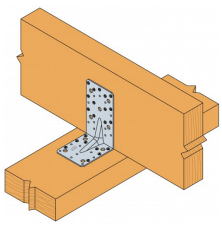
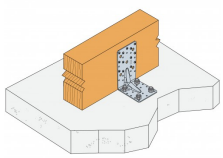
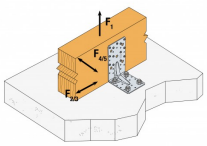
Technical data sheet

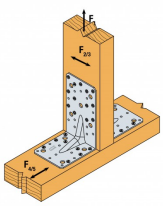
E20/3
Large reinforced angle brackets

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.

Benefits

- Extremely strong angle bracket!
- Suitable for anchoring as it can withstand both suction and pull in all directions
- I single angle bracket E20/3 each side of the assembly will result in an extremely strong ans secure construction
- 2 angle brackets can be used as an alternative to a joisthanger

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

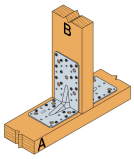
- Fastening of small trusses.
- Cladding plates, cladding uprights.
- Rafter anchors, cantilevers, headers, etc.

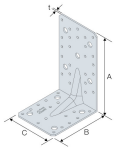
Technical data sheet

E20/3
Large reinforced angle brackets

Technical Data

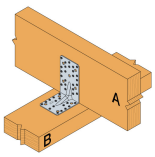
Product Dimensions





References	Tun / DB nr.	NOB nr.	Product Dimensions [mm]				Joist		Holes flange B	
			A	B	C	t	Ø5	Ø11	Ø5	Ø11
E20/3	1247118	43582662	170	113	95	3	24	5	16	4

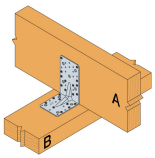
Product capacities - Timber beam to timber beam - Full nailing - 2 angles brackets



References	Product capacities - Timber to timber - Full nailing									
	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]							
	Joist	Flange B	$R_{1,k}$				$R_{2,k} = R_{3,k}$			
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
E20/3	24	16	7.34	8.95	11.77	14.71	19.89	21.86	26.61	28.31

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.

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



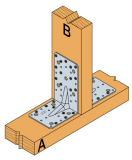
References	Product capacities - Timber beam to timber beam - Partial nailing									
	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]							
	Joist	Flange B	$R_{1,k}$				$R_{2,k} = R_{3,k}$			
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
E20/3	12	9	5.56	6.78	8.78	10.97	15	16.48	20.22	21.51

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.

Technical data sheet

E20/3
Large reinforced angle brackets

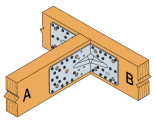
Product capacities - Timber post to timber beam - Partial nailing - 2 angles brackets



References	Product capacities - Timber post to timber beam - Partial 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	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
E20/3	13	8	5.56	6.78	8.78	10.97	11.77	12.93	15.91	16.92

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.

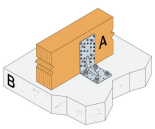
Product capacities - Trimmer connection - Partial nailing - 2 angles brackets



References	Product capacities - Timber to timber - Trimmer connection					
	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]			
	Joist	Flange B	$R_{2.k} = R_{3.k}$			
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
E20/3	18	16	12.67	15.45	19.31	24.14

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.

Product capacities - Timber beam to rigid support - Full nailing - 2 angles brackets



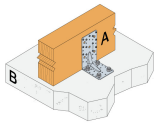
References	Product capacities - Timber to Concrete - Full nailing											
	Number of Fasteners				Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]							
	Joist		Flange B		$R_{1.k}$				$R_{2.k} = R_{3.k}$			
	Qty	Type	Qty	Type	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
E20/3	24	CNA	4	Ø10	53.7	65.5	71	88.8	39	42.9	44.7	47.5

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.

Technical data sheet

E20/3
Large reinforced angle brackets

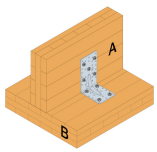
Product capacities - Timber beam to rigid support - Partial nailing - 2 angles brackets



References	Product capacities - Timber to Concrete - Partial 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	Type	Qty	Type	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60
E20/3	13	CNA	4	Ø10	30.2	36.9	40	50	25.4	28	29.1	31

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.

Product capacities - CLT beam to CLT beam - Ø10 connector screws - 2 angles brackets



References	Product capacities - CLT beam to CLT beam - Ø10 connector screws - 2 angle brackets					
	Fasteners				Characteristic capacities - Timber CLT - 2 angle brackets per connection [kN]	
	Flange A		Flange B		$R_{1.k}$	$R_{2.k} = R_{3.k}$
	Qty	Type	Qty	Type	SSH10x80	SSH10x80
E20/3	5	SSH	4	SSH	29	26

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:

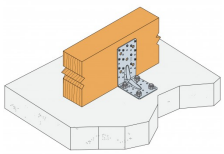
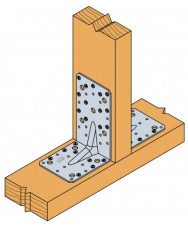
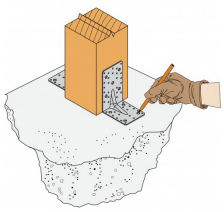
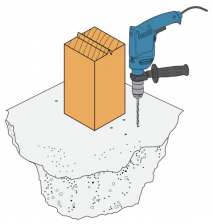
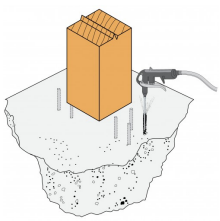
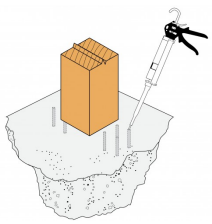
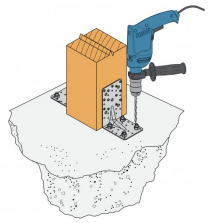
- *Chemical anchor*: AT-HP or POLY-GP resin + LMAS M12-150/35 threaded rod + SH M16-130 screen.

On steel:

- Bolts.

Installation

• For home and garden

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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