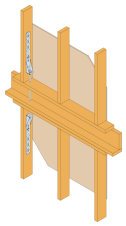
Technical Sheet

HTT
Hold Down

Ideal for existing or new construction, HTT Tension ties provide a high strength timber to concrete, or timber to masonry, tension connection
The long vertical leg makes it possible to add the required number of fasteners (CNA Nails and CSA Screws) in a vertical post and still comply to relevant standards with regards to fastener spacing requirements.
The unique design of the HTT - a multi ply seat formed from a single piece of steel - gives the tension tie extra strength at the concrete / masonry anchorage point







HTT4 & HTT5



HTT22E & HTT31





HTT5 + US50-50-8G-B profile.jpg

Features

Material

Z275 Pre-galvanised mild steel.

Benefits

- Enables a connection to concrete structure.

Applications

Connections

Timber Members

When to Use

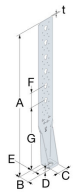
- Timber structures which exerted to high uplift forces can be connected to concrete structures with the HTT Hold Down.
- Tension force connection between timber floor joists and masonry walls

Technical Sheet

HTT
Hold Down

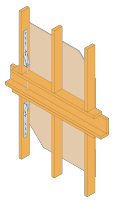
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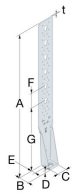
Product Dimensions



Reference	Connector Dimensions												
	Product Dimensions[mm]						Joist				Flange B		
							Round			Obround	Round		
	A[mm]	B[mm]	C[mm]	d[mm]	E[mm]	t[mm]	Ø4.7	Ø5[mm]	Ø21	Ø5x12	Ø17.5	Ø18[mm]	Ø25
HTT4	314	60	64	11.4	35	2.8	18	-	-	-	1	-	-
HTT5	403	56	64	11.4	35	2.8	26	-	-	-	1	-	-
HTT22E	558	60	63	12	33	3	-	31	3	3	-	1	-
HTT31	790	60	90	12	33	3	-	41	6	4	-	-	1

Product capacities - simplified values





Reference	Holdowns capacity									
	Simplified product capacities - Timber to Concrete									
	Number of Fasteners						Simplified Characteristic capacities - Timber C24 to concrete[kN]			
	Joist				Flange B		R1,k (without US50/50/8 washer)			
	Qty	Type	Qty 2	Type 2	Qty	Type	CNA4.0x50	CNA4.0x60	CSA5.0x50	CSA5.0x80
HTT4	18.0	CNA	-	-	1.0	M16	24.7	31	-	-
HTT5	18.0	CNA	-	-	1.0	M16	24.7	31	-	-
HTT22E	26.0	CNA/CSA	-	-	1.0	M16	42.3	52.3	52.3	52.3
HTT31	39.0	CNA/CSA	-	-	1.0	M24	77.4	77.4	77.4	77.4

Simplified numerical characteristic capacities values are based on load duration and service class assumption (Instantaneous, Service class 2, k_{mod} = 1.1). For other load duration, service class and fasteners, please refer to ETA-07/0285.
For HTT31, 4 CSA5.0x50 must always be installed on the bottom extremity of the oblong holes to reach the capacities given in the table. For other fasteners in these holes, the calculation shall be calculated according to ETA.

Technical Sheet

HTT
Hold Down

LGS Performance Values - 1.2mm Thick - Single Stud

Reference	Holdowns capacity				
	Characteristic capacities - Timber C24			LGS Performance values	
	Number of Fasteners			LGS Performance Values - 1.2mm Thick - Single Stud	
	Joist	Flange B		LGS Performance Values - 1.2mm Thick - Single Stud	
	Stud (X34B1016)	Anchor Bolt		Characteristic Capacities[kN]	
	Qty	Qty	Diameter[mm]	$R_{2,k}$	Deflection at Load[mm]
HTT4	18.0	1.0	16	21.2	4.7
HTT5	26.0	1.0	16	28.9	6.4
HTT22E	-	-	-	-	-
HTT31	-	-	-	-	-

1. Performance Values are based upon tests completed by Simpson strong Tie U.S I accordance to ICC-ES AC261 - acceptance criteria for connectors used with Cold Formed Steel Structural Members
2. Deflection at Load is the deflection of the hold down measured between the anchor bolt and the strap portion of the hold down when loaded to the stated tension load
3. The engineer or designer shall be responsible for specifying suitable anchor type, embedment & configuration

LGS Performance Values - 1.6mm Thick - Single Stud

Reference	Holdowns capacity				
	Characteristic capacities - Timber C24			LGS Performance values	
	Number of Fasteners			LGS Performance Values - 1.6mm Thick - Single Stud	
	Joist	Flange B		LGS Performance Values - 1.6mm Thick - Single Stud	
	Stud (X34B1016)	Anchor Bolt		Characteristic Capacities[kN]	
	Qty	Qty	Diameter[mm]	$R_{2,k}$	Deflection at Load[mm]
HTT5	26.0	1.0	16	28.6	6.4

1. Performance Values are based upon tests completed by Simpson strong Tie U.S I accordance to ICC-ES AC261 - acceptance criteria for connectors used with Cold Formed Steel Structural Members
2. Deflection at Load is the deflection of the hold down measured between the anchor bolt and the strap portion of the hold down when loaded to the stated tension load
3. The engineer or designer shall be responsible for specifying suitable anchor type, embedment & configuration

Technical Sheet

HTT
Hold Down

LGS Performance Values - 1.2mm Thick - Back to Back

Reference	Holdowns capacity				
	Characteristic capacities - Timber C24			LGS Performance values	
	Number of Fasteners			LGS Performance Values - 1.2mm Thick - Back to Back	
	Joist	Flange B		LGS Performance Values - 1.2mm Thick - Back to Back	
	Stud (X34B1016)	Anchor Bolt		Characteristic Capacities[kN]	
	Qty	Qty	Diameter[mm]	$R_{2,k}$	Deflection at Load[mm]
HTT4	18.0	1.0	16	29.7	6.4
HTT5	26.0	1.0	16	31.0	6.4

1. Performance Values are based upon tests completed by Simpson strong Tie U.S I accordance to ICC-ES AC261 - acceptance criteria for connectors used with Cold Formed Steel Structural Members
2. Deflection at Load is the deflection of the hold down measured between the anchor bolt and the strap portion of the hold down when loaded to the stated tension load
3. The engineer or designer shall be responsible for specifying suitable anchor type, embedment & configuration

Installation

Fixing

Fastening into Timber Stud:

- 4mm CNA Nails
- 5mm CSA Screws

for fastener & capacity options see 'Product Capacities - Simplified Values' table
Fastening to the concrete:

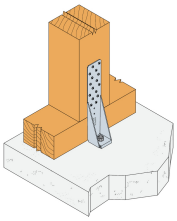
- Mechanical anchors: M16 WA Anchor or BOAX-II
- Chemical anchors: injection mortar SET-XP or AT-HP + M16 threaded rod LMAS

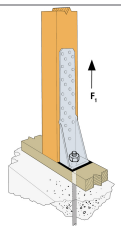
Installation

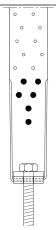
- The connector is mounted with a suitable M16 bolt to the concrete or masonry wall, and the vertical leg is fastened with 4mm CNA Nails, or 5.0mm CSA Screws, to the timber.

Technical Sheet

HTT
Hold Down

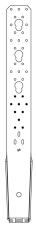






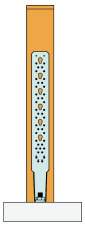


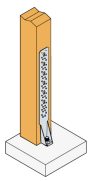
For HTT5 these holes must always be filled.

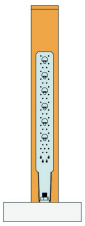


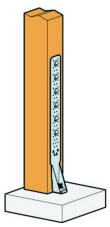
For HTT22E these holes must always be filled

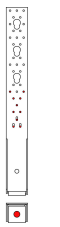




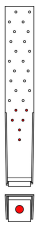


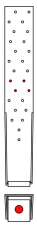












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