

AE Reinforced Angle Bracket

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

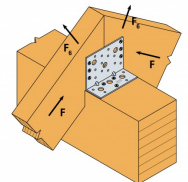
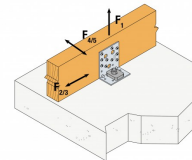
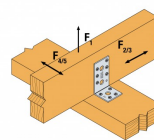
Values for joint wood and wood, two connection / partial nailing

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.

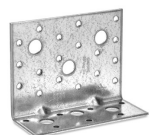
If the purlins rotatable directions and forces F4 and F5 at other intervals, B and E, you can find more information on ETA.



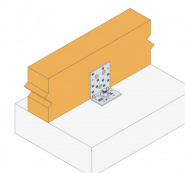
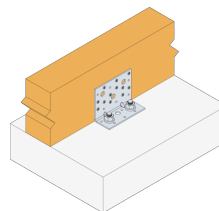
AE48



AE76



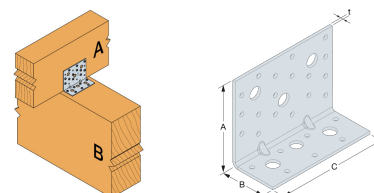
AE116



AE Reinforced Angle Bracket

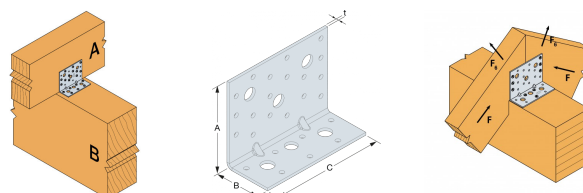
Technical Data

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 | | |
| AE48 | 3779212 | 21220751 | 90 | 48 | 48 | 3 | 7 | 2 | 4 | 1 | 100 | 0.13 |
| AE76 | - | 21594528 | 90 | 48 | 76 | 3 | 12 | 3 | 7 | 1 | 100 | 0.21 |
| AE116 | 7742216 | 21594536 | 90 | 48 | 116 | 3 | 18 | 3 | 7 | 3 | 50 | 0.34 |

Capacities wood-wood connection - Full Nailing



| References | Product capacities - Timber to timber - Maximum 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 | CNA4.0x35 | CNA4.0x40 |
| AE48 | 6 | 4 | 2.5 | 2.9 | 3.8 | 4.9 | 3.5 | 4 | 4.9 | 6 | 1.1/kmod ^{0.25} | 1.3/kmod ^{0.25} |
| AE76 | 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 ^{0.25} |
| 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 ^{0.25} |

1) $R_{4/5}$ is determined 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 one of the given value in the table

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

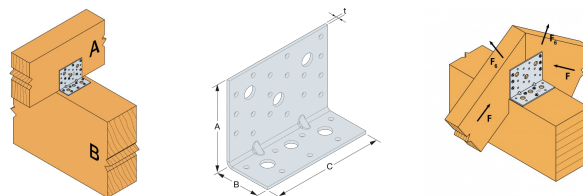
Technical data sheet

SIMPSON

Strong-Tie

AE Reinforced Angle Bracket

Capacities wood-wood connection /
partial nailing



| References | Product capacities - Timber to timber - 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 | CNA4.0x35 | CNA4.0x60 |
| AE48 | 4 | 4 | 2.5 | 2.9 | 3.8 | 4.9 | 3.4 | 3.9 | 4.7 | 5.4 | $1.1/k_{mod}^{0.25}$ | $1.3/k_{mod}^{0.25}$ |
| AE76 | 7 | 7 | 5.1 | 5.8 | 7.7 | 9.8 | 8.2 | 9.5 | 11.4 | 13.1 | $2.5/k_{mod}^{0.25}$ | $2.9/k_{mod}^{0.25}$ |
| AE116 | 8 | 7 | 5.1 | 5.8 | 7.7 | 9.8 | 11.9 | 13.8 | 16.9 | 19.4 | $2.8/k_{mod}^{0.25}$ | $3.2/k_{mod}^{0.25}$ |

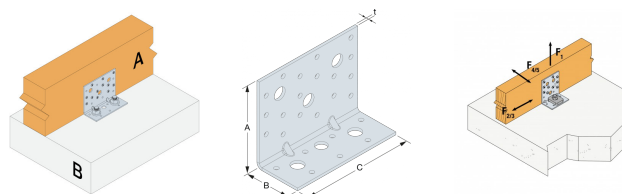
1) $R_{4/5}$ is determined for beam width $b = 75$ mm and eccentricity $e = 130$ mm.

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 only one 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 | Product capacities - Timber to Concrete | | | | | | | | | | | | | |
|------------|-----------------------------------------|----------|-------------------------------------------------------------------------------|------|--------------------------|--------------------------|--------------------------|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------------|
| | 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 | CNA4.0x35 | CNA4.0x60 |
| AE48 | 6 | CNA* | 1 | M12 | min: 12.3 ; 12.6/kmod | min: 14.9 ; 12.6/kmod | 12.6/kmod | 12.6/kmod | 1.9 | 2.1 | 3.2 | 3.5 | - | min 4.2/kmod |
| AE76 | 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 6.1/kmod |
| 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 kmod |

1) $R_{4/5}$ is determined 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 strength minimum 15,3 kN for both withdrawal and shear force. The bearing capacity value for the assembly must be reduced 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 only one of the given value in the table

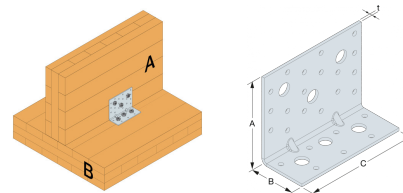
*For higher $F_{2/F3}$ capacities, Load combination and other nail patterns, refer to ETA-06/0106

Technical data sheet

SIMPSON

Strong-Tie®

AE Reinforced Angle Bracket



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

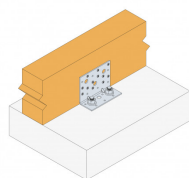
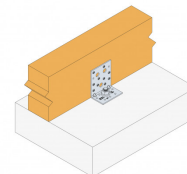
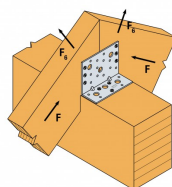
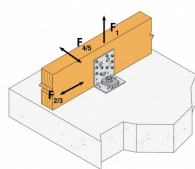
| References | Product capacities - CLT beam to CLT beam - Ø12 connector screws - 2 angle brackets | | | | | | |
|------------|-------------------------------------------------------------------------------------|------|----------|------|------------------------------------------------------------------------------|---------------------|--|
| | 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 | |
| AE48 | - | - | - | - | - | - | |
| AE116 | 3 | SSH | 3 | SSH | 33 | 29.5 | |

AE Reinforced Angle Bracket

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)



AE
Reinforced Angle Bracket

