Technical data sheet

ABR - REINFORCED ANGLE BRACKETS

Reinforced angle brackets are suitable for structural applications in framing and timber framed houses as well as light gauge steel construction.

ETA-06/0106, UK-DoP-e06/0106

FEATURES

Material

- Galvanized steel S250GD + Z275 according to NF EN 10346.

Benefits

- Reinforcing ribs provide enhanced performance.

ABR7015

ABR9020

ABR10525

APPLICATIONS

Suitable On

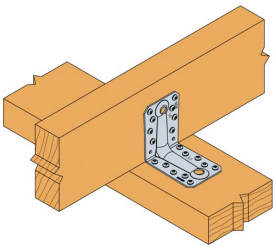
- **Supporting member**: solid wood, glued-laminated wood, concrete, steel, etc.
- **Supported member**: solid wood, composite lumber, glued-laminated wood, triangular trusses, profiles, etc.

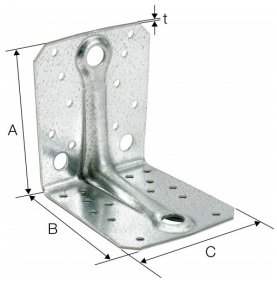
When to Use

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

TECHNICAL DATA

Product Dimensions



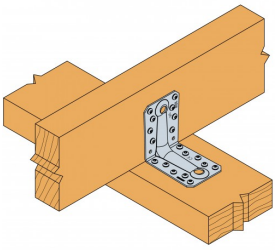


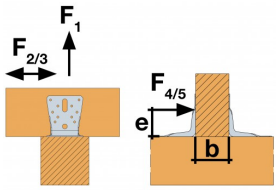
References	Tun / DB nr.	NOB nr.	Product Dimensions [mm]				Joist				Holes flange B			
			A	B	C	t	Ø5	Ø7	Ø11	Ø14	Ø5	Ø9	Ø13	Ø14
ABR7015	1553168	45554233	70	70	55	1.5	8	1	-	-	8	1	-	-
ABR9020	1241531	41327099	88	88	65	2	10	-	1	-	10	-	1	-
ABR10525	1553164	45540683	105	105	90	2.5	10	-	2	1	14	-	-	1

Combined loads:

$$\sqrt{\left(\frac{F_{1,d}}{R_{1,d}}+\frac{F_{4/5,d}}{R_{4/5,d}}\right)^2+\left(\frac{F_{2/3,d}}{R_{2/3,d}}\right)^2}\leq 1$$

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

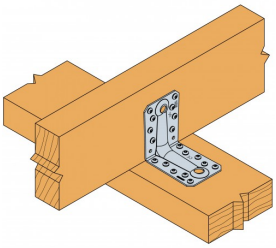


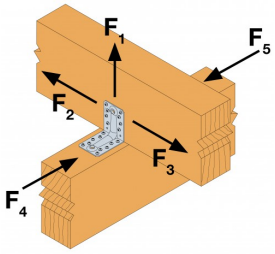


References	Product capacities - Timber beam to timber beam - Full nailing - 2 angle brackets													
	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]											
	Joist	Flange B	$R_{1.k}$					$R_{2.k} = R_{3.k}$					$R_{4.k} = R_{5.k}$*	
	Qty	Qty	CNA4.0x3	CNA4.0x4	CNA4.0x5	CNA4.0x6	CSA5.0x4	CNA4.0x3	CNA4.0x4	CNA4.0x5	CNA4.0x6	CSA5.0x4	CNA4.0x3	CNA4.0x4
ABR7015	6	8	5.2	6.1	-	-	-	6.6	7.3	-	-	-	4,2 / kmod^0,3	4,8 / kmod^0,3
ABR9020	8	10	9.68	10.78	11.92	14.9	13.1	9.43	10.33	12.23	13.01	10.4	4,6 / kmod^0,7	-
ABR10525	10	14	12.68	17.22	23.56	29.44	-	10.79	12.11	18.51	19.69	-	10,6 / kmod^0,2	-

* b = 75 mm and e = 130 mm

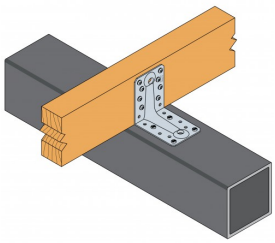
Product capacities - Timber to timber - Partial nailing - 2 angles brackets

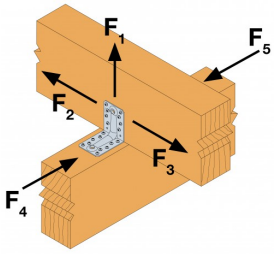




References	Product capacities - Timber beam to timber beam - Partial nailing - 2 angle brackets									
	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]							
	Joist	Flange B	$R_{1,k}$				$R_{2,k} = R_{3,k}$			
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
ABR9020	4	6	4.9	5.89	7.82	9.78	5.9	6.48	7.62	8.11
ABR10525	6	6	4.8	5.7	7.6	9.5	9.7	10.6	13.4	14.3

Product capacities - Timber beam to steel 6 mm - Partial nailing - 2 angles brackets





References	Product capacities - Timber beam to steel beam 6 mm - Partial nailing - 2 angle brackets				
	Number of Fasteners				Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]
	Joist		Flange B		$R_{1,k}$
	Qty	Type	Qty	Type	CNA4.0x60
ABR9020	8	CNA	4	PDPA-75	12.1
ABR10525	10	CNA	4	PDPA-75	15.3

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

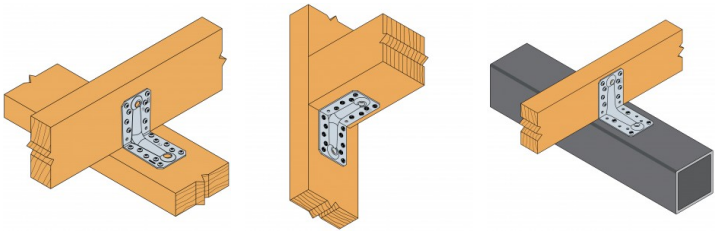
- Mechanical anchor: WA M10-78/5 OR WA M12-104/5 pin.
- Chemical anchor: AT-HP resin + LMAS M10-120/25 or LMAS M12-150/35 threaded rod.

Hollow masonry substrate:

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

On steel:

- Bolts.



TECHNICAL NOTES

Technical Notes

F1: tensile force in the central axis of the angle-bracket

Particular situation of a fastening with only one angle-bracket:

- If the overall structure prevents the rotation of the purlin or the post, the tensile strength is equal to half of the given value for two angle-brackets.
- Otherwise, the connection resistance depends on the « f » distance between the vertical contact surface and the point of load application.

F2 and F3: shear lateral force

Particular situation of a connection with only one angle-bracket:

- The resistance value to consider is equal to half of the one given for two angle-brackets.

F4 and F5: transversal force directed towards or opposite the angle-bracket

- The connection resistance depends on the « e » distance between the base of the angle-bracket and the point of load application.
- To consult corresponding loads, contact us.

Only F1, F2 and F3 forces for connections with 2 angle-brackets are present on this sheet.
For more information, contact us.

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