Technical Sheet

ABR
Reinforced Angle Bracket (105-R)

SIMPSON Strong-Tie

Reinforced angle brackets are suitable for structural applications in framing and wood-frame houses.



Features

Material

- Pre-galvanised mild steel.

Benefits

- Load capacity in all directions
- Improved capacities for full and partial nailing

Applications

Suitable On

- **Supporting member**: solid wood, glued-laminated wood, concrete, steel, etc.
- **Supported member**: solid wood, composite lumber, glued-laminated wood, triangular trusses, profiles, etc.

When to Use

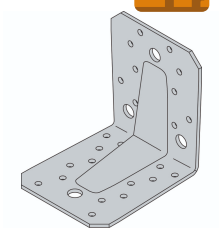
- Fastening of small trusses.
- Cladding plates, cladding uprights.
- Rafter anchors, cantilevers, headers, etc.

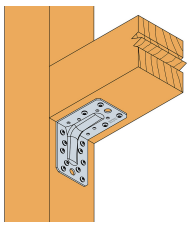


ABR70



ABR105







ABR105



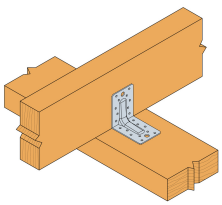
ABR90



ABR70



ABRL98



Wood to wood connection.



ABR105 Reinforced Angle Bracket



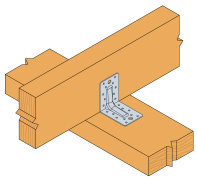
ABR105-R Reinforced Angle Bracket

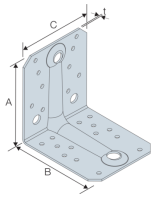
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Technical Data

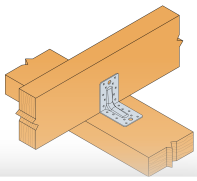
Product Dimensions

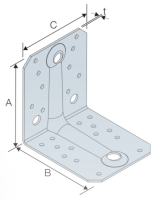




Reference	Connector Dimensions													
	Other	Product Dimensions[mm]				Joist[mm]					Flange B[mm]			
						Round				Obround	Round			
	Weight[kg]	A[mm]	B[mm]	C[mm]	Thickness[mm]	Ø5[mm]	Ø8.5[mm]	Ø11[mm]	Ø13	Ø13x40	Ø5[mm]	Ø8.5[mm]	Ø11[mm]	Ø13[mm]
ABR70	0.11	70	70	55	2	6	1	-	-	-	6	1	-	-
ABR90	0.21	90	90	65	2.5	10	-	1	-	-	10	-	1	-
ABR98	0.36	98	98	88	3	10	-	-	3	-	12	-	-	3
ABR105	0.4	105	105	90	3	10	-	3	-	-	14	-	1	-

Product capacities - Timber to timber - Full nailing - 2 angles brackets





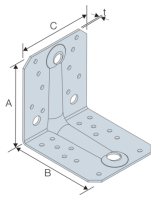
Product capacities - Timber to timber - Full nailing - 2 angles brackets
See full table online ➡️

Reference	Number o Fasteners														
	Joist	Flan B													
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CN		

g[kN]

R4,k = R5,

Simplified product capacities - Timber to rigid support - 2 angles brackets



Reference	Angle bracket capacity											
	Simplified product capacities - Timber to Concrete											
	Number of Fasteners				Characteristic Capacities - Timber C24 - 2 Angle Brackets per Connection[kN]							
	Joist		Flange B		$R_{1,k}$				$R_{2,k}=R_{3,k}$			
	Qty	Type	Qty	Type	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
ABR105	10.0	CNA	1.0	Ø10	4.08	4.88	6.48	8.08	2.25	2.68	3.55	4.37

**The published characteristic capacity is based on short term load duration and service class 2 according to EC5 (EN 1995) – k_{mod} = 0.9. For other load duration and service class, please refer to the ETA to get more accurate capacities.*
The bolt design resistance requirement R#,d is determined from (bolt factor x connection design load F#,d) for the required load direction and fastener. Refer to the Simpson Strong-Tie anchor product range for suitable anchors. Typical anchor solutions depend on the concrete type, spacing and edge distances.
To obtain the resistance values for a single bracket, the values in the above table should be divided by two, provided that the supported beam is locked in rotation. Please consult our ETA-06/0106 if the beam is free to rotate.

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Installation

Fixing

On wood:

- CNA annular ring-shank nails dia. 4.0 x 35 or dia. 4.0 x 50 mm.
- CSA screws dia. 5.0 x 35 mm or CSA screws dia. 5.0 x 40 mm.
- Bolts.
- LAG screws.

On concrete:
Concrete substrate

- *Mechanical anchor*: WA M10-78/5 OR WA M12-104/5 pin.
- *Chemical anchor*: AT-HP resin + LMAS M10-120/25 or LMAS M12-150/35 threaded rod.

Hollow masonry substrate:

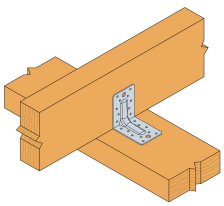
- *Chemical anchor*: AT-HP or POLY-GP resin + LMAS M12-150/35 threaded rod + SH M16-130 screen.

On steel:

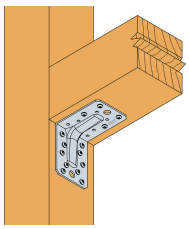
- Bolts.

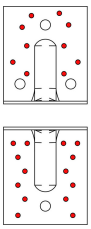
Installation

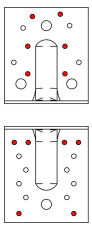
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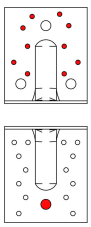


Wood to wood connection.









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