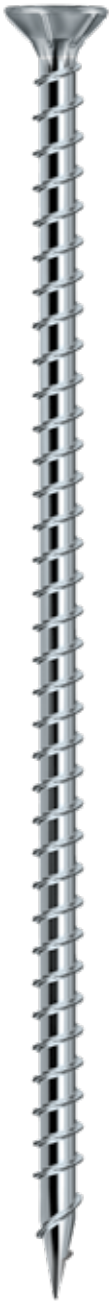
# PRODUCT DATA SHEET

# KONSTRUX, COUNTERSUNK HEAD GALVANISED



## PRODUCT DESCRIPTION

KonstruX fully threaded screws maximise a joint's load-bearing capacity with a high thread-extraction resistance in both components. If partially threaded screws are used, the joint's load-bearing capacity is limited by the considerably lower head pull-through resistance in the attached part.

KonstruX fully threaded screws are a cost-saving alternative to traditional connections or timber joints such as joist hangers and beam

## ADVANTAGES

- Faster and easier screwing
- Reduced splitting effect

## CERTIFICATION

- European Technical Assessment ETA 11/0024



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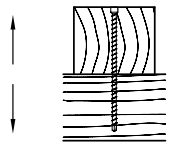
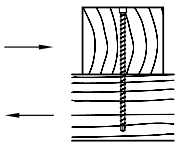
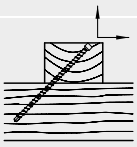
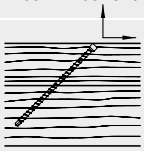
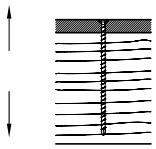
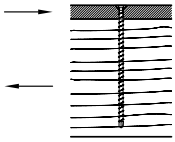
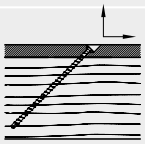
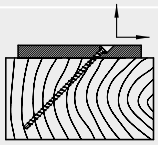
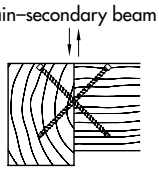
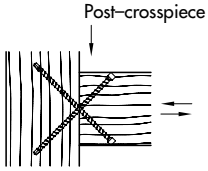
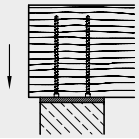
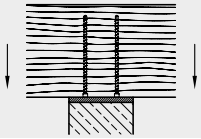
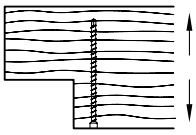
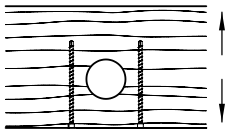
# PRODUCT DATA SHEET

# KONSTRUX, COUNTERSUNK HEAD GALVANISED

## TECHNICAL INFORMATION

| Example applications | Countersunk head |
|---|---|
| | Ø 11,3 [mm] |
| Timber–timber tensile loading<br>  Timber–timber shearing<br>  | ✓ |
| Timber–timber under tension at 45°<br>  Timber–timber under tension at 45°<br>  | ✓ |
| Steel–timber tensile loading<br>  Steel–timber shearing<br>  | ✓ |
| Timber–timber under tension at 45°<br>  Timber–timber under tension at 45°<br>  | ✓ |
| Main–secondary beam connection<br>  Post–crosspiece conne<br>  | - |
| Support reinforcement<br>  Support reinforcement<br>  | ✓ |
| Transverse-shear reinforcement at notch<br>  Transverse-shear reinforcement at hole<br>  | ✓ |

The table continues on the next page.





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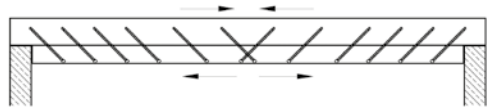
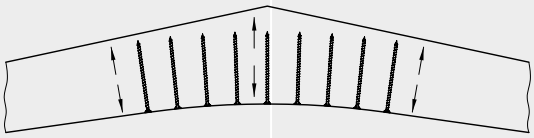
# KONSTRUX, COUNTERSUNK HEAD GALVANISED

## TECHNICAL INFORMATION

| Example applications | Countersunk head |
|---|---|
| | Ø 11,3 [mm] |
| Joist doubling  | ✓ |
| Transverse-shear reinforcement of building trusses  | ✓ |

| KonstruX, Countersunk head galvanised | | | | | | | |
|---|---|---|---|---|---|---|---|
| Geometric properties | | | | | Mechanical properties | | |
| Nominal Ø [mm] | Root Øi [mm] | Head Øh [mm] | Head high hh [mm] | Tip type | $f_{tens,k}$ [kN] | $f_{ax,k}$ [MPa] | $M_{y,k}$ [Nm] |
| 11,3 | 8,0 | 18,0 | 7,0 | AG | 50,0 | 10,8 | 70,0 |





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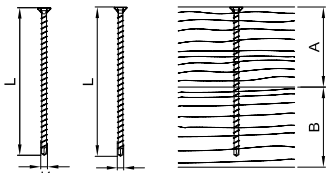
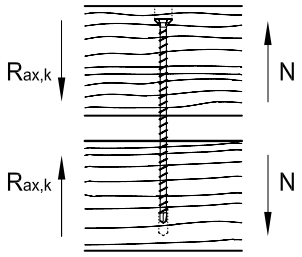
# PRODUCT DATA SHEET

# KONSTRUX, COUNTERSUNK HEAD GALVANISED

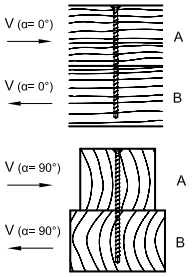
## KONSTRUX, COUNTERSUNK HEAD AND AG SCREW TIP 11,3 MM: TIMBER/TIMBER JOINTS

| Dimensions | Extraction resistance | Shearing |
|---|---|---|




Characteristic value of the joint's loadbearing capacity $R_{ax,k}$ acc. toETA-11/0024




Characteristic value of the joint's loadbearing capacity $R_k$ acc. toETA-11/0024

| d1 x L [mm] | A [mm] | B [mm] | $R_{ax,k}$ a) - [kN] | $R_{ax,k}$ a) - [kN] | $R_k$ a) -[kN] |
|---|---|---|---|---|---|
| | | | | α= 0° | α=9 0° |
| 11,3 x 175 | 80 | 100 | 9,51 | 9,98 | 8,55 |
| 11,3 x 195 | 100 | 100 | 12,12 | 10,63 | 9,20 |
| 11,3 x 225 | 120 | 120 | 13,69 | 11,03 | 9,59 |
| 11,3 x 250 | 120 | 140 | 14,73 | 11,29 | 9,85 |
| 11,3 x 275 | 140 | 140 | 17,34 | 11,94 | 10,50 |
| 11,3 x 300 | 160 | 160 | 18,25 | 12,17 | 10,73 |
| 11,3 x 340 | 180 | 180 | 20,85 | 12,82 | 11,38 |
| 11,3 x 380 | 200 | 200 | 23,46 | 13,47 | 12,03 |
| 11,3 x 420 | 220 | 220 | 26,07 | 14,12 | 12,34 |
| 11,3 x 460 | 240 | 240 | 26,67 | 14,77 | 12,34 |
| 11,3 x 500 | 260 | 260 | 31,28 | 15,21 | 12,34 |
| 11,3 x 540 | 280 | 280 | 33,89 | 15,21 | 12,34 |
| 11,3 x 580 | 300 | 300 | 36,49 | 15,21 | 12,34 |
| 11,3 x 620 | 320 | 320 | 39,10 | 15,21 | 12,34 |
| 11,3 x 660 | 340 | 340 | 41,71 | 15,21 | 12,34 |
| 11,3 x 700 | 360 | 360 | 44,32 | 15,21 | 12,34 |
| 11,3 x 750 | 380 | 380 | 48,23 | 15,21 | 12,34 |
| 11,3 x 800 | 400 | 400 | 50,00 | 15,21 | 12,34 |
| 11,3 x 900 | 460 | 460 | 50,00 | 15,21 | 12,34 |
| 11,3 x 1000 | 500 | 520 | 50,00 | 15,21 | 12,34 |

Calculation according to ETA-11/0024. Wood density ρk= 380 kg/m³. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.
All values are calculated minimum values and are subject to typographical and printing errors.
a) The characteristic values of the load-bearing capacity Rk cannot be treated as equivalent to the max. possible load (the max. force). Characteristic values of the load-bearing capacity Rk should be reduced to dimensioning values Rd with regard to the usage class and class of the load duration: Rd= Rk · kmod / γM. The dimensioning values of the load-bearing capacity Rd should be contrasted with the dimensioning values of the loads (Rd ≥ Ed).

**Example:**
Characteristic value for constant load (dead weight) Gk= 2,00 kN and variable load (e. g. snow load) Qk= 3,00 kN. kmod= 0,9. γM= 1,3.
→ Dimensioning value of the load Ed= 2,00 · 1,35 + 3,00 · 1,5= 7,20 kN.
The load-bearing capacity of the joint is therefore considered to have been demonstrated if Rd ≥ Ed. → min Rk= Rd · γM / kmod
i.e. the characteristic minimum value is calculated based on: min Rk= Rd · γM / kmod → Rk= 7,20 kN · 1,3/0,9= 10,40 kN → comparison with table values.
b) estimated with an efficient quantity of pairs of screws: n0,9. Please note: These are planning aids. Projects must only be calculated by authorised persons.





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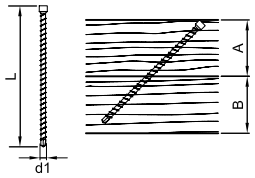
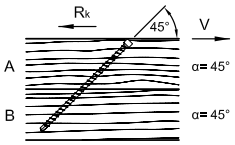
# PRODUCT DATA SHEET

# KONSTRUX, COUNTERSUNK HEAD GALVANISED

## KONSTRUX, COUNTERSUNK HEAD AND AG SCREW TIP 11,3 MM: TIMBER/TIMBER JOINTS

| Dimensions | Tension connection |
|---|---|




Characteristic value of the joint's loadbearing capacity $R_{ax,k}$ bzw. $R_k$ acc. toETA-11/0024

| d1 x L [mm] | A [mm] | B [mm] | $R_k$ a) - [kN] |
|---|---|---|---|
| | | | α= 45° |
| 11,3 x 175 | 60 | 80 | 7,32 |
| 11,3 x 195 | 60 | 80 | 7,32 |
| 11,3 x 225 | 80 | 80 | 9,76 |
| 11,3 x 250 | 100 | 100 | 12,20 |
| 11,3 x 275 | 100 | 100 | 12,20 |
| 11,3 x 300 | 120 | 120 | 14,65 |
| 11,3 x 340 | 120 | 140 | 14,65 |
| 11,3 x 380 | 140 | 160 | 17,08 |
| 11,3 x 420 | 160 | 160 | 19,52 |
| 11,3 x 460 | 160 | 180 | 19,52 |
| 11,3 x 500 | 180 | 200 | 21,96 |
| 11,3 x 540 | 200 | 200 | 24,40 |
| 11,3 x 580 | 200 | 220 | 24,40 |
| 11,3 x 620 | 220 | 220 | 28,04 |
| 11,3 x 660 | 220 | 240 | 28,04 |
| 11,3 x 700 | 240 | 260 | 29,29 |
| 11,3 x 750 | 260 | 280 | 31,73 |
| 11,3 x 800 | 280 | 300 | 34,17 |
| 11,3 x 900 | 320 | 340 | 39,05 |
| 11,3 x 1000 | 360 | 380 | 43,93 |

Calculation according to ETA-11/0024. Wood density ρk= 380 kg/m³. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.
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i.e. the characteristic minimum value is calculated based on: min Rk= Rd · γM / kmod → Rk= 7,20 kN · 1,3/0,9= 10,40 kN → comparison with table values.
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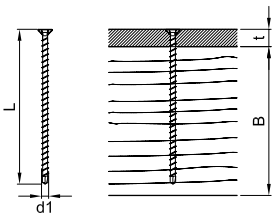
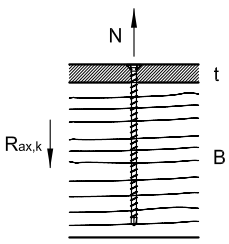
# PRODUCT DATA SHEET

## KONSTRUX, COUNTERSUNK HEAD GALVANISED

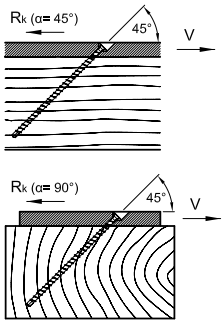
## KONSTRUX, COUNTERSUNK HEAD AND AG SCREW TIP 11,3 MM: STEEL/TIMBER JOINTS

| Dimensions | Extraction resistance | Shearing |
|---|---|---|

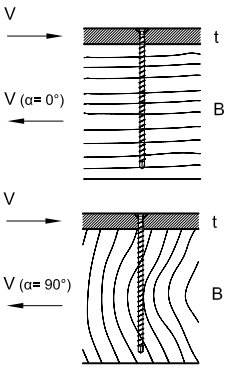



Characteristic value of the joint's loadbearing capacity $R_{ax,k}$ acc. to ETA-11/0024




Characteristic value of the joint's loadbearing capacity $R_{ax,k}$ bzw. $R_k$ acc. to ETA-11/0024




Characteristic value of the joint's loadbearing capacity $R_k$ acc. to ETA-11/0024

| d1 x L [mm] | t [mm] | B [mm] | $B_{45°}$ [mm] | $R_{ax,k}$ a) - [kN] | $R_k$ a) - [kN] | $R_k$ a) - [kN] | $R_k$ a) - [kN] |
|---|---|---|---|---|---|---|---|
| | | | | | α= 45° | α= 0° | α= 90° |
| 11,3 x 175 | 20 | 180 | 140 | 20,20 | 14,28 | 11,79 | 9,76 |
| 11,3 x 195 | 20 | 200 | 140 | 22,80 | 16,12 | 11,79 | 9,76 |
| 11,3 x 225 | 20 | 220 | 160 | 26,71 | 18,88 | 11,79 | 9,76 |
| 11,3 x 250 | 20 | 240 | 180 | 29,98 | 21,20 | 11,79 | 9,76 |
| 11,3 x 275 | 20 | 280 | 200 | 32,23 | 22,80 | 11,79 | 9,76 |
| 11,3 x 300 | 20 | 300 | 220 | 36,49 | 25,04 | 11,79 | 9,76 |
| 11,3 x 340 | 20 | 340 | 240 | 41,71 | 40,63 | 11,79 | 9,76 |
| 11,3 x 380 | 20 | 380 | 260 | 46,92 | 45,84 | 11,79 | 9,76 |
| 11,3 x 420 | 20 | 420 | 300 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 460 | 20 | 460 | 320 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 500 | 20 | 500 | 360 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 540 | 20 | 540 | 380 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 580 | 20 | 580 | 420 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 620 | 20 | 620 | 440 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 660 | 20 | 660 | 460 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 700 | 20 | 700 | 500 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 750 | 20 | 750 | 540 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 800 | 20 | 800 | 560 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 900 | 20 | 900 | 640 | 50,00 | 50,00 | 11,79 | 9,76 |
| 11,3 x 1000 | 20 | 1000 | 700 | 50,00 | 50,00 | 11,79 | 9,76 |

Calculation according to ETA-11/0024. Wood density ρk= 380 kg/m³. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.
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i.e. the characteristic minimum value is calculated based on: min Rk= Rd · γM / kmod → Rk= 7,20 kN · 1,3/0,9= 10,40 kN → comparison with table values.
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# KONSTRUX, COUNTERSUNK HEAD GALVANISED

## INSTRUCTIONS FOR USE

KonstruX fully threaded screws do not require pilot drilling when used in softwood. However, for longer screws and for KonstruX AG 11.3 mm it is recommended to drill a pilot hole of approx. 1/3 the screw length in order to prevent the (long) screws from running too far into the wood.

The pilot-drilling diameters in softwood $d_{0,\,NH}$ are:

- KonstruX AG 11,3 mm → d 0, NH = 8,0 mm

Pilot-drilling is mandatory for use in hardwood. The pilot-drilling diameters in hardwood d0,LH are:

- KonstruX AG 11,3 mm → not approved in hardwood

## PRODUCT TABLE

| KonstruX, Countersunk head galvanised | | | |
|---|---|---|---|
| Art. no. | Dimension [mm] | Drive | PU |
| 905732 | 11,3 x 175 | TX50 • | 20 |
| 905733 | 11,3 x 195 | TX50 • | 20 |
| 905734 | 11,3 x 225 | TX50 • | 20 |
| 905735 | 11,3 x 250 | TX50 • | 20 |
| 905736 | 11,3 x 275 | TX50 • | 20 |
| 905737 | 11,3 x 300 | TX50 • | 20 |
| 905738 | 11,3 x 340 | TX50 • | 20 |
| 905739 | 11,3 x 380 | TX50 • | 20 |
| 905740 | 11,3 x 420 | TX50 • | 20 |
| 905741 | 11,3 x 460 | TX50 • | 20 |
| 905742 | 11,3 x 500 | TX50 • | 20 |
| 905743 | 11,3 x 540 | TX50 • | 20 |
| 905744 | 11,3 x 580 | TX50 • | 20 |
| 905745 | 11,3 x 620 | TX50 • | 20 |
| 905746 | 11,3 x 660 | TX50 • | 20 |
| 905747 | 11,3 x 700 | TX50 • | 20 |
| 905748 | 11,3 x 750 | TX50 • | 20 |
| 905749 | 11,3 x 800 | TX50 • | 20 |
| 904750 | 11,3 x 900 | TX50 • | 20 |
| 904751 | 11,3 x 1000 | TX50 • | 20 |

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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