## Technický list

ABD

## Angle bracket ABD

Angle bracket ABD45100 for connection timber
to timber and the angle bracket ABDW45100 with washer for connection timber to rigid supports.
The fixing to the rigid support shall be done with anchor M12.

## Features

## Materiál

Steel quality:
Angle bracket: S 250 GD + Z275 according to EN10346
Washer: S235JR according to EN 10025 Corrosion protection:
Angle bracket: Z 275 pre-galvanized, zinc coating ~ $20 \mu \mathrm{~m}$
Washer: hot dip galvanized, zinc coating $\sim 50 \mu \mathrm{~m}$ according to EN1461

## Benefit

For applications timber to timber and timber to concrete

## Applications

## Anwendungsbereich

Applicable materials
Supportingmember
Solid wood, engineered wood, concrete, steel, etc.
Supported member
Solid wood, engineered wood

## Anwendungsbereich

With this angle brackets can be fixed timber elements to timber or rigid support.
With different nail pattern are given options for connection, with larger distances of first nail row.

ABD

## Angle bracket ABD

## Technical Data

Rozměry a typické hodnoty


| Art. nr. | Rozměry [mm] |  |  |  | No. of holes |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | t1 | flange A | Hlava |  |
|  |  |  |  |  | $\emptyset 5 \mathrm{~mm}$ | $\emptyset 5 \mathrm{~mm}$ | 13x21mm |
| ABD45100 | 100 | 45 | 55 | 3 | 10 | 4 | 1 |

For load combination shall be fulfilled:
$\frac{F_{1, d}}{R_{1, d}}+\frac{F_{2 / 3, d}}{R_{2 / 3, d}} \leq 1$

Characteristic capacities F1


| Art. nr. | $\mathrm{R}_{1, \mathrm{k}}$ - 1 angle bracket per connection [ kN ] |  |  |  | $\mathrm{R}_{1, \mathrm{k}}-2$ angle brackets per connection [KN] |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nail pattern 1 to 3 respectively 4 to 6 |  |  |  | Nail pattern 1 to 3 respectively 4 to 6 |  |  |  |
|  | CNA4,0x35 | CNA4,0x40 | CNA4,0x50 | CNA4,0x60 | CNA4,0x35 | CNA4,0x40 | CNA4,0x50 | CNA4,0x60 |
| ABD45100 | $\underset{\left((f+15)^{*} \text { kmod }\right)}{\min : 1,27 ; 21,2 /}$ | $\underset{\left((f+15)^{*} ; \min ^{2}\right)}{\min }: 1,26 ; 2 /$ | $\begin{gathered} 21,2 / \\ \left((f+15)^{*} \text { kmod }\right) \end{gathered}$ | $\begin{gathered} 21,2 / \\ \left((\mathrm{f}+15)^{*} \text { kmod }\right) \end{gathered}$ | 2.94 | 3.92 | 4.9 | 5.81 |

The necessary capacity of bolt has to be as minimum:
$R_{\text {bolt.axial }}=F_{1 . d} \times 1.65$
With:
$R_{\text {bolt.axial }}=$ min. axial capacity of the bolt / both bolts (connection with $1 / 2$ ABD )

## Characteristic capacities F2/3

| Art. nr. | $\mathrm{R}_{23, \mathrm{k}}-2$ angle brackets per connection [kN] |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nail pattern 1 and 4 |  |  |  | Nail pattem 2 and 5 |  |  |  | Nail pattern 3 and 6 |  |  |  |
|  | CNA4,0x35 | CNA4,0x40 | CNA4,0x50 | CNA4,0x60 | CNA4,0x35 | CNA4,0x40 | CNA4,0x50 | CNA4,0x60 | CNA4,0x35 | CNA4,0x40 | CNA4,0x50 | CNA |
| ABD45100 | 6.07 | 7.01 | 8.86 | 10.18 | 5.65 | 6.22 | 7.47 | 8.12 | 3.49 | 3.82 | 4.57 | $\angle$ |

For connection with one ABD can be use the half of capacities as for connection with 2 ABD, if the timber elemt are prevented against rotation.
The necessary capacity of bolt has to be as minimum:
$R_{\text {bolt.axial }}=F_{2 . \mathrm{d}} \times 0.4 \quad R_{\text {bolt.lat }}=F_{2 . d}$
With:
$R_{\text {bolt.axial }}=$ min. axial capacity of the bolt $/$ both bolts (connection with $1 / 2$ ABD )
$R_{\text {bolt.lat }}=$ min. lateral capacity of the bolt / both bolts (connection with $1 / 2$ ABD )

## Technický list

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Angle bracket ABD

## Installation

## Installation

- Fastening is done with CNA4,0xl nails or CSA5,0x\& screws.
- M12 anchor bolts are used for fastening to concrete.

