AE
Reinforced Angle Bracket

SIMPSON
Strong-Tie

These angles are used for connections wood / timber, or for connecting wooden structures in concrete, steel, masonry.

Features

Material

Steel quality:
• **S250GD + Z275 according to DIN EN10346**

Corrosion protection:
• **275 g / m galvanized on both sides 20mm**

Benefits

• **Connection wood / concrete**
• **Load in all directions 4**

Applications

Applicable materials

Wood, wood products, concrete, steel

Application area

• **Coupling elements of wood or wooden materials, components made of wood / wood materials or concrete / steel**

Values for joint wood and wood, two connection / partial nailing

1) b = 80 and e = 120

*) The number of nails AE116: 8 pieces in F1, F4 / 5 and 9 pieces in the F2 / 3 - Other nails found in ETA.

If the timber when the connection cannot twist, half of the values in the table can be adopted for connection with only one angle for R1 and R2 / 3 system.

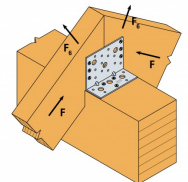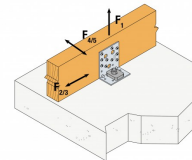**If the purlins rotatable directions and forces F4 and F5 at other intervals, B and E, you can find more information on ETA.**
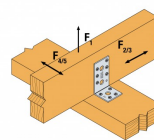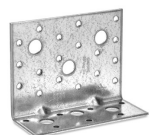
NEW

CE

SC 2

ETA

INDOOR

Z275

EPD
EN 15804

AE48

AE76

AE116
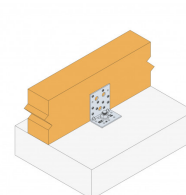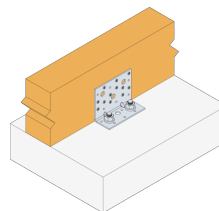
Technical Data

Product Dimensions
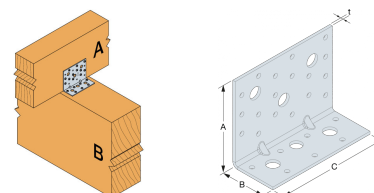
References	Tun / DB nr.	NOB nr.	Product Dimensions [mm]				Joist		Holes flange B		Box Quantity	Weight [kg]
			A	B	C	t	Ø5	Ø13	Ø5	Ø13		
AE76-R	7742208	21594528	90	48	76	3	12	3	7	1	50	0.21
AE116	7742216	21594536	90	48	116	3	18	3	7	3	50	0.34

Capacities wood-wood connection - Full Nailing
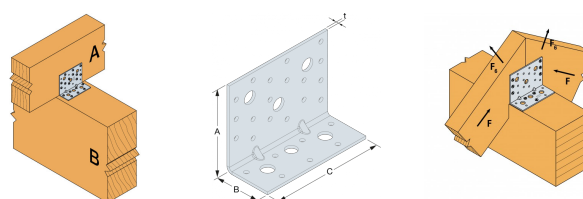
References	Number of Fasteners		Product capacities - Timber to timber - Maximum nailing									
			Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]									
	Joist	Flange B	$R_{1.k}$				$R_{2.k} = R_{3.k}$					
	Qty	Qty	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x
AE76-R	9	7	5.1	5.8	7.7	9.8	10.4	11.6	13.4	15.6	2.5/kmod^0.25	2.9/kmod^
AE116	12	7	5.1	5.8	7.7	9.8	14.7	16.6	20	23.2	2.8/kmod^0.25	3.2/kmod^

1) $R_{4/5}$ is detemined for beam width b = 75 mm and eccentricity e = 130 mm.
The load capacity belongs to a load group with the modification factor k_{mod}.
If the overall structure prevents the rotation of the purlin, the load values $R_{1,k}$ and $R_{2/3,k}$ in an assembly with onl
of the given value in the table
* For higher $F_{2/F3}$ capacities, Load combination and other nail patterns, refer to ETA-06/0106

Capacities wood-wood connection / partialnailing

References	Number of Fasteners		Product capacities - Timber to timber - Partial nailing									
			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	CNA4,0x35	CNA4,0x
AE76-R	7	7	5.1	5.8	7.7	9.8	8.2	9.5	11.4	13.1	2.5/kmod^0.25	2.9/kmod^
AE116	8	7	5.1	5.8	7.7	9.8	11.9	13.8	16.9	19.4	2.8/kmod^0.25	3.2/kmod^

1) R$_{4/5}$ is detemined for beam width b = 75 mm and eccentricity e = 130 mm.

The load capacity belongs to a load group with the modification factor k$_{mod}$.

If the overall structure prevents the rotation of the purlin, the load values R$_{1,k}$ and R$_{2/3,k}$ in an assembly with onl
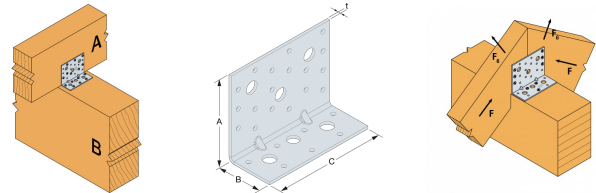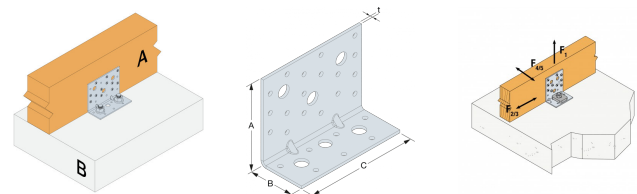
of the given value in the table

* For higher F$_{2/F3}$ capacities, Load combination and other nail patterns, refer to ETA-06/0106

Characteristic capacities - Timber to concrete

References	Number of Fasteners				Product capacities - Timber to Concrete									
					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	CNA4,0x35	CNA4,
AE76-R	9	CNA*	1	M12	min: 18.7 ; 16.8/kmod	min: 22.7 ; 16.8/kmod	16.8/kmod	16.8/kmod	6.7	7.5	10.3	11.2	-	min: 8 6.1/kr
AE116	12	CNA*	2	M12	20.7	25.1	min: 33.3 ; 28.1/kmod	min: 38.1 ; 28.1/kmod	23	25.8	25.5	27.7	-	9,1 kmod^

1) R$_{4/5}$ is detemined for beam width b = 75 mm and eccentricity e = 130 mm.

The load capacity belongs to a load group with the modification factor k$_{mod}$. The characteristic anchoring streng

be minimum 15,3 kN for both withdrawal and shear force. The bearing capacity value for the assembly must be

proportionally if the bearing capacities of the bolt is less than 15,3 kN.

If the overall structure prevents the rotation of the purlin, the load values R$_{1,k}$ and R$_{2/3,k}$ in an assembly with onl
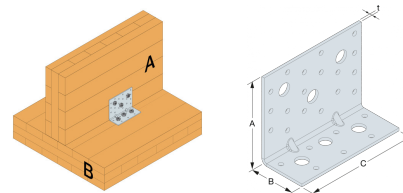
to half of the given value in the table

*For higher F$_{2/F3}$ capacities, Load combination and other nail patterns, refer to ETA-06/0106

AE
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Product capacities - CLT Beam to CLT beam - Ø12
connector screws - 2 angle brackets

References	Product capacities - CLT beam to CLT beam - Ø12 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	SSH12x80	SSH12x80
AE116	3	SSH	3	SSH	33	29.5

Installation

Installation

- Timber to timber:
  - CNA4,0xℓ nails or CSA5,0xℓ screws for fastening in wood.
- Timber to concrete :
  - One or two M12 bolts with washer US40/40/10G for fastening.
- CLT beam to CLT beam :
  - SSH Ø 12.0 x 80 mm (for AE116)

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