Technical data sheet

ABR
Reinforced Angle Bracket (105-R)

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

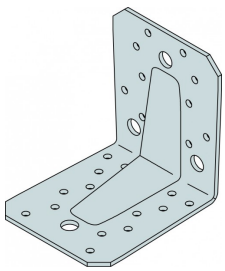
- **Supporting member**: solid wood, glued-laminated wood, concrete, steel, etc.
- **Supported member**: solid wood, composite lumber, glued-laminated wood, triangular trusses, profiles, etc.

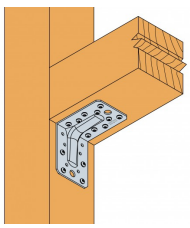
When to Use

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

ABR70

ABR105



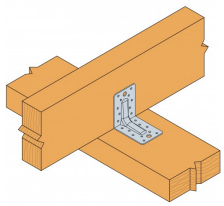


ABR105

ABR90

ABR70

ABRL98



Wood to wood connection.

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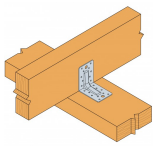
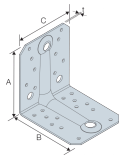
Technical Data

Product Dimensions

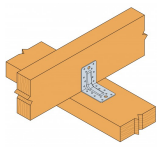


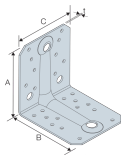


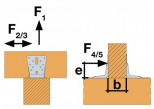
Wood to wood connection.

References	Product Dimensions [mm]				Joist					Holes flange B			
	A	B	C	t	Ø5	Ø8.5	Ø11	Ø13	Ø13x40	Ø5	Ø8.5	Ø11	Ø13
ABR70	70	70	55	2	6	1	-	-	-	6	1	-	-
ABR90	90	90	65	2.5	10	-	1	-	-	10	-	1	-
ABR105	105	105	90	3	10	-	3	-	-	14	-	1	-
ABR105-R	105	105	90	3	10	-	3	-	-	14	-	1	-

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







Wood to wood connection.

References	Product capacities - Timber to timber - Full nailing												
	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]										
	Joist	Flange B	$R_{1.k}$				$R_{2.k} = R_{3.k}$				$R_{4.k} = R$		
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	C
ABR70	4	6	4.38	5.34	7.11	8.89	4.55	5	6.89	7.33	-	3,0 / kmod^0,5	
ABR90	8	10	6.46	7.87	10.66	13.32	8.38	9.21	11.07	11.78	-	8,1 / kmod^0,85	
ABR105	10	14	8.84	10.78	14.33	17.91	13.26	14.57	19.01	20.22	-	12,9 / kmod^0,5	

** b = 75 mm and e = 130 mm*
To obtain the resistance values for a single bracket, the values in the above table should be divided by two, pro supported beam is locked in rotation. Please consult our ETA-06/0106 if the beam is free to rotate.

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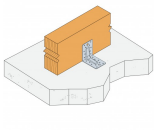
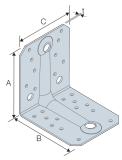
Simplified product capacities - Timber to rigid support - 2 angles brackets





References	Simplified product capacities - Timber to Concrete											
	Number of Fasteners				Simplified 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	CNA	1	Ø10	4.08	4.88	6.48	8.08	2.25	2.68	3.55	4.37
ABR105-R	10	CNA	1	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.

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

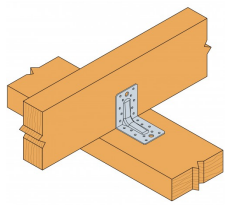
- *Mechanical anchor*: WA M10-78/5 OR WA M12-104/5 pin.
- *Chemical anchor*: AT-HP resin + LMAS M10-120/25 or LMAS M12-150/35 threaded rod.

Hollow masonry substrate:

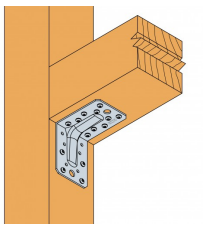
- *Chemical anchor*: AT-HP or POLY-GP resin + LMAS M12-150/35 threaded rod + SH M16-130 screen.

On steel:

- Bolts.



Wood to wood connection.



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