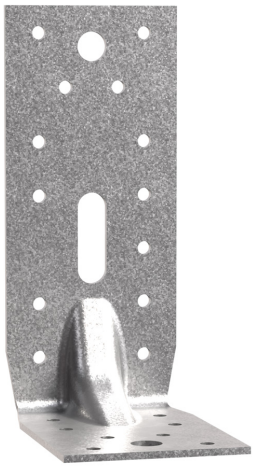
Technical Sheet

E9S/2.5
Large Reinforced Angle Brackets

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



Features

Material

- Pre-galvanised mild steel.

Benefits

- Reinforced.
- Multiple applications.

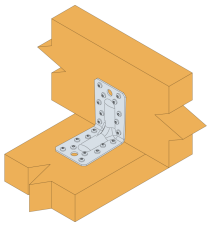
Applications

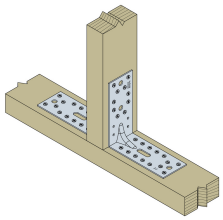
Suitable On

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

Scope

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





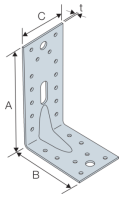


Technical Sheet

E9S/2.5
Large Reinforced Angle Brackets

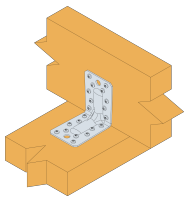
Technical Data

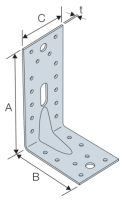
Product Dimensions



Reference	Connector Dimensions									
	Product Dimensions[mm]				Joist[mm]			Flange B[mm]		Other
					Round		Obround	Round		
	A[mm]	B[mm]	C[mm]	Thickness[mm]	Ø5[mm]	Ø11[mm]	Ø11x34	Ø5[mm]	Ø11[mm]	Weight[kg]
E9S/2.5	152.5	94	65	2.5	14	1	1	8	1	0.29

Wood/wood connection beam/beam type - assembly with 2 angle brackets

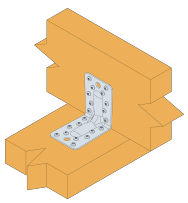


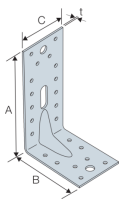


Reference	Angle bracket capacity					
	Simplified product capacities - Timber to timber – Beam to beam - Full nailing					
	Number of Fasteners		Characteristic Capacities - Timber C24 - 2 Angle Brackets per Connection[kN]			
	Joist	Flange B	$R_{1,k}$		$R_{2,k}=R_{3,k}$	
	Qty	Qty	CNA4.0x35	CNA4.0x50	CNA4.0x35	CNA4.0x50
E9S/2.5	12.0	8.0	4.7	7.9	8.8	11.8

** 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.*
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.

Wood/wood connection post/beam type - assembly with 2 angle brackets





Reference	Angle bracket capacity					
	Product capacities - Timber beam to timber post					
	Number of Fasteners		Characteristic capacity - 2 angle brackets per connection - full nailing[kN]			
	Flange B	Joist	$R_{1,k}$		$R_{2,k}=R_{3,k}$	
	Qty	Qty	CNA4.0x35	CNA4.0x50	CNA4.0x35	CNA4.0x50
E9S/2.5	8.0	10.0	2.8	4.6	7	9.6

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

Fasteners

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

Use specified nails.

Technical Notes

Technical data

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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