# PRODUCT DATA SHEET

# ANGLE-BRACKET SCREW STRONG

## PRODUCT DESCRIPTION

The Strong angle-bracket screw (ABS) is made of hardened carbon steel that has been specially designed for joints involving steel plates. The special screw geometry reduces the splitting effect produced during the screw's installation and, combined with the self-clearing groove, ensures that the screw „bites" quickly. The screw's increased shank diameter creates higher shear forces between the steel plate and the wood. The screw's special geometry directly beneath the head ensures an excellent static performance that results from a plug-in effect between the screw and plate.
In addition, the screw head's edgeless geometry minimises the number of stress concentration points while enhancing the screw's structural strength.

## APPLICATIONS

- Conditionally corrosion-resistant and suitable for use in service classes 1, 2 and 3 according to DIN EN 1995 (Eurocode 5)
- Compatible with our Tension Strap HighLoad steel plates
- Not suitable for wood containing tannins


## MATERIAL

- Hardened carbon steel + blue galvanized
- Free of chromium (VI) oxide
- Good resistance to mechanical stresses

## CERTIFICATION

European Technical Assessment ETA-11/0024
Self-tapping screws as wood connectors






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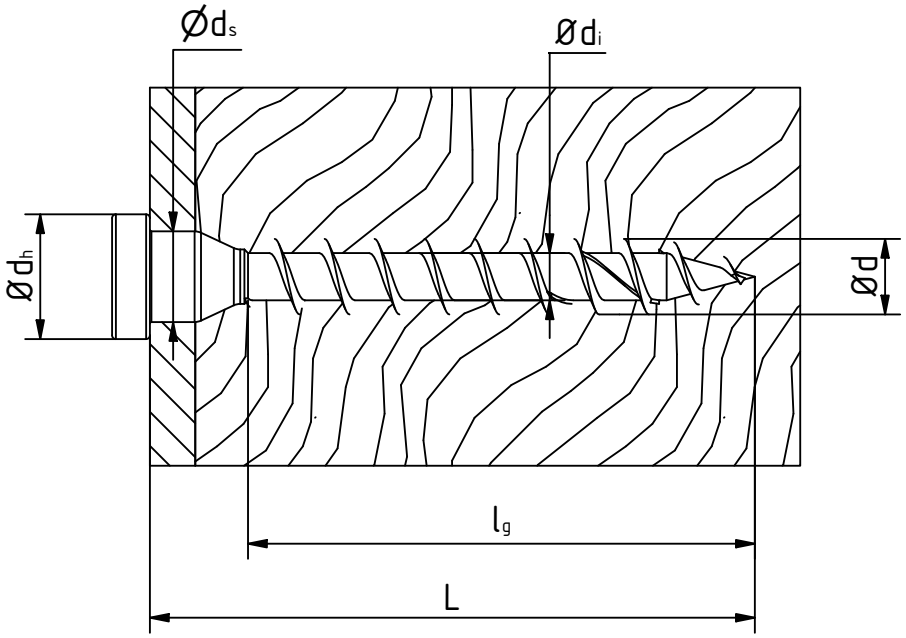
## TECHNICAL INFORMATION




Side view

| ABS Strong | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Nominal-Ø | Head-Ø | Root-Ø | Shaft-Ø | Head height | Head shape | char. tensile capacity[1)] | char. yield moment[1)] | char. withdrawal parameter[1)] | char. torsional strength[1)] |
| d [mm] | dh [mm] | di [mm] | ds [mm] | hh[mm] | – | $f_{tens,k}$ [kN] | $M_{y,k}$ [Nm] | $f_{ax,k}$ [N/mm²] | $f_{tor,k}$ [Nm] |
| 8,0 | 13,5 | 5,2 | 10,0 | 4,5 | ZK | 20,0 | 20,0 | 11,4 | 28,0 |
| 10,0 | 16,5 | 5,9 | 12,0 | 5,0 | ZK | 33,0 | 40,0 | 10,8 | 48,0 |

[1)] The values have been taken from ETA 11/0024 and DoP-ETA110024-05-2017. We cannot guarantee that there are no typographical or printing errors and therefore recommend that you check the documents mentioned above.





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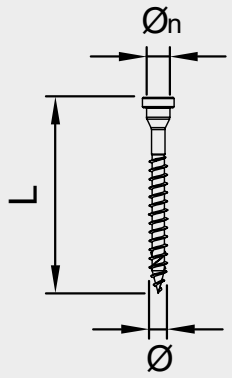


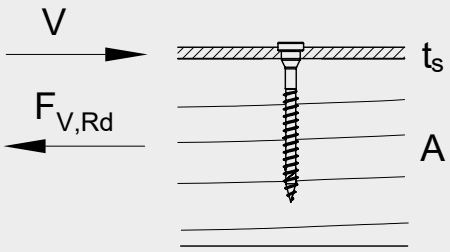


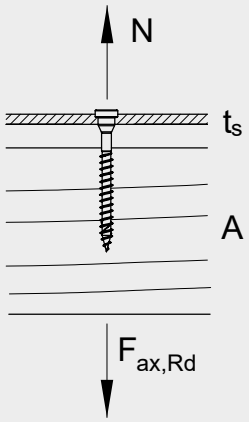


| | | Ø 8 mm | | | | | |
|---|---|---|---|---|---|---|---|
| | | $t_s \leq 4$ mm | | $t_s \geq 8$ mm | | $t_s \leq 10$ mm | |
| L [mm] | lg [mm] | $F_{v,Rk}$ [kN] | $F_{v,Rd}$ [kN] | $F_{v,Rk}$ [kN] | $F_{v,Rd}$ [kN] | $F_{ax,Rk}$ [kN] | $F_{ax,Rd}$ [kN] |
| 60 | 50 | 2,76 | 1,70 | 4,42 | 2,72 | 4,44 | 2,73 |
| 80 | 70 | 3,74 | 2,30 | 5,60 | 3,44 | 6,22 | 3,83 |
| 100 | 90 | 4,72 | 2,91 | 6,03 | 3,71 | 8,00 | 4,92 |
| 120 | 110 | 5,30 | 3,26 | 6,48 | 4,00 | 9,77 | 6,01 |
| 140 | 130 | 5,74 | 3,53 | 6,92 | 4,26 | 11,54 | 7,10 |
| 160 | 150 | 6,18 | 3,80 | 7,36 | 4,53 | 13,32 | 8,20 |

Calculated according to ETA-11/0024, for an installation without pilot holes and with a wood density of $\rho_k$ = 350 kg/m³. The $F_{Rd}$ design values were calculated using $k_{mod}$ = 0.8 and $\gamma_M$ = 1.3. For different sheet thicknesses, it is possible to interpolate the shear strength between thin and thick steel sheets. L is the minimum screw length to achieve the respective load-bearing capacity.

Please consider the following: these are planning aids. Projects may only be calculated by authorised individuals.





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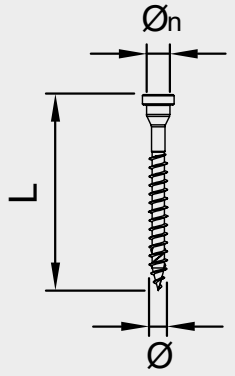


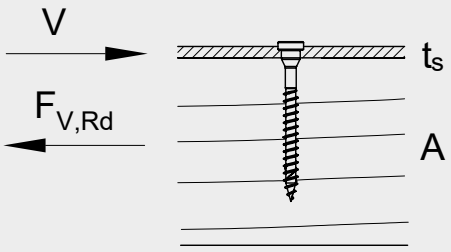


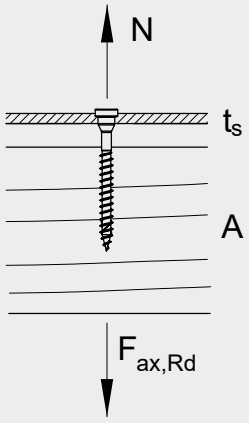


| | | Ø 10 mm | | | | | |
|---|---|---|---|---|---|---|---|
| | | $t_s \leq 5$ mm | | $t_s \geq 10$ mm | | $t_s \leq 12$ mm | |
| L [mm] | lg [mm] | $F_{v,Rk}$ [kN] | $F_{v,Rd}$ [kN] | $F_{v,Rk}$ [kN] | $F_{v,Rd}$ [kN] | $F_{ax,Rk}$ [kN] | $F_{ax,Rd}$ [kN] |
| 80 | 67,5 | 4,32 | 2,66 | 6,78 | 4,17 | 7,29 | 4,49 |
| 100 | 87,5 | 5,47 | 3,36 | 7,88 | 4,85 | 9,45 | 5,82 |
| 120 | 107,5 | 6,62 | 4,07 | 8,42 | 5,18 | 11,61 | 7,14 |
| 140 | 127,5 | 7,34 | 4,52 | 8,96 | 5,51 | 13,77 | 8,47 |
| 160 | 147,5 | 7,88 | 4,85 | 9,50 | 5,85 | 15,93 | 9,80 |
| 180 | 167,5 | 8,42 | 5,18 | 10,04 | 6,18 | 18,09 | 11,13 |

Calculated according to ETA-11/0024, for an installation without pilot holes and with a wood density of $\rho_k$ = 350 kg/m³. The $F_{Rd}$ design values were calculated using $k_{mod}$ = 0.8 and $\gamma_M$ = 1.3. For different sheet thicknesses, it is possible to interpolate the shear strength between thin and thick steel sheets. L is the minimum screw length to achieve the respective load-bearing capacity.

Please consider the following: these are planning aids. Projects may only be calculated by authorised individuals.

## PRODUCT TABLE

| ABS Strong | | | | |
|---|---|---|---|---|
| Art. no. | Dimension Ød x L [mm] | Drive | Thread length [mm] | PU |
| 975815 | 8,0 x 60 | TX40 • | 50 | 50 |
| 975816 | 8,0 x 80 | TX40 • | 70 | 50 |
| 975817 | 8,0 x 100 | TX40 • | 90 | 50 |
| 975818 | 8,0 x 120 | TX40 • | 110 | 50 |
| 975819 | 8,0 x 140 | TX40 • | 130 | 50 |
| 975820 | 8,0 x 160 | TX40 • | 150 | 50 |
| 975821 | 10,0 x 80 | TX40 • | 67,5 | 50 |
| 975822 | 10,0 x 100 | TX40 • | 87,5 | 50 |
| 975823 | 10,0 x 120 | TX40 • | 107,5 | 50 |
| 975824 | 10,0 x 140 | TX40 • | 127,5 | 50 |
| 975825 | 10,0 x 160 | TX40 • | 147,5 | 50 |
| 975826 | 10,0 x 180 | TX40 • | 167,5 | 50 |

If you are not familiar with how this product is used, and particularly with the product's intended use, please contact our Application Technology department (Technik@eurotec.team).





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