Technical Sheet

AG922

Large Reinforced Angle Bracket

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



Features

Material

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

Advantages

- High lateral capacity
- High rigidity
- Allow concrete header

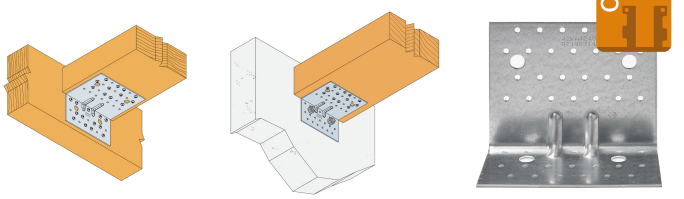
Applications

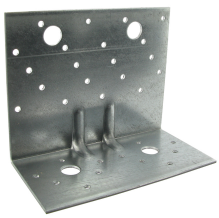
Header member

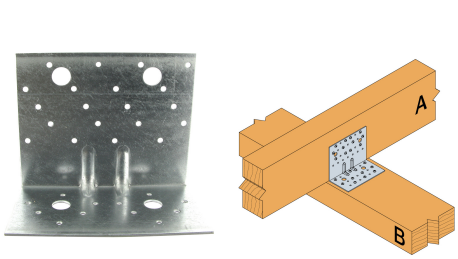
- **Supporting member**: solid wood, glued-laminated wood, concrete, steel, etc.
- **Supported member**: solid wood, composite lumber, glued-laminated wood, triangular trusses, profiles, etc.

Intended Use

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

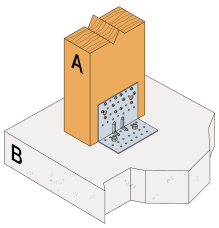


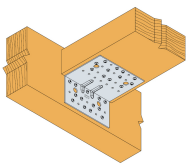


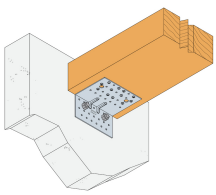


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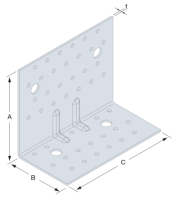


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Large Reinforced Angle Bracket

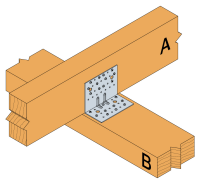
Technical Data

Product Dimensions



Reference	Connector Dimensions									
	Product Dimensions[mm]				Joist[mm]		Flange B[mm]		Other	
	A[mm]	B[mm]	C[mm]	Thickness[mm]	Round		Round		Qty per Box	Weight[kg]
					Ø5[mm]	Ø13	Ø5[mm]	Ø13[mm]		
AG922	121	79	150	2.5	26	2	18	2	25.0	0.54

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



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]
	Qty	Qty	CNA4.0x50	CNA4.0x50
AG922	16	13	18.5	29.5

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 post to timber beam		
	Number of Fasteners		Characteristic capacity - 2 angle brackets per connection - full nailing[kN]
	Joist	Flange B	$R_{1,k}$
	Qty	Qty	CNA4.0x50
AG922	12.0	13.0	19.5

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.

Technical Sheet

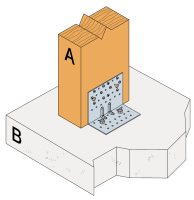
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Large Reinforced Angle Bracket

Wood/rigid substrate connection beam/rigid substrate type - assembly with 2 angle brackets

Reference	Angle bracket capacity					
	Product capacities - Timber beam to rigid support					
	Number of Fasteners				Characteristic capacity - 2 angle brackets per connection - full nailing[kN]	
	Joist		Flange B		$R_{1,k}$	$R_{2,k}=R_{3,k}$
	Qty	Type	Qty	Type	CNA4.0x50	CNA4.0x50
AG922	16.0	CNA*	2.0	Ø12	30.6	48.2

* Refer to Characteristic Capacity table columns for type of fasteners that can be used in Flange A. Capacities vary depending on fastener type used.
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.

Wood/rigid substrate connection post/rigid substrate type - assembly with 2 angle brackets



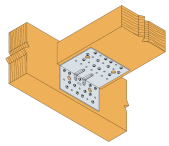
Reference	Angle bracket capacity				
	Product capacities - Timber post to rigid support				
	Number of Fasteners				Characteristic capacity - 2 angle brackets per connection - full nailing[kN]
	Joist		Flange B		$R_{1,k}$
	Qty	Type	Qty	Type	CNA4.0x50
AG922	12.0	CNA*	2.0	Ø12	37.5

* Refer to Characteristic Capacity table columns for type of fasteners that can be used in Flange A. Capacities vary depending on fastener type used.
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.

Technical Sheet

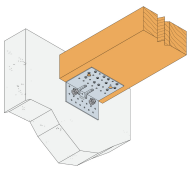
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Characteristic capacities - Beam/beam assembly - Connection with 1 bracket - F4



Reference	Angle bracket capacity		
	Product capacities - Timber to timber		
	Number of Fasteners		Characteristic capacities - Timber C24 - 1 angle brackets per connection[kN]
	Joist	Flange B	R4,k
	Qty	Qty	CNA4.0x50
AG922	12.0	13.0	22.6

Characteristic capacities - Beam/rigid support - Connection with 1 bracket - F4



Reference	Angle bracket capacity				
	Characteristic capacities - Timber to rigid support				
	Number of Fasteners				Characteristic capacities - Timber C24 - 1 angle brackets per connection[kN]
	Joist		Flange B		R4,k
	Qty	Type	Qty	Type	CNA4.0x50
AG922	12.0	CNA*	2.0	Ø12	24.8

Characteristic capacities - CLT beam to CLT beam - Ø12 connector screws - 2 angle brackets

Reference	Angle bracket capacity					
	Product capacities - CLT beam to CLT beam - Ø12 connector screws - 2 angles brackets					
	Number of Fasteners				Characteristic capacity - 2 angle brackets per connection - full nailing[kN]	
	Joist		Flange B		$R_{2,k}=R_{3,k}$	$R_{1,k}$
	Qty	Type	Qty	Type	SSH12x80	SSH12x80
AG922	2.0	SSH	2.0	SSH	23	23

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:

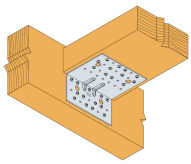
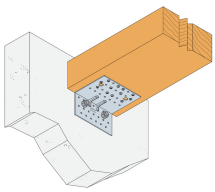
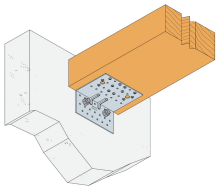
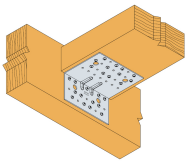
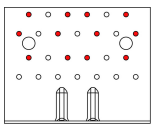
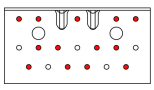
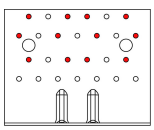
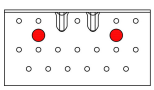
- *Chemical anchor*: AT-HP or POLY-GP resin + LMAS M12-150/35 threaded rod + SH M16-130 screen.

On steel:

- Bolts.

Installation

1. Come with the joist close to the header,
2. Add nails/screws to fix the angle bracket to the joist,
3. If timber header, the angle bracket is also fixed to the header with screws or nails
4. If concrete header, attached the angle bracket using installation details from the anchor

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Technical Notes

Technical information

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.

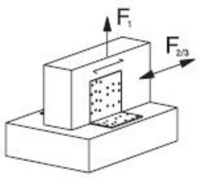
F2 and F3: shear lateral force
Particular situation of a connection with only one angle-bracket:

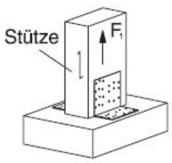
- The resistance value to consider is equal to half of the one given for two angle-brackets.

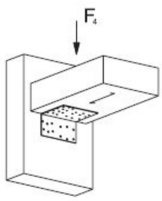
F4 and F5: transversal force directed towards or opposite the angle-bracket

- 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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