	35	-	70
SS	HELI05230A2	Type 6	75-100	230	5	35	-	70
SS	HELI05255A2	Type 6	101 - 125	255	5	35	-	70

M Masonry
TF Timber Frame

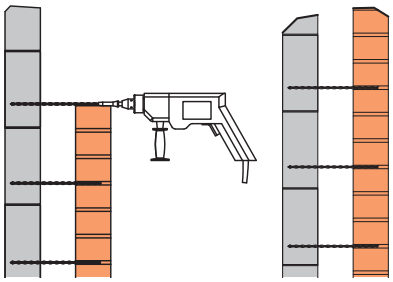
Accessories

Hammer Installation Tool

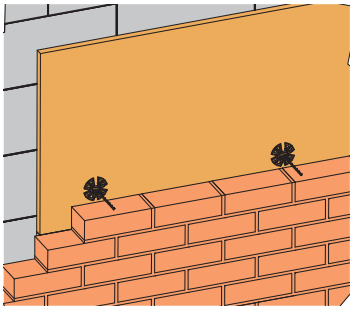
Model No.
HELI05HAND

SDS Installation Tool

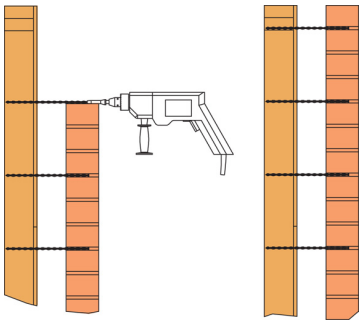
Model No.
SDSD3/8-RB



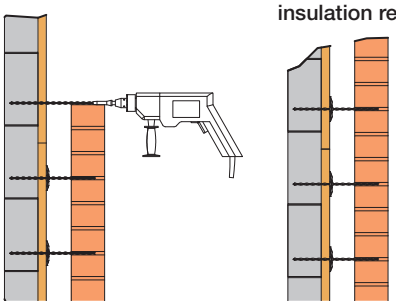
Typical Thin Joint masonry Installation



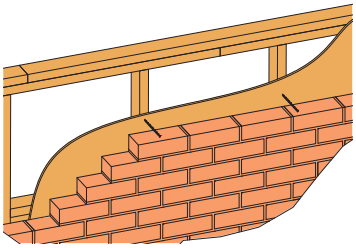
Installation, shown with IRC insulation retaining clip.



Typical Timber Frame Installation



Typical Thin Joint Installation with Insulation



Timber Frame Installation.

Helical Stitching Bar

The stainless steel Helical Bars are 1000mm long, 6mm diameter and can stitch cracks often found around door and window openings, to reinstate the structural integrity of the wall.

They are inserted into the bed joints and mortared in. (remove old mortar first).

The Helical bar can be cut to length to suit and can be bent to be used on corners.

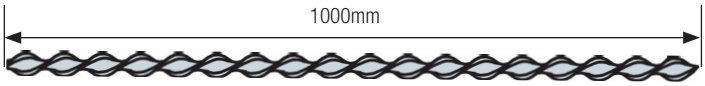
Material: Austenitic stainless steel.

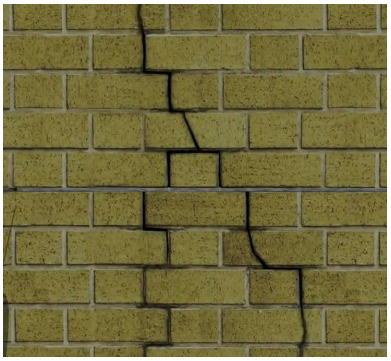
Product Dimensions

	Model No.	Tie Legnth [mm]
SS	HELIST061000	1000

Details:

- 6mm diameter x 1000mm long
- Packs of 10
- Helical twist adds to strength
- Used for crack stitching and reinforcement





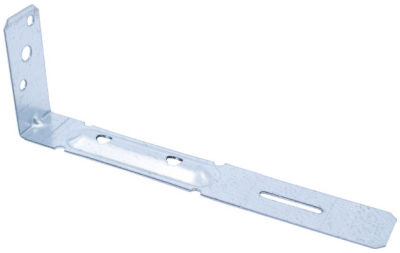
FT

Frame Tie

When fixing windows, door frames etc. to masonry the frame tie provides enhanced mortar keying and reduces the risk of injury from sharp edges.

Material: Galvanised mild steel or austenitic stainless steel.

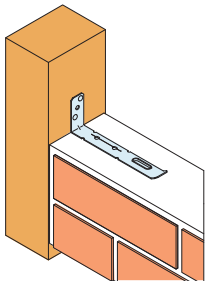
Note: Frame tie should be fully embedded into mortar.

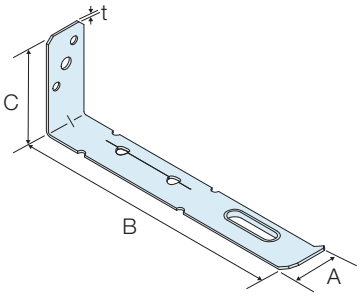


Product Dimensions

Model No.		Dimensions [mm]				Holes Flange C	
Galvanised	Stainless Steel	A	B	C	t	Ø4.1	Ø6
FT150	FT150S	21.5	100	50	1.0	2	1
FT175	FT175S	21.5	125	50	1.0	2	1
FT200	FT200S	21.5	150	50	1.0	2	1
FT225	FT225S	21.5	175	50	1.0	2	1
FT250	FT250S	21.5	200	50	1.0	2	1

NOTE: Not suitable for cavity wall construction.





FT-DB

Frame Debonding Tie

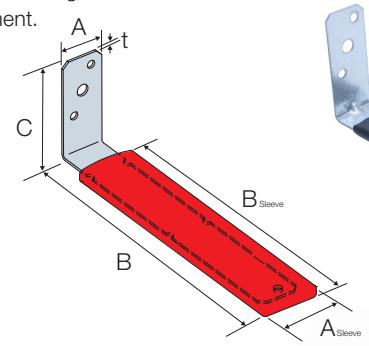
If tying new masonry to an existing structure with individual ties, the designer may choose a frame debonding tie to allow for differential movement.

Material: Galvanised mild steel & plastic sleeve.

Product Dimensions

Model No.	Dimensions [mm]						Holes Flange C	
	A	B	C	t	A_{Sleeve}	B_{Sleeve}	Ø4.1	Ø6
FT150DB	21.5	100	50	1.0	25	135	2	1
FT200DB	21.5	150	50	1.0	25	135	2	1

NOTE: Not suitable for cavity wall construction.



BST/DBST

Bonding & De-Bonding Strip Ties

If straight joints are formed in runs of masonry wall, the designer may either wish to form a bond or allow movement. This can be achived using bonding or debonding strip ties.

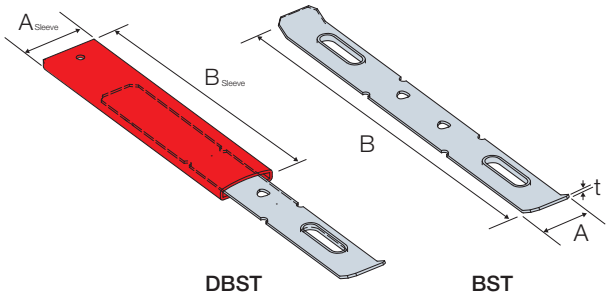
Material: Galvanised mild steel & austenitic stainless steel.
Plastic Sleeve (Debonding Version).

Product Dimensions

Model No.		Material	Dimensions [mm]				
Bonding	De-bonding		A	B	t	A_{Sleeve}	B_{Sleeve}
BST200G	DBST200G	Galvanised	21.5	200	1.0	25	135
SS BST200S	DBST200S	Stainless Steel	21.5	200	1.0	25	135
BST225G	DBST225G	Galvanised	21.5	225	1.0	25	135
SS BST225S	DBST225S	Stainless Steel	21.5	225	1.0	25	135
BST250G	DBST250G	Galvanised	21.5	250	1.0	25	135
SS BST250S	DBST250S	Stainless Steel	21.5	250	1.0	25	135

Performance Values

Model No.	Characteristic Capacities [N] Shear	
	1mm Serviceability	Ultimate
BST	333	959
DBST	333	959



DBST BST

Guidance for Use - Bead & Mesh

Simpson Strong-Tie® supplies a range of Beads and Mesh to satisfy the requirements of modern building design, along with the needs of traditional repair and maintenance work.

We only recommend the use of Stainless Steel or PVC-u products in external applications. Galvanised steel beads should not be used externally, according to NHBC and LABC regulations.

Corrosion Protection

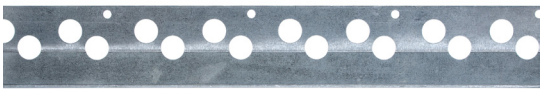
- In normal circumstances matured plasterwork may be regarded as dry and therefore non-corrosive.
- The initial plaster drying out period should be kept to a minimum (maximum of 5-7 days) to reduce the risk of possible corrosion of the steel.
- The use of water contaminated with soluble salts in plastering mixes should be avoided, as should soluble chlorides, as they are likely to increase the risk of metal corrosion.
- All additives added to the plaster mix shoud be checked for their chemical components as they may adversely affect the coating of the bead.
- Stainless steel beads are specifically designed for cement based renders and should not be used with gypsum based plasters.
- To prevent bimetallic corrosion, ensure all metal fixings used in the installation are of the same material, or are separated with a suitable plastic sheathing.
- In general, metal beads should be kept dry and stored flat. Care should also be taken to prevent damage to the galvanised coating.
- Refer to the plaster/render manufacturer for further information.

Material: Simpson Strong-Tie® Plastering Accessories are manufactured from either: Pre-Galvanised Mild Steel, Austenitic Stainless Steel or PVC-u.

MILD STEEL GALVANISED TO Z275 IS NOT SUITABLE FOR EXTERNAL APPLICATIONS SEE NHBC & LABC REGULATIONS FOR GUIDANCE. AUSTENITIC STAINLESS STEEL or PVC-u SHOULD BE USED IN EXTERNAL APPLICATIONS WITH THE APPROPRIATE CEMENT BASED RENDERS.

General Installation Notes:

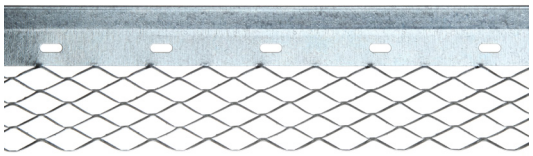
- The most appropriate bead should be specified in accordance with the application, required plaster render depth and desired finish. In external applications, we only recommend the use of austenitic stainless steel or PVC-u products.
- When using beads internally, ensure that the drying out time of the plaster is kept to a minimum, particularly during winter months. Provide heating and ventilation to the area when necessary.
- Ensure that all metal components used in a given installation are of the same material type.
- Always wear gloves when cutting or handling to prevent injury from sharp edges.
- Beads and Mesh may be cut to size as required by using snips across the mesh and a hacksaw across the bead's noses.
- Beads should be fixed in accordance with one of the following methods:
  1. Pressing the bead's wings firmly into plaster dabs placed at approximately 600mm centres both sides of the arris.
  2. The wings may be embedded into the first coat of plaster for normal two coat work.
  3. Nailing to a background with galvanised, or stainless steel nails.
- When beads are used in conjunction with metal lath backgrounds, galvanised or stainless steel tying wire may be used. Ensure the wire material matches the bead and lath materials. All wire should be twisted tightly and the ends bent away from the finished face of the coating. (For lath fixing details refer to DML and RBL sections of catalogue).
- Avoid damage to beads when trowelling plaster or render.
- Allow plaster/render to dry completely before applying paint.



Internal Perforated Stop Bead

Internal Thin Coat Bead

Angle Bead



Internal Mesh Wing Stop Bead

Internal Mini Mesh Bead

It is the users respsonsibility to make sure that the correct product is used. If further advice is needed, contact our technical department on 01827 255600 or via email at uktechnical@strongtie.com.

PSB/PEB/MVB

Plastering and rendering made simple.

- Products simply fixed with plaster dabs or nails.
- Edges, arrises, corners, joints and abutments all easier to form.
- Designed to minimise potential chipping, cracking and associated damage.

We only recommend the use of stainless steel or PVC-u products in external applications. Galvanised steel beads should not be used externally, according to NHBC and LABC regulations.

PSB Internal Thin Coat Plaster Stop Bead (30mm Perforated Wing)

- Provides a neat, finished, thin coat plaster edge wherever required.
- Numerous applications internally including those at openings, abutment of walls and for ceiling finishes.

PSB Plaster/Render Stop Bead (65mm Mesh Wing)
Galvanised - Internal Use
Austenitic Stainless Steel or PVC-u - External Use

- Provides a neat finish plaster edge wherever required.
- Numerous applications internally and externally, including those at openings, abutments of walls and for ceiling finishes.

PEB Internal Plasterboard Edge Bead (25mm Wing)

- Provides reinforcement for plasterboard edges.
- Suitable for 9.5mm or 12.5mm plasterboard.

MVB Movement Bead (140mm overall width, 65mm wing)
Galvanised - Internal Use
Austenitic Stainless Steel or PVC-u External Use

- Movement Bead consists of two lengths of Stop Bead linked with a white PVC extrusion.
- Allows +/-3mm differential expansion or settlement movement between adjoining surfaces.

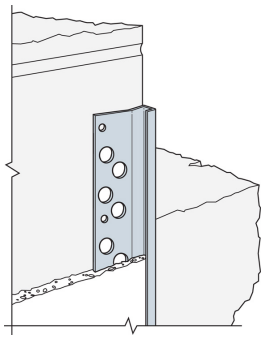
External Render Stop Bead (16mm-19mm Render Depth, 45mm Wing)
Austenitic Stainless Steel or PVC-u - External Use

- Designed to provide an aesthetic, enhanced, weathering detail.
- Provides reinforcement to resist impact damage.
- Use austenitic stainless steel or PVC-u for all external situations.

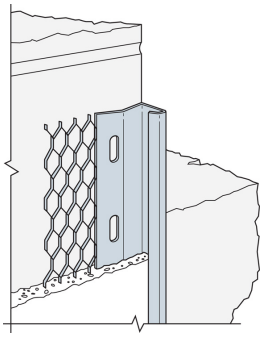
Installation:
Beads may be fixed by dabs or by masonry nails of similar material. Internal Plasterboard Edge Bead: Fix by pushing the bead onto the edge of the plaster board before applying final skim coat. The bead may be reversed if required by fixing the wing to the board's inner surface.

Product Dimensions

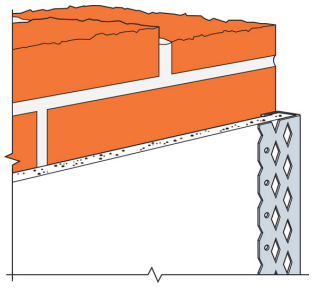
	Model No.		Dimensions [mm] x (m)
	Galvanised	Stainless Steel	
	Internal Thin Coat Perforated Stop Bead		
	PSB0324	-	3mm x 2.4m
	PSB0330	-	3mm x 3.0m
	PSB0624	-	6mm x 2.4m
	PSB0630	-	6mm x 3.0m
	Plaster/Render Stop Bead		
	PSB1024	-	10mm x 2.4m
SS	PSB1030	PSB1030	10mm x 3.0m
	PSB1324	-	10mm x 2.4m
SS	PSB1330	PSB1330S	10mm x 3.0m
	PSB1624	-	10mm x 2.4m
SS	PSB1630	PSB1630S	10mm x 3.0m
SS	PSB1930	PSB1930S	10mm x 3.0m
	Internal Plaster Edge Bead		
	PEB1030	-	9.5mm x 3.0m
	PEB1330	-	12.5mm x 2.4m
	PEB1530	-	14.5mm x 2.4m
	Movement Bead		
	MVB1030	-	10mm x 3.0m
	MVB1330	-	13mm x 3.0m
SS	MVB1630	MVB1630S	16mm x 3.0m
	External Render Stop (Bellcast, Drip) Bead		
SS	-	ERS30S	3.0m



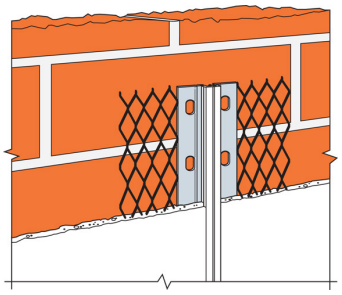
PSB Internal Thin Coat Plaster Stop Bead (Perforated Wing)



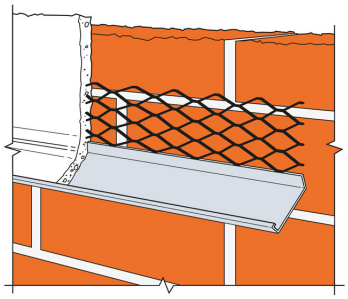
PSB Plaster Stop Bead (Mesh Wing)



PEB Internal Plasterboard Edge Bead



MVB Movement Bead



ERS Render Stop Bead

SAB/TCB/MMB

Corner Beads

SAB Angle Bead (45mm wing, 53mm wing & 13mm plaster depth)

- Helps for a true, straight arris
- Designed to prevent chipping and cracking to vulnerable corners.
- Use with two coat plaster/render application.

TCB Internal Thin Coat Bead (25mm wing, 3mm plaster depth)

- Designed for use with one coat plaster work down to a 3mm finish.
- Perforated wings to provide an excellent plastering key.

MMB Internal Mini Mesh Bead (25mm wing, 3mm plaster depth)

- Designed for use with one coat plaster work down to a 3mm finish.
- Fine mesh wings to provide an excellent plastering key.

Material: Austenitic stainless steel or pre-galvanised steel.

We only recommend the use of stainless steel or PVC-u products in external applications. Galvanised steel beads should not be used externally, according to NHBC and LABC regulations.

Installation: Installation usually achieved by pressing the wings firmly into plaster dabs placed at approximately 600mm centres both sides of the arris. The wings may alternatively be embedded into the first coat of plaster for normal two-coat work.

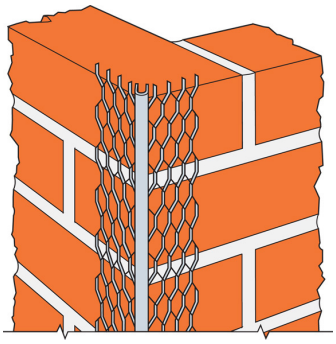
Beads may be cut to size, as required, by using a hacksaw and snips. Beads should be stored off the ground and in dry conditions, during site work.

Product Dimensions

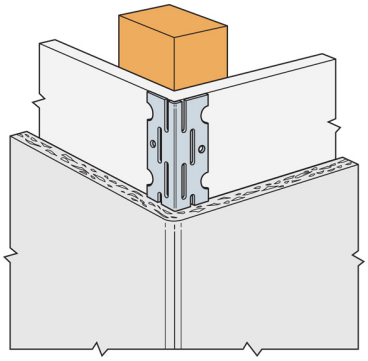
	Model No.		Dimensions [m]
	Galvanised	Stainless Steel	
	Angle Bead		
	SAB24	-	2.4
SS	SAB24W	SAB24SW	2.4
	SAB27	-	2.7
SS	SAB30	SAB30S	3.0
SS	SAB30W	SAB30SW	3.0
	Internal Thin Coat Bead		
	TCB2404	-	2.4
	TCB3004	-	3.0
	Internal Mini Mesh Bead		
	MMB24	-	2.4
	MMB30	-	3.0

Please note: where SAB is required with 53mm flange, model numbers suffixed "W" ie. SAB24W are applicable.

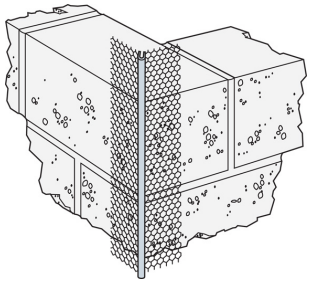
CE



Standard Angle Bead



Internal Thin Coat Bead



Internal Mini Mesh Bead

CBR

Masonry Reinforcement Mesh

The CBR Provides added strength and stability. Please note, there is no CE marking requirement for this type of product.

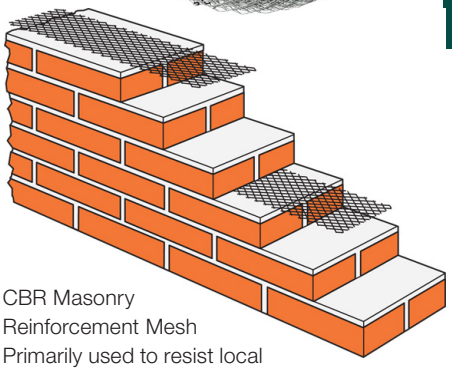
- Supplied on a 20 metre roll.
- Available in galvanised or austenitic stainless steel.
- Assists resistance to tensile stresses where settlement occurs. Easily incorporated into mortar course, coiled for ease of handing.

Material: Austenitic stainless steel or pre-galvanised steel

Installation: All metal components used in any particular application must be of the same material type. Gloves should be worn to protect hands from sharp metal edges. Position the mesh within the masonry bed joints, providing a minimum of 25mm cover to external faces. Overlap by a minimum of 75mm if joining two lengths together. The mesh can be laid every third brickwork course for most reinforcement.

Product Dimensions

	Model No.		Dimensions
	Galvanised	Stainless Steel	
SS	CBR2063	CBR2063S	63mm x 20m
SS	CBR20112	CBR20112S	112mm x 20m
SS	CBR20175	CBR20175S	175mm x 20m
SS	CBR20228	CBR20228S	228mm x 20m
	CBR20305	-	305mm x 20m



CBR Masonry Reinforcement Mesh Primarily used to resist local cracking under and over wall openings.

TTCB

Toothed Thincoat Bead

Save time and money: install thin coat bead without nails or screws - just push and tap into place.

TTCB is pre-toothed thin coat bead that needs no nails or screws, just push and tap it on to the corner of the wall and get plastering.

TTCB (toothed thin coat bead), features tiny teeth spaced at 40mm intervals which grip the plaster board, holding the bead firmly in place.

- Save money on nails and screws, you won't be needing them.
- Pre-toothed at 40mm intervals.
- Save time, just tap into place and get started with the plaster application.
- Convenient - easy to dismount and reposition without damaging the bead or plaster board.
- Flexible - can be used in long or short lengths due to regular tooth spacing. You can still use traditional fixing methods in awkward areas if preferred.

WARNING: TTCB has sharp points, please wear gloves when handling.

Product Dimensions

Model No.	Product Dimensions [m]
TTCB2404	2.4m
TTCB3004	3.0m

PVC-u Bead

More plastering professionals are turning to PVC-u bead...

Simpson Strong-Tie® PVC-u plasterers beads are manufactured from high impact and ultra violet resistant PVC-u for extruded profiles and in fire conditions to BS476 part 12: 1991.

They can be used internally or externally with plaster or render.

PVC-u beads are available in lengths that differ to steel manufactured alternatives, please contact the Sales Office for more information.

- Superior corrosion resistance.
- Convenient, easy to cut lengths on site.
- Light and easy to transport.
- Resistant to breakage
- UV resistant.

Simpson Strong-Tie Codes explained:
Our bead and mesh codes follow a specific system to help identify the correct type, for example PSAB1030W describes the following:

Material Type
PSAB1030W: P=Plastic

Abbreviated Description
PSAB1030W SAB=Standard Angle Bead

Size and Length
PSAB1030W 1030=10mm x 3.0m

Colour
PSAB1030W W=White

Description		Model No.
Thin Coat Angle Beads	Angle Bead 2mm x 2.5m - White	PAB0225W
	Arch Angle Bead 2mm x 2.5m - White	PAAB0225W
	Arch Angle Bead 2mm x 3.0m - White	PAAB0230W
Mini Mesh Angle Bead	Mini Mesh Angle Bead 2mm x 2.5m - White	PMM0225W
Angle Bead	Angle Bead 4mm x 3.0m - White	PSAB0430W
	Angle Bead 6mm x 3.0m - White	PSAB0630W
	Angle Bead 8mm x 2.5m - White	PSAB0825W
	Angle Bead 10mm x 2.5m - White	PSAB1025W
	Angle Bead 10mm x 2.5m - Grey	PSAB1025G
	Angle Bead 10mm x 2.5m - Ivory	PSAB1025I
	Angle Bead 10mm x 3.0m - White	PSAB1030W
	Angle Bead 10mm x 3.0m - Ivory	PSAB1030I
	Angle Bead 15mm x 2.5m - White	PSAB1525W
	Angle Bead 15mm x 3.0m - White	PSAB1530W
	Angle Bead 15mm x 3.0m - Ivory	PSAB1530I
	Angle Bead 20mm x 3.0m - White	PSAB2030W
Render Stop Bead (Bellcast Drip Bead)	Render Stop Bead 10mm x 3.0m - Ivory	PBC1030I
	Render Stop Bead 10mm x 3.0m - White	PBC1030W
	Render Stop Bead 15mm x 3.0m - White	PBC1530W
	Render Stop Bead 15mm x 3.0m - Ivory	PBC1530I
	Render Stop Bead 20mm x 3.0m - White	PBC2030W
	Render Stop Bead 20mm x 3.0m - Ivory	PBC2030I
Stop Bead	Stop Bead 4mm x 3.0m - White	PPSB0430W
	Stop Bead 10mm x 3.0m - White	PPSB1030W
	Stop Bead 10mm x 2.5m - White	PPSB1025W
	Stop Bead 10mm x 3.0m - Ivory	PPSB1030I
	Stop Bead 15mm x 2.5m - White	PPSB1525W
	Stop Bead 15mm x 3.0m - White	PPSB1530W
	Stop Bead 15mm x 3.0m - Ivory	PPSB1530I
	Stop Bead 20mm x 3.0m - White	PPSB2030W
Movement Bead	Movement Bead 6mm x 2.5m - White	PMB0625W
	Movement Bead 10mm x 2.5m - White	PMB1025W
	Movement Bead 15mm x 2.5m - White	PMB1525W
	Movement Bead 15mm x 2.5m - Ivory	PMB1525I


Angle Bead


Arch Angle Bead


Render Stop Bead


Plaster Stop Bead


Movement Bead

Expanded Metal Lathing

Ideal for use as a general reinforcement mesh. DML Expanded Metal Lathing is widely used as a backing to help prevent cracks occurring where different materials meet. Available in galvanised for internal use and stainless steel for external use.

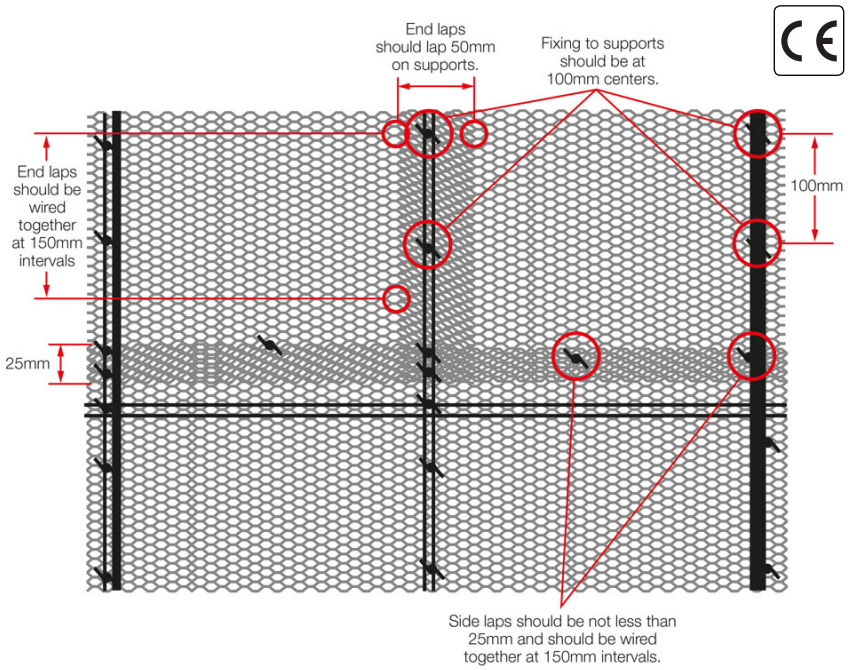
Installation:
All metal components used in any particular application must be of the same material type.

Timber: Using 38 x 7mm diameter head plasterer's nails or 32 x 2mm staples, fix to each support starting from the centre of sheet. Angle fixings away from the centre to give the lath the necessary tension.

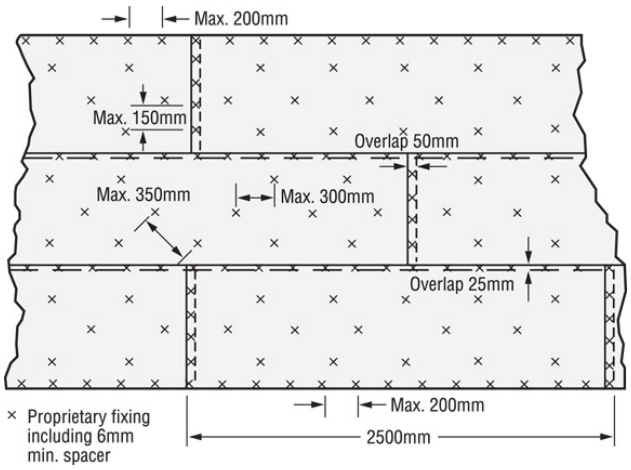
Steel: Bend 1.2mm tying wire into long "U"shapes and tie lath at 100mm centres by pulling tight and twisting.
When cutting wire ends, ensure that they are not left near the surface of the plaster.

Sheet ends should be overlapped by 50mm on supports and wired together at 150mm centres.

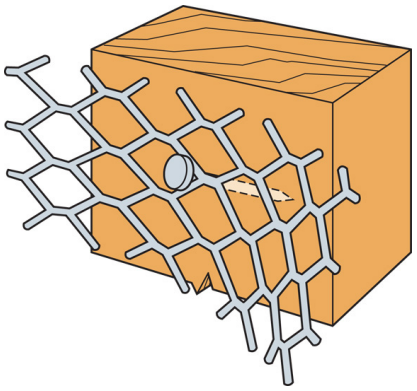
Sheet sides should be overlapped by a minimum of 25mm and wired together at 150mm centres in timber and steel applications.



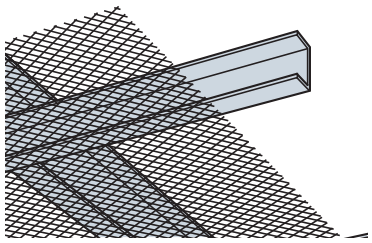
General Fixing Information for Fixing to Metal /Timber Supports



Fixing Expanded Metal Lathing to Solid Backgrounds
Note: Lath can also be installed with the long leg vertical.



Fixing installed at an angle to give necessary tension.



DML Expanded Metal Lathing

Product Dimensions

Model No.		Dimensions [mm]
Galvanised	Stainless Steel	
DML26/10	DML26S/5	2400 x 700 x 0.40

We only recommend the use of Stainless Steel for external applications.

Rib Lath

The RBL Rib Lath provides plaster/render backing and is also suitable for the refurbishing of damaged or deteriorated faces of masonry walls. Available in galvanised for internal use and stainless steel for external use.

Installation:
Fixing of lath should follow BS EN 13914-1:2005 Internal Plastering and BS EN 13914-2:2005 External Rendering. The apex of rib lath should always be in contact with the fixing background.

Fixing to metal or timber supports:

All metal components used in any particular application must be of the same material type.

Timber: Use 38 x 7mm diameter plasterer's nails or 32 x 2mm staples to fix with ribs running at 90° to timber studs which should be at a maximum 600mm centres.

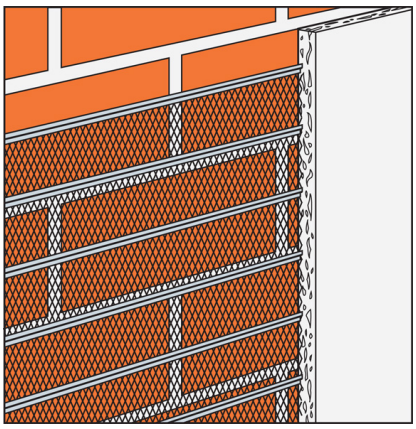
Metal: Use 1.63mm or two strands of 1.22mm galvanised mild steel wire or stainless steel to tie around the rib where it crosses each steel stud. Steel studs should be at maximum 600mm centres.

To join sheets of Rib Lath, the edge ribs should be overlapped and the edges tied at 150mm centres with 1.22mm tying wire. Where the ends of the lathing finish in front of a support, overlap by 50mm, otherwise sheets should be overlapped by 100mm with two 1.63mm ties used with each overlapping rib.

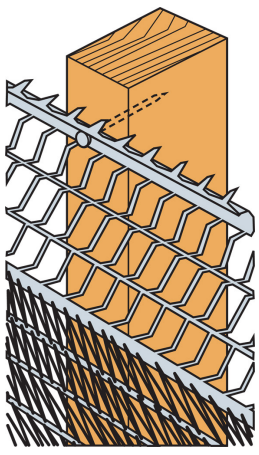
Fixing to solid backgrounds: The ribs of the lath should be held firmly against the background by the use of fixings placed at 600 mm centres. End edges should be overlapped by 50mm, side edges by 25mm and tied or screwed at 150mm centres.

Product Dimensions

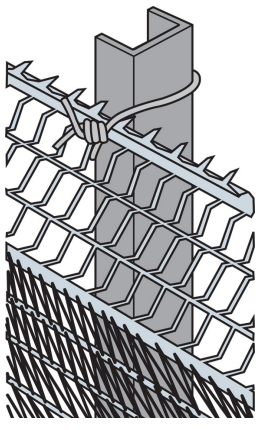
Model No.		Dimensions [mm]
Galvanised	Stainless Steel	
RBL4/10	RBL4S/5	2460 x 600 x 0.40



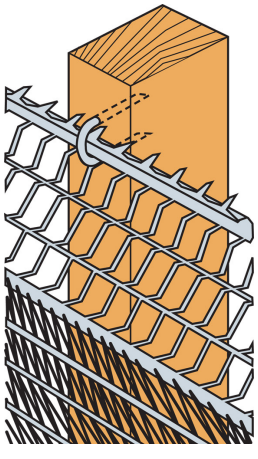
We only recommend the use of Stainless Steel for external applications.



Fixing RBL to Timber Supports using 38mm Nail



Fixing RBL to Metal Supports using Wire Tie



Fixing RBL to Timber Supports using 38mm Staple

SML/H

Security Mesh

The SML (Security Mesh Light) and SMH (Security Mesh Heavy) are low profile flattened meshes ideal for sandwiching between plasterboard and structural studs or joints to improve resistance to intrusion.

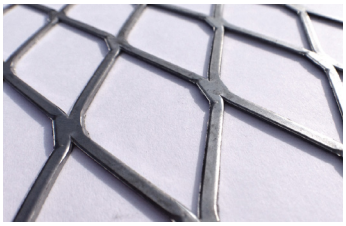
- Diamond shape restricts the use of hand tools for cutting.
- Strands are rolled flat for uniform thickness.
- Continuous mesh manufactured from a single sheet eliminates broken or weak joints.

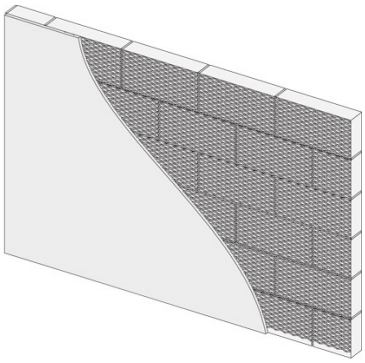
Installation:

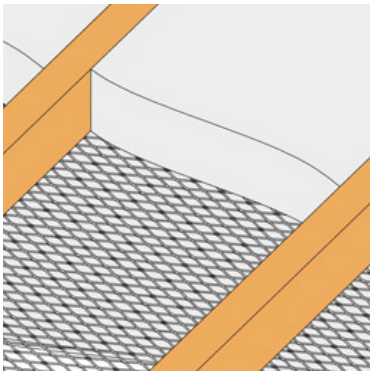
Fix at maximum 450mm centres to supporting structures as follows:

Timber Studs: 38mm galvanised staples, nails or screws with a 25mm diameter washer.

Metal Studs: 30mm self-tapping screws with 25mm diameter washer.
Brickwork: 50mm screw and plug with 25mm diameter washer.

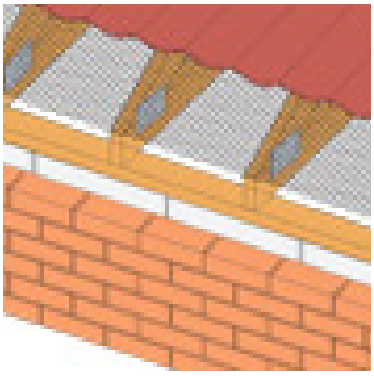






Ceiling Panel

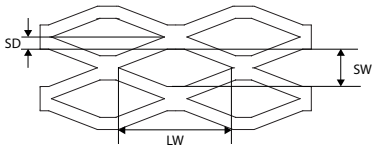
Stud Wall



Roof

Product Dimensions

Model No.	Dimensions [mm]					Weight per Sheet [kg]
	Sheet Size	Mtl Thickness	LW Aperture	SW Aperture	SD Depth	
SML	1250 x 2440	1.14	43.4	18.0	2.3	5.78
SMH	2440 x 1220	2.69	42.9	14.2	4.6	25.5



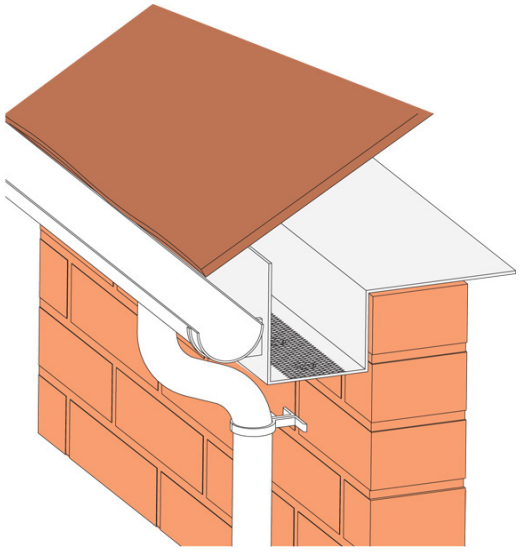
SVM

Stainless Steel Soffit Vent Mesh

A 75mm wide, fine stainless steel mesh on a 30m roll. Easy to cut and install. Allows roof space ventilation, helps prevent birds and insects from gaining access via soffits

Product Dimensions

Model No.	Dimensions
SVM3075	75mm x 30m



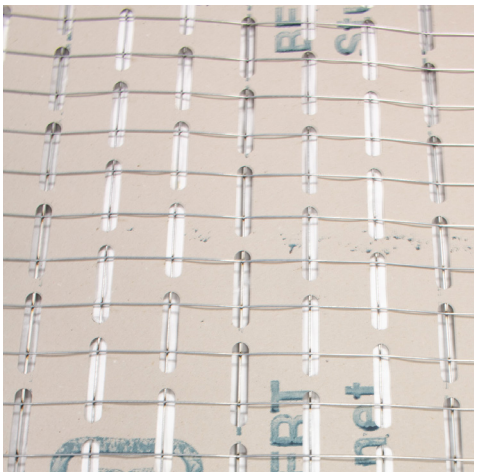
Paper Backed Wired Mesh

The STUC HGBM and EBM are purpose designed plaster and render carriers manufactured from either galvanised or stainless steel welded wire mesh on to which a moisture absorbent sheet of chip paper is interwoven.

The STUC HGBM and EBM are specifically for exterior façade applications and includes a breather membrane to prevent moisture penetration whilst still allowing the wall to breathe naturally.

The chip paper assists with the wet adhesion and curing of the plaster or render, and the perforations allow the plaster or render to perfectly bond around the steel wires, resulting in firm anchoring of the plaster or render and high resistance to load and impact.

The STUC and EBM has solid flat wires incorporated to increase the stiffness of the panel, whilst the STUCS HGBM and STUC SEBM has two parallel, fixing wires.



CORRECT OVERLAPPING & FIXING OF STUC80 PANELS

On the long edge and the short edge, it is important to achieve a 'steel on steel' mesh overlap in both directions to ensure continuity of reinforcement for the render. The breather membrane fixed to the rear of the panel is extended at the top (long side) and at the left hand edge (short side). On the right hand edge (short side), the breather membrane is stopped short by 95mm behind the brown paper. This ensures the correct overlap for the membrane is maintained by simply installing panels on top of previously fixed panels, when following the overlap instructions detailed below.

On the vertical (short side) edge, the brown card paper must be removed for two full meshes to enable a 'steel on steel' mesh overlap with the adjacent panel. Remove the brown card paper only on one short side of the panel being installed. This is normally the right hand side panel edge when fixing from right to left. On the horizontal (long side) edge this is not required, as the mesh edges are not covered totally by brown card paper, enabling the mesh overlap to interlock securely, and the render to flow around and so anchor all wires across the overlap.

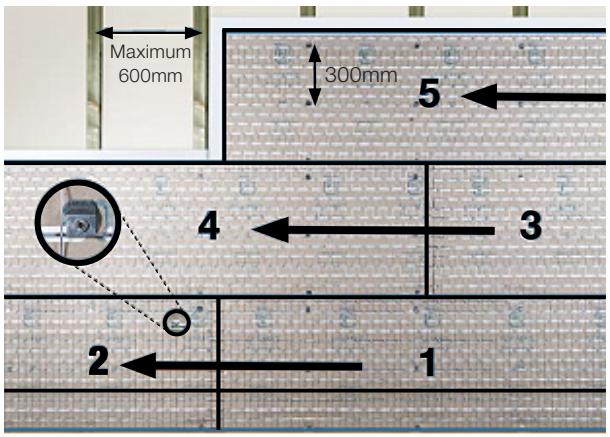
Product Dimensions

Model No.	Fixing Packs(1)	Panel Dimensions & Weight					
		Longitudinal [mm]	Transversal [mm]	Surface [m²/panel]	Useable Surface (after overlapping) [m²/panel]	Panel Weight [kg/panel]	Panel Weight [kg/m²]
STUC80HGBM	STUC80TFHG	2395	705	1.68	1.56	2.63	1.56
SS STUC80EBM	STUC80TFE	2395	705	1.68	1.56	2.66	1.58

(1) 200 fixings per pack.

Technical Specifications

Model No.	Material	Breather Membrane Dimensions		Wire Diameters			Wire Tensile Strength [N/mm²]
		Longitudinal [mm]	Transversal [mm]	Fixing Wire [mm]	Longitudinal Wire [mm]	Cross Wire [mm]	
STUC80HGBM	Galv: > 215 g/m2	2350	725	6.00 x 2.00	1.50	1.50	>350
SS STUC80EBM	Austenitic Stainless Steel	2350	725	6.00 x 2.00	1.50	1.50	>350



- Only use the panel stiffening wires / fixing wires, to fix the panels to the frame stud, at 600mm cc horizontally and 300mm cc vertically.
- The front side, for application of render is the printed side.
- Always apply panels horizontally on vertical supports and vertically on horizontal supports.
- Always continue installation in the same direction. (as seen 1 to 5), this ensures uniformity and continuity of the panel overlaps.
- Vertical (short side panel edge) overlaps must not be in line and should be staggered in a 'brickwork' type of arrangement.
- Fixing packs sold separately.

HI

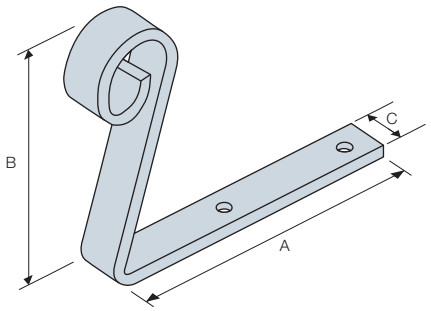
Scrolled Hip Iron

The HI is used to hold ridge tiles in place.

Material: Galvanised mild steel.

Product Dimensions

Model No.	Dimensions [mm]				Holes
					Flange A
	A	B	C	t	Ø5
HI3	300	150	25	3	2
HI4	300	150	25	4	2
HI5	300	150	25	5	2



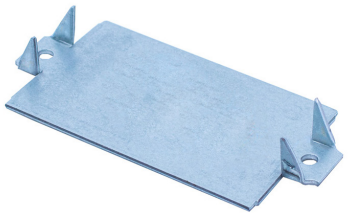
NS

Nail Stopper

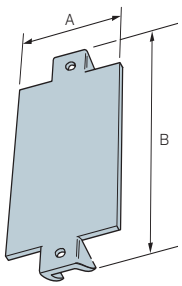
The NS prevents nails/screws from piercing water pipes and electrical cables.

Installation: Installs over utilities passing through timber studs.

Material: Pre-galvanised mild steel.

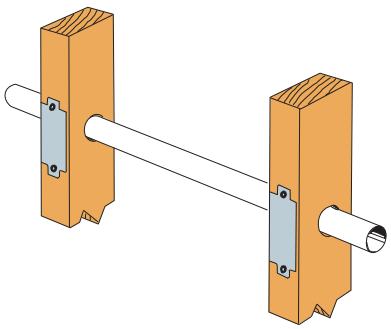


NS Nail Stopper



Product Dimensions

Model No.	Dimensions [mm]		Holes
	A	B	Ø4
NS1	38	75	2
NS2	38	150	2



WBT

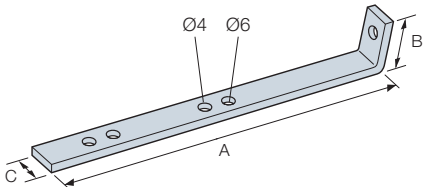
Window Board Tie

The WBT attaches window boards to masonry wall.

Material: Pre-galvanised mild steel.

Product Dimension

Model No.	Dimensions [mm]				Holes		
					Flange A		Flange B
	A	B	C	t	Ø4	Ø6	Ø4
WBT06	145	22	12	2.5	2	2	1

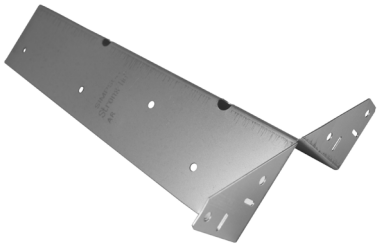


1ARBGAL

Arrisrail Bracket

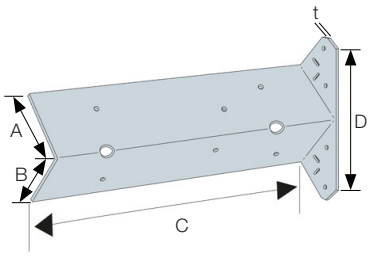
The 1ARBGAL is a 215mm long arrisrail bracket for connecting timber arrisrails to wooden posts. Suitable for use on 75mm arrisrails.

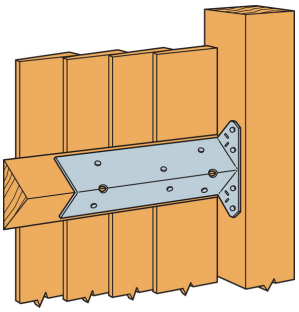
Material: Pre-galvanised mild steel.



Product Dimensions

Model No.	Dimensions [mm]					Holes			
						Flange A	Flange B	Flanged D	
	A	B	C	D	t	Ø5	Ø5	Ø5	Ø2.5x10 Slot
1ARBGAL	62	62	215	115	0.6	3	3	4	4





SPWG

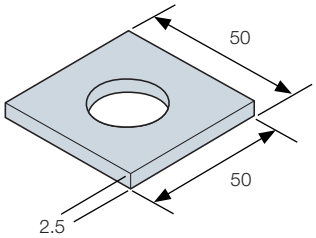
Square Plate Washer

The SPWG adds strength to a bolted connection in timber.

Material: Pre-galvanised mild steel.

Product Dimensions

Model No.	Dimensions [mm]	Hole Size
SPWGC50	50 x 50 x 2.5	Ø14

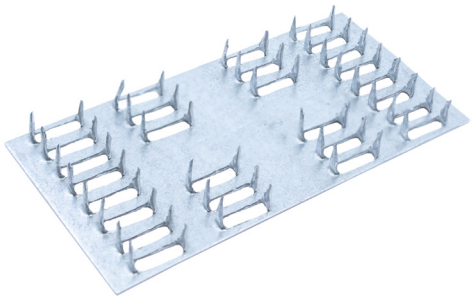


MP

Mending Plate

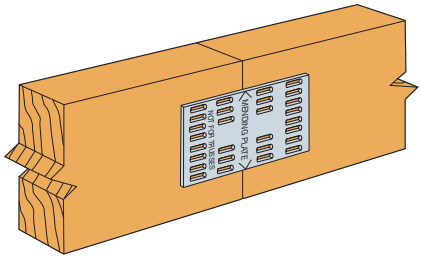
The MP is an easy to use connector for timber splices, no nails required.
For non-structural applications only; **not for truss applications.**

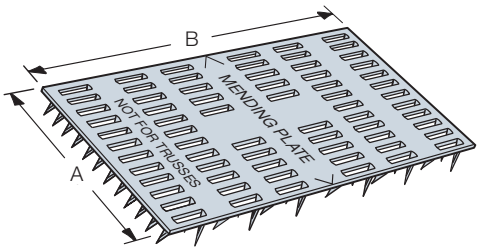
Material: Pre-galvanised mild steel.



Product Dimensions

Model No.	Dimensions	
	A [mm]	B [mm]
MP14	25	100
MP24	50	100
MP36	75	150





AT-HP

High Performance Resin

The AT-HP is a styrene free methacrylate resin suitable for use with threaded rod into concrete.

Easy to dispense and fast curing, it's specially designed for structural fixings and construction uses.

FEATURE: Changes colour as it cures; once it has turned grey, it indicates that it is safe to work with the installed rod.

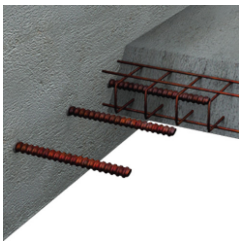
- Styrene free.
- ETA approved for threaded rod installations.
- Changes colour as it cures.
- Low odur.
- Non-flammable.
- 2 mixing nozzles supplied.
- 280 & 380ml tube

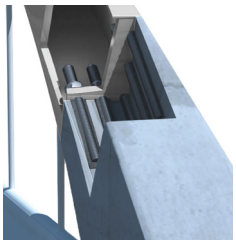
Product Information

Model No.	Cartridge Size
AT-HPBN280-UK	280 ml
AT-HPBN380-UK	380 ml

Method of Cleaning Holes

Threaded Rod	Tension [kN] Shear [kN]				
	8	10	12	16	20
Cleaning	2x blows - 4x brushs - 2x blows				
hef ≤ 10d	Manual pump				
hef > 10d	Compressed air (min. 6 bar, 100 liter/minute)				





Performance Values

Install Parameters			M8		M10		M12		M16		M20	
Drill Hole Diameter, d_0		[mm]	10		12		14		18		22	
Drill Hole Depth, h_0		[mm]	64	96	80	120	96	144	128	192	160	240
Clearance Hole in the fixture, d_f		[mm]	9		12		14		18		22	
Width across flats, sw		[mm]	13		17		19		24		30	
Installation Torque, T_{inst}		[mm]	10		20		40		80		150	
Spacings, Edge Distances & Member Thicknesses			**M8**		**M10**		**M12**		**M16**		**M20**	
Effective Embedment Depth, h_{ef}		[mm]	64	96	80	120	96	144	128	192	160	240
Characteristic Spacing [4], $S_{cr,N}$		[mm]	128	192	160	240	192	288	256	384	320	480
Minimum Spacing, S_{min}		[mm]	35	48	40	60	48	72	64	96	80	120
Characteristic Edge Distance [4], $C_{cr,N}$		[mm]	64	96	80	120	96	144	128	192	160	240
Minimum Edge Distance, c_{min}		[mm]	35	48	40	60	48	72	64	96	80	120
Minimum Member Thickness, h_{min}		[mm]	100	130	110	150	130	175	160	225	200	280
Recommended Loads Steel [1) 3)]			**M8 [8)]**		**M10 [8)]**		**M12**		**M16**		**M20**	
	H_{ef} [mm]		**64**	**96**	**80**	**120**	**96**	**144**	**128**	**192**	**160**	**240**
C24/25	Tension	N_{rec} [kN]	9.1	9.1	14.3	14.4	19	19	28.6	38.8	35.7	54.8
C30/37		[kN]										
C40/50		[kN]										
C50/60		[kN]										
C20/25	Shear [5)]	V_{rec} [kN]	4.5	4.5	7.2	7.2	10.4	10.4	19.4	19.4	30.3	30.3
C30/37		[kN]										
C40/50		[kN]										
C50/60		[kN]										
Bending Moment	**M_{rec}**	**[Nm]**	**9.0**	**9.0**	**18.6**	**18.6**	**32.4**	**32.4**	**82.4**	**82.4**		
Recommended Loads A4 [1) 3)]			M8 [8)]		M10 [8)]		M12		M16		M20	
	H_{ef} [mm]		**64**	**96**	**80**	**120**	**96**	**144**	**128**	**192**	**160**	**240**
C24/25	Tension	N_{rec} [kN]	9.8	9.8	14.3	15.4	19	22.2	28.6	41.4	35.7	54.8
C30/37		[kN]										
C40/50		[kN]										
C50/60		[kN]										
C20/25	Shear [5)]	V_{rec} [kN]	5.9	5.9	9.3	9.3	13.5	13.5	25.2	25.2	39.3	39.3
C30/37		[kN]										
C40/50		[kN]										
C50/60		[kN]										
Bending Moment	**M_{rec}**	**[Nm]**	**11.9**	**11.9**	**23.8**	**23.8**	**42.1**	**42.1**	**106.7**	**106.7**	**207.9**	**207.9**

- Curing Schedule on following page.

Poly-GP

General Purpose Resin

The POLY-GP is a styrene-free polyester resin specially formulated for light or medium duty fixings in hollow or solid base materials.

Unique feature: Changes colour as it cures, turning from blue to grey to indicate that it is safe to work with the installed rod.

Easy to use and fast curing, it enables good performance when used in applications such as fixing architectural steelwork, cable trays, hand rails and gates.

- Styrene free.
- Changes colour as it cures.
- Use in solid or hollow masonry products.
- Non-flammable.
- 300 & 380ml tubes.

Product Information

Model No.	Cartridge Size
Poly-GPBN300-UK	300ml Cartridge
Poly-GPBN380-UK	380ml Cartridge

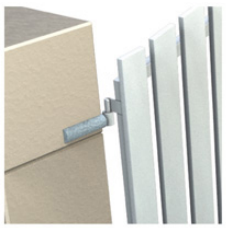
Performance Values

Threaded Rod	Tension [kN]		Shear [kN]	
	Hollow Block	Hollow Concrete	Hollow Block	Hollow Concrete
M8, M10, M12	0.6	0.9	1.5	1.5

Curing Schedule: AT-HP & Poly-GP

Let anchor fully cure without disturbing

Temp. of Resin °C	Temp. of Support °C	Working Time	Curing Time
+5°C	-5°C	25 mins	4 h
+5°C	0°C	15 mins	3 h
+5°C	+5°C	12 mins	2 h 30 mins
+10°C	+10°C	8 mins	1 h 15 mins
+15°C	+15°C	7 mins	55 mins
+20°C	+20°C	4 mins	30 mins
+30°C	+30°C	2 mins	20 mins



Installation Data

Material	Threaded Rod Ø x L [mm]	Drill Diameter [mm]	Sleeve Ø x L [mm]	Drill Depth [mm]	Tightening Torque [Nm]
Hollow Block	M8 x 140	16	Ø16 x 85	90	4.0
	M10 x 140	16	Ø16 x 85	90	6.0
	M12 x 140	16	Ø16 x 85	90	8.0
Hollow Concrete	M8 x 160	16	Ø16 x 130	135	4.0
	M10 x 160	16	Ø16 x 130	135	6.0
	M12 x 160	16	Ø16 x 130	135	8.0

Safety and Environment

We care about developing products that are user-safe and environmentally respectful when properly handled and disposed of. Once empty, dispose of this cartridge in a hazardous waste disposal skip.

Observe these safety precautions (Contains dibenzoyl peroxide):
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment (A). R43 May cause sensitisation by skin contact (B). R7 May cause fire (B). S3/14 Keep in a cool place away from-combustible or reducing materials-acids-oxidation catalysts (B). S36/37/39 Wear suitable protective clothing, gloves and eye/face protection (B). S7 Keep container tightly closed (B). S60 This material and its container must be disposed of as hazardous waste (B).

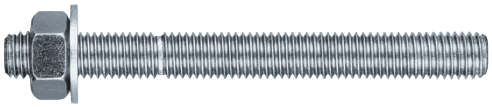
LMAS

Threaded Rod

The LMAS threaded rods are intended to be used in conjunction with AT-HP or Poly GP resins.

Zinc plated LMAS threaded rods are supplied in boxes. (including nuts and washers).

Material: zinc plated steel, grade 5.8.

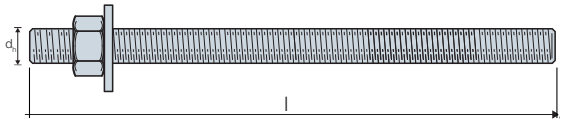


CE

Product Dimensions

Model No.	Code	Dimensions [mm]		Fixture & Hole Dimensions [mm]			
		d	l	Max Fixture Thickness	Max hole diameter within Fixture	Embedment Depth	Drilled Hole Size
				t_{fix}	d_f	h_{eff}	d_{eff} x h_f
LMAS M8 x 95	LMAS0810064020	M8	95	20	10	64	10 x 64
LMAS M8 x 110	LMAS0812050050	M8	110	50	10	50	10 x 50
LMAS M10 x 110	LMAS1016085010	M10	110	10	12	85	12 x 85
LMAS M10 x 130	LMAS1012090025	M10	130	25	12	90	12 x 90
LMAS M10 x 150	LMAS1016085050	M10	150	50	12	85	12 x 85
LMAS M12 x 120	LMAS1216085015	M12	120	15	14	85	14 x 85
LMAS M12 x 150	LMAS1214100035	M12	150	35	14	100	14 x 100
LMAS M12 x 185	LMAS1214100070	M12	185	70	14	100	14 x 100
LMAS M16 x 170	LMAS1618130020	M16	170	20	18	130	18 x 130
LMAS M16 x 200	LMAS1618130050	M16	200	50	18	130	18 x 130
LMAS M20 x 245	LMAS2025170050	M20	245	50	22	170	22 x 170
LMAS M24 x 310	LMAS2428210070	M24	310	70	26	210	26 x 210

Zinc-plated steel



Resin Dispensing Tool

We provide the tools to ensure the best preparation and effortless installation of resins and threaded rods.

Unlike ordinary cartridge guns, the DT300 and DT380 is machined to cope with the heavier duty demands of concrete resins, dispensing smoothly with less effort.

- Tool for 280/300 and 380ml cartridge.

Product Information

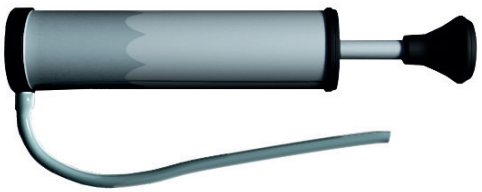
Model No.	To Suit
DT300	280/300ml Cartridge
DT380	380/420ml Cartridge

Accessories

Product Information

Model No.	Description
PUMP	Dust Pump
BR17-30	Bruch Pack
MN1-RP10	Spare Nozzle

PUMP - Dust pump for clearing drilled holes



NOZZLES

MN1-RP10

BR17-30

17mm and 30mm diameter brush set for clearing drilled holes.

BR17

BR30

Visit our literature library on Strongtie.co.uk for our full list of product catalogues.

For further technical assistance:

- Call: 01827 255600 Email: uktechnical@strongtie.eu
- Visit: www.strongtie.co.uk

@strongtieUK

GENUINE
Simpson Strong Tie® Connectors

Made in the UK

For 25 years we have designed and manufactured structural connectors in Tamworth, England.

From the foundations up, we have every ‘No Equal’ solution you need to build safer, stronger structures.

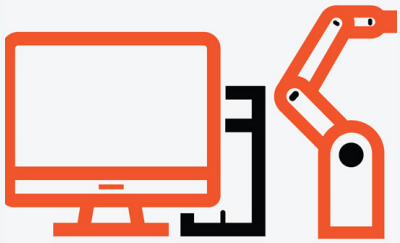
CE & Guarantees

All of ours products meet the Construction Products Regulations and those that are required to achieve CE Marking are tested to guarantee that they comply.

Technical Support

Our Technical Support team is on hand to answer your questions and provide some sound installation advice, from making sure you have the most suitable product, to the best ways to go about installing them.

Design & Manufacture



We regularly work with house builders and designers to develop our range of structural connector solutions, considering every aspect of their use to meet your ever-changing needs.

Ease of installation, performance characteristics and life-span are the fundamental principles that make up our design DNA.

Stock & Delivery

We maintain 200 different product families spanning over 5,000 product lines. We will continue supporting them for as long as you need them.

From our distribution centres in Tamworth, Dublin and Edinburgh, we do everything we can to make sure you get your delivery in full - to your premises or direct to site.

Research & Development

We continuously invest in research and product development to ensure that our product solutions are efficient, easy to use and meet the needs of construction professionals.

Our Technical team design, develop and test new product solutions.

Plans & Drawings

We know that architects, designers, and contractors need very detailed technical information about our products, so we provide drawings and technical information free on our website.

These including CAD and BIM drawings, as well as DWG 2D and 3D, SAT files and performance data sheets.

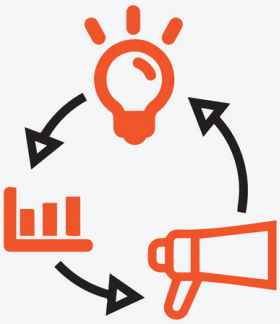
Software

We offer free software solutions to help you choose the right connector or fixing

Connector Selector enables you to quickly and easily identify the connectors or fastenings you will need, based on your dimensions, purpose and performance requirements.

Anchor Designer offers a quick calculation for anchor fixings into cracked and non cracked concrete.

Marketing Support



Our in-house marketing team is on hand to provide a wide range of product images and resources for you to use in-store or online, including catalogues, posters, displays and promotions, product data and product installation and feature videos.

Custom Manufacturing

Every construction project comes with its own set of challenges, sometimes unexpected and quite often unique.

Our engineering and production teams provide a design and manufacture service for ‘one off’ connectors, based on plans provided by you.

Your unique connector is produced using state-of-the-art equipment and is ready to send - often within one working day.

Quality Testing

We build quality and innovation into everything we make and everything we do.

Made using the best quality steels, all of our “No Equal” products and connectors undergo rigorous quality testing, to ensure that they meet safety regulations, and exceed our customers’ needs and expectations.

Contact Us

This is our ‘No Equal’ commitment.
The difference between us and everybody else.

@strongtieUK
www.strongtie.co.uk

Quik Drive®

SIMPSON STRONG-TIE®
Cardinal Point, Winchester Road,
Tamworth, Staffordshire
Tel : +44 (0) 1827 255600
Fax : +44 (0) 1827 255616
www.strongtie.co.uk

SCOTLAND SIMPSON STRONG-TIE®
Unit 4F, Harvest Drive
Lochend Industrial Estate, Queen Anne Drive
New Bridge, EH28 8PL
Tel : +44 (0) 1827 255600
Fax : +44 (0) 1827 255616
www.strongtie.co.uk

IRELAND SIMPSON STRONG-TIE®
Kore Development Park
John F Kennedy Drive
Naas Rd Dublin 12
Tel : +44 (0) 1827 255600
Fax : +44 (0) 1827 255616
www.strongtie.ie

GERMANY, AUSTRIA, SOUTHERN EAST EUROPE SIMPSON STRONG-TIE® GmbH
Hubert-Vergölst-Str. 6-14
D- 61231 Bad Nauheim
Tel : +49 (0) 6032 8680-0
Fax : +49 (0) 6032 86 80 199
www.strongtie.de

DENMARK SIMPSON STRONG-TIE® A/S
Hedegardesvej 11, Boulstrup
DK - 8300 Odder
Tel : +45 87 81 74 00
Fax : +45 87 81 74 09
www.strongtie.dk

POLAND SIMPSON STRONG-TIE® Sp. z o.o.
ul. Dzialkowa 115A, 02-234 Warszawa
Tel : +48 22 865 22 00
Fax : +48 22 865 22 10
www.strongtie.pl

FRANCE SIMPSON STRONG-TIE®
1 rue du camp, Zac des Quatre Chemins
85400 Sainte Gemme La Plaine
Tel : +33 2 51 28 44 00
Fax : +33 2 51 28 44 01
www.strongtie.fr

SIMPSON STRONG-TIE® inc.
5956 W. Las Positas Blvd
Pleasanton, CA 94588, U.S.A
Tel : +1 925 560 9000
Fax : +1 925 833 1496
web@strongtie.com
www.strongtie.com

C-C-UK-2020

No more bending, stretching or crouching.

Try our **Quik Drive®** auto-feed system for a significantly faster way to install screws. Fitting on to all leading drivers with just a click, there's a kit to suit just about every application - decking to drywall, modular to mezzanine.

A perfect alternative to traditional nailing and screwing.

For more information please visit **www.strongtie.co.uk**

SIMPSON Strong-Tie®