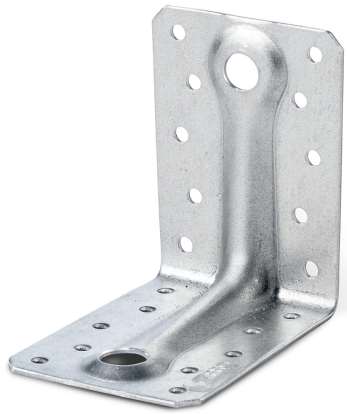
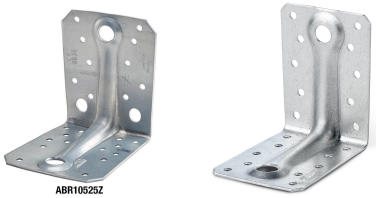
Technical Sheet

ABR-Z
Reinforced angle brackets

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







Features

Material

- **Steel grade:**
  - ABR9020Z Stal S250GD + Zpro according to EN 10346
  - ABR7015Z and ABR10525Z Steel S350GD + Zpro according to EN 10346
- **Anti-corrosion protection:**
  ZPRO coating - corresponding to a zinc layer thickness of approx. 55 µm

Benefits

- Reinforcing ribs provide enhanced performance.

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.

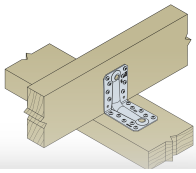
When to Use

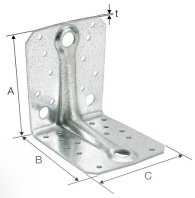
- Fastening of small trusses.
- Cladding plates, cladding uprights.
- Rafter anchors, cantilevers, headers, etc.
- Light gauge steel.

Technical Sheet

ABR-Z
Reinforced angle brackets

Technical Data

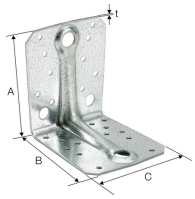




Product Dimensions

Product Dimensions
See full table online ➡️

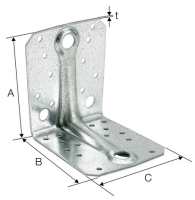
Reference	Tun / DB nr.													Flange B[mm]		
														Round		
														Ø5[mm]	Ø9	Ø13[mm]
ABR7015Z	2048395													8	1	-
ABR9020Z	1938737	52950361	50.0	0.17	88	88	65	2	10	-	1	-		10	-	1



Capacities wood-wood connection - Full Nailing

Reference	Angle bracket capacity				
	Product capacities - Timber to timber - Beam to beam - Full nailing				
	Number of Fasteners		Characteristic capacity - 2 angle brackets per connection - full nailing[kN]		
	Joist	Flange B	$R_{1,k}$	$R_{2,k}=R_{3,k}$[kN]	R4/5,k
	Qty	Qty	CSA5.0x40Z	CSA5.0x40Z	CSA5.0x40Z
ABR7015Z	6	8	5.2	6.7	4.2 /kmod^0,3
ABR9020Z	8	10	9.7	9.4	4.6 /kmod^0,7
ABR10525Z	10	14	12.7	10.7	10.6/kmod^0,2

R 4/5 with b=75mm and e=130mm



Capacities wood-wood connection / partialnailing

Reference	Angle bracket capacity				
	Product capacities - Timber to timber - Partial nailing				
	Number of Fasteners		Characteristic capacity - 2 angle brackets per connection - full nailing[kN]		
	Joist	Flange B	$R_{1,k}$	$R_{2,k}=R_{3,k}$	R4,k = R5,k(1)
	Qty	Qty	CSA5.0x40Z	CSA5.0x40Z	CSA5.0x40Z
ABR9020Z	4.0	6.0	4.9	5.9	4.6 /kmod^0,6
ABR10525Z	6.0	6.0	4.8	9.7	Refer to ETA-06/0106

R 4/5 with b=75mm and e=130mm

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:

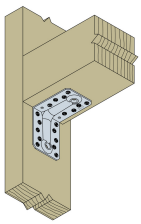
- *Chemical anchor*: AT-HP or POLY-GP resin + LMAS M12-150/35 threaded rod + SH M16-130 screen.

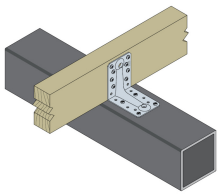
On steel:

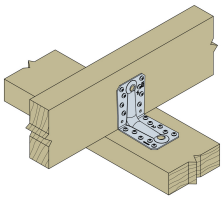
- Bolts.

Installation

c







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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