

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.

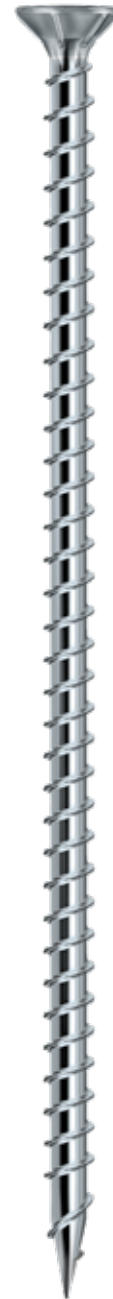
KonstruX fully threaded screws are a cost-saving alternative to traditional connections or timber joints such as joist hangers and beam

ADVANTAGES

- Faster and easier screwing
- Reduced splitting effect

CERTIFICATION

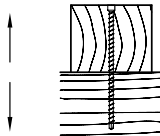
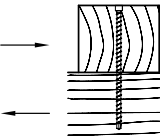
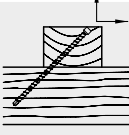
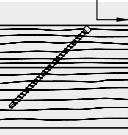
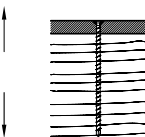
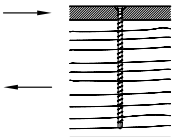
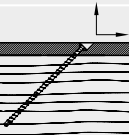
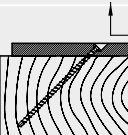
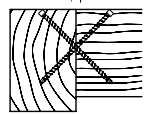
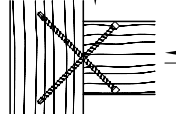
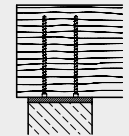
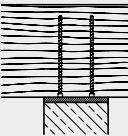
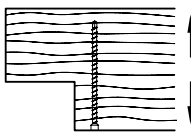
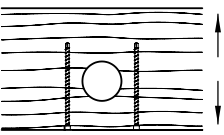
- European Technical Assessment ETA 11/0024



PRODUCT DATA SHEET

KONSTRUX, COUNTERSUNK HEAD GALVANISED

TECHNICAL INFORMATION

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

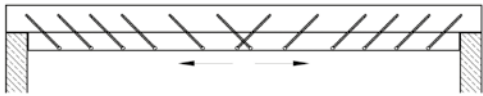
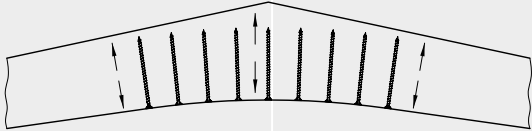
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PRODUCT DATA SHEET

KONSTRUX, COUNTERSUNK
HEAD GALVANISED

TECHNICAL INFORMATION

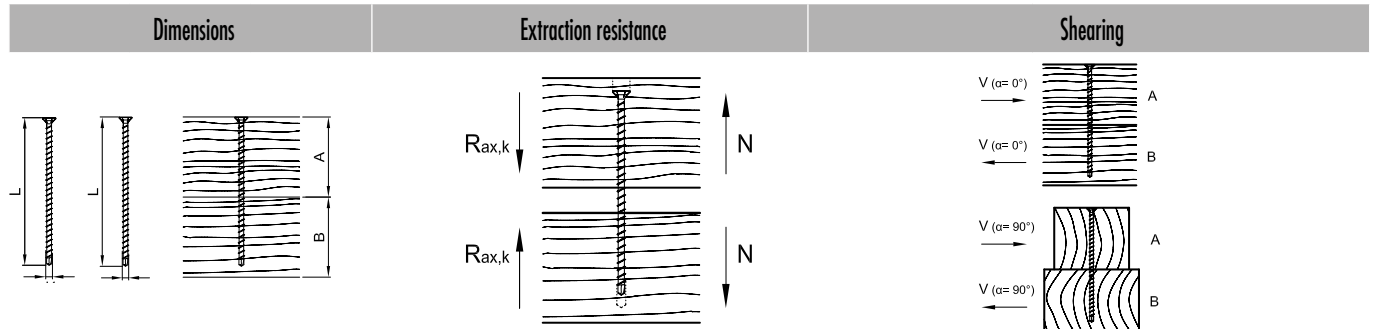
Example applications	Countersunk head
	Ø 11,3 [mm]
Joist doubling 	✓
Transverse-shear reinforcement of building trusses 	✓

KonstruX, Countersunk head galvanised							
Geometric properties					Mechanical properties		
Nominal Ø [mm]	Root Øi [mm]	Head Øh [mm]	Head high hh [mm]	Tip type	f _{tiens,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

PRODUCT DATA SHEET

KONSTRUX, COUNTERSUNK HEAD GALVANISED

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



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_k acc. to ETA-11/0024

d1 x L [mm]	A [mm]	B [mm]	$R_{ax,k}^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]
				$\alpha = 0^\circ$	$\alpha = 90^\circ$
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 $\rho_k = 380 \text{ kg/m}^3$. 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 R_k cannot be treated as equivalent to the max. possible load (the max. force). Characteristic values of the load-bearing capacity R_k should be reduced to dimensioning values R_d with regard to the usage class and class of the load duration: $R_d = R_k \cdot k_{mod} / \gamma_M$. The dimensioning values of the load-bearing capacity R_d should be contrasted with the dimensioning values of the loads ($R_d \geq E_d$).

Example:

Characteristic value for constant load (dead weight) $G_k = 2,00 \text{ kN}$ and variable load (e. g. snow load) $Q_k = 3,00 \text{ kN}$. $k_{mod} = 0,9$. $\gamma_M = 1,3$.

→ Dimensioning value of the load $E_d = 2,00 \cdot 1,35 + 3,00 \cdot 1,5 = 7,20 \text{ kN}$.

The load-bearing capacity of the joint is therefore considered to have been demonstrated if $R_d \geq E_d$. → $\min R_k = R_d \cdot \gamma_M / k_{mod}$

i.e. the characteristic minimum value is calculated based on: $\min R_k = R_d \cdot \gamma_M / k_{mod} \rightarrow R_k = 7,20 \text{ kN} \cdot 1,3 / 0,9 = 10,40 \text{ kN}$ → comparison with table values.

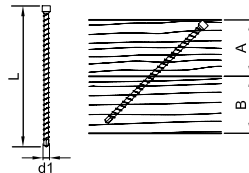
b) estimated with an efficient quantity of pairs of screws: $n_0, 9$. Please note: These are planning aids. Projects must only be calculated by authorised persons.

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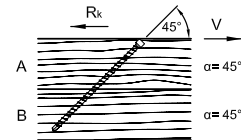
KONSTRUX, COUNTERSUNK HEAD GALVANISED

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

Dimensions



Tension connection



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

$d1 \times L$ [mm]	A [mm]	B [mm]	$R_k^{a)}$ - [kN]
			$\alpha = 45^\circ$
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 $\rho_k = 380 \text{ kg/m}^3$. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

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Example:

Characteristic value for constant load (dead weight) $G_k = 2,00 \text{ kN}$ and variable load (e. g. snow load) $Q_k = 3,00 \text{ kN}$. $k_{mod} = 0,9$. $\gamma_M = 1,3$.

→ Dimensioning value of the load $E_d = 2,00 \cdot 1,35 + 3,00 \cdot 1,5 = 7,20 \text{ kN}$.

The load-bearing capacity of the joint is therefore considered to have been demonstrated if $R_d \geq E_d$. → $\min R_k = R_d \cdot \gamma_M / k_{mod}$

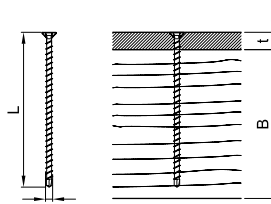
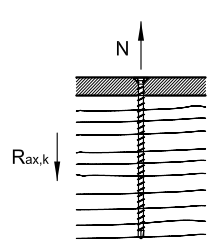
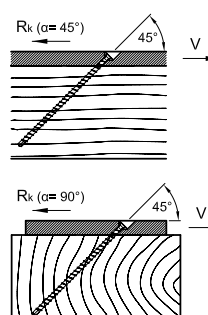
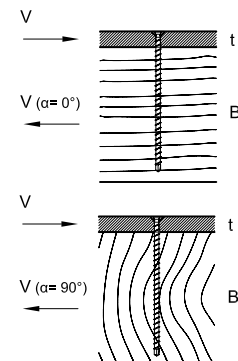
i.e. the characteristic minimum value is calculated based on: $\min R_k = R_d \cdot \gamma_M / k_{mod} \rightarrow R_k = 7,20 \text{ kN} \cdot 1,3 / 0,9 = 10,40 \text{ kN} \rightarrow$ comparison with table values.

b) estimated with an efficient quantity of pairs of screws: $n \geq 9$. Please note: These are planning aids. Projects must only be calculated by authorised persons.

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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_k acc. to ETA-11/0024	
$d1 \times L$ [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]
					$\alpha = 45^\circ$	$\alpha = 0^\circ$	$\alpha = 90^\circ$
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

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i.e. the characteristic minimum value is calculated based on: $\min R_k = R_d \cdot \gamma_M / k_{mod} \rightarrow R_k = 7,20 \text{ kN} \cdot 1,3 / 0,9 = 10,40 \text{ kN}$ → comparison with table values.

b) estimated with an efficient quantity of pairs of screws: $n \geq 0,9$. Please note: These are planning aids. Projects must only be calculated by authorised persons.

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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 softwood $d_{0, LH}$ 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).