PRODUCT DATA SHEET

KONSTRUX, 13 MM E12

PRODUCT DESCRIPTION

The KonstruX with E12 drive has applications in timber engineering, carpentry, timber frame construction, hall construction, wooden element construction, renovation of floor ceilings, etc.

KonstruX **fully threaded screws maximize the load-bearing capacity of** connections thanks to their **high thread pull-out resistance** in both components. On the other hand, when partial-thread screws are used, the significantly smaller head pull-through resistance in the mounting part significantly decreases the connection's load-bearing capacity.

Wood has low lateral pressure and traverse tensile strength. In this case, KonstruX fully threaded screws are inserted into the wood to **handle a majority of the forces**.

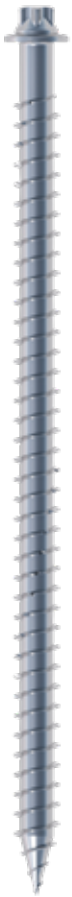
Thanks to a doubling action, the load-bearing capacity of the ceiling beams, for instance, is increased and deflection is decreased. Here, the KonstruX fully threaded screws connect the components in a way that **prevents displacement**.

The use of KonstruX fully threaded screws enables the use **of concealed connections** that offer increased **fire resistance.**

APPROVAL

- Regulated according to European Technical Approval ETA-11/0024

E12 outer TX drive



Suitable for

External TX socket

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PRODUCT DATA SHEET KONSTRUX, 13 MM E12

ADVANTAGES

13 mm diameter:
- Maximum load absorption

E12 outer TX drive:
- Transfer high loads to "set" the screws

Transverse tension reinforcement:
- From hall girders
- To notches and openings
- To lateral connections

MATERIAL

- Hardened carbon steel, galvanized blue
- Usable in usage classes 1 and 2 according to DIN EN 1995 - Eurocode 5
- High mechanical resilience
- Free from chromium (VI) oxide

INSTRUCTIONS FOR USE

You must note the following:

- We recommend pre-drilling 1/3 of the screw length at the core diameter to give the screw a direction/guide. For long screws, there is the risk that it will stray from its direction and thus no longer guarantee the planned statics).

- An E12 drive is required for installation.

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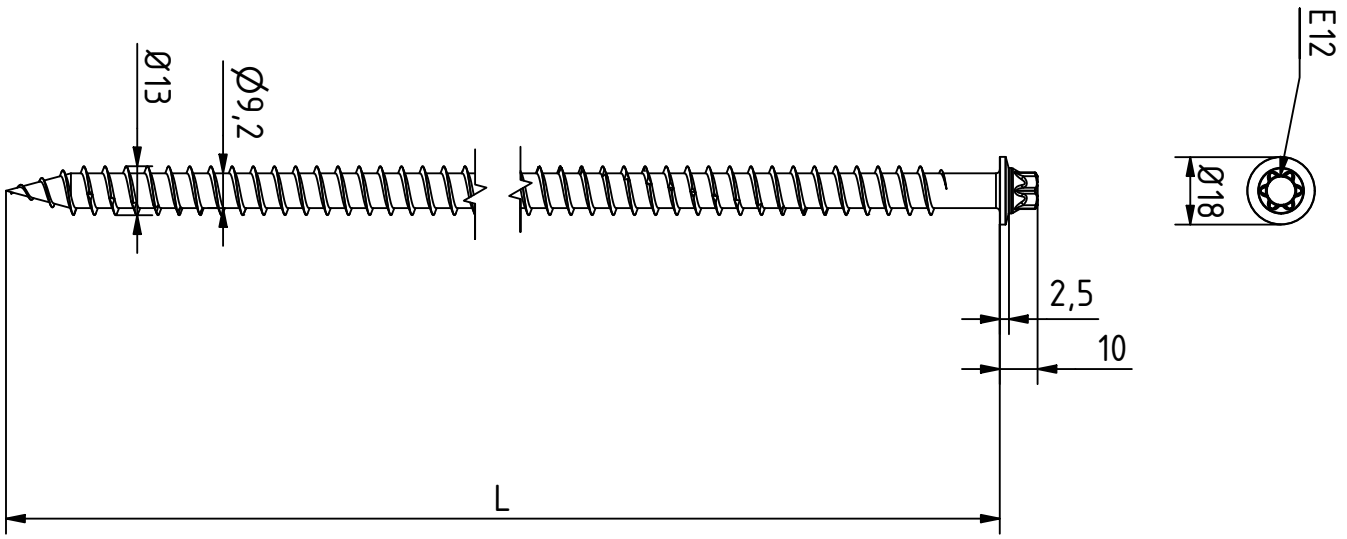
PRODUCT TABLE

KonstruX 13 mm E12			
Art. no.	Dimensions Ød x L [mm]	Drive	PU
904840	13.0 x 300	E12	20
904842	13.0 x 340	E12	20
904844	13.0 x 380	E12	20
904845	13.0 x 420	E12	20
904846	13.0 x 460	E12	20
904847	13.0 x 500	E12	20
904848	13.0 x 540	E12	20
904849	13.0 x 580	E12	20
904850	13.0 x 620	E12	20
904851	13.0 x 660	E12	20
904852	13.0 x 700	E12	20
904853	13.0 x 750	E12	20
904854	13.0 x 800	E12	20
904855	13.0 x 900	E12	20
904856	13.0 x 1000	E12	20
904861	13.0 x 1200*	E12	20
904862	13.0 x 1400*	E12	20

*Currently, no ETA certification is available for the indicated versions.

External TX socket		
Art. no.	Drive	PU
800420	E12	1

DRAWINGS FOR KONSTRUX, 13 MM E12



Side view

Top view of screw head

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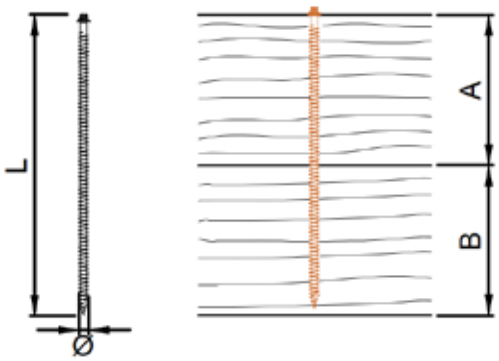
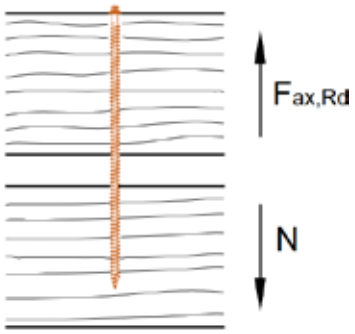
PRODUCT DATA SHEET KONSTRUX, 13 MM E12

KONSTRUX, 13 MM E12, WOOD-WOOD CONNECTION

Dimensions	Pull-out resistance





		Ø 13 mm	
A [mm]	L [mm]	$F_{ax,Rk}$ a) [kN]	$F_{ax,Rd}$ a) [kN]
100	300	15.27	9.40
120	340	18.33	11.28
140	380	19.66	12.10
160	420	20.92	12.87
180	460	22.19	13.65
180	500	26.51	16.31
200	540	27.77	17.09
220	580	29.04	17.87
220	620	33.36	20.53
240	660	34.62	21.31
260	700	35.89	22.08
280	750	38.23	23.53
300	800	40.58	24.97
320	900	48.32	29.74
360	1000	53.01	32.62
400	1200	53.03	37.59
500	1400	53.03	40.79

Calculated according to EN 1995-1-1 without pre-drills and a wood thickness of pk= 380 kg/m3. The FRd measurement values were calculated taking into account kmod= 0.8 and γM= 1.3.
The thickness of component B is calculated using: B ≥ [L – A]. L is the minimum length of the screw to reach the respective load-bearing capacity.

Attention: These are planning aids. Projects should only be surveyed/measured by authorized individuals.

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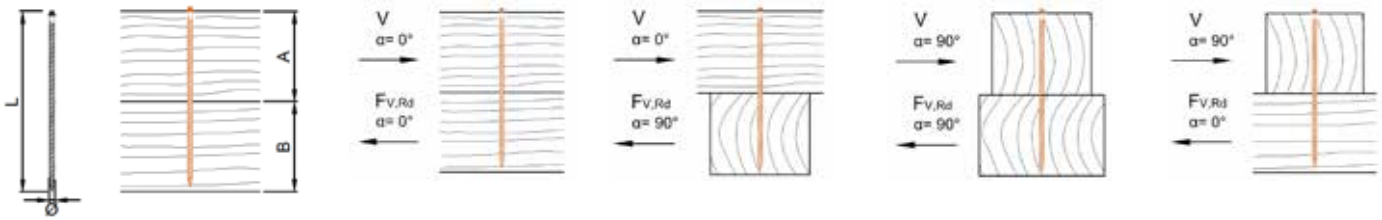
KONSTRUX, 13 MM E12, WOOD-WOOD CONNECTION

Dimensions	Shearing



		Ø 13 mm							
A [mm]	L [mm]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]
160	300	14.34	8.82	13.85	8.53	14.72	9.06	14.72	9.06
180	340	16.69	10.27	14.62	9.00	15.48	9.53	15.48	9.53
200	380	17.45	10.74	15.38	9.47	16.25	10.00	16.25	10.00
220	420	18.21	11.21	16.15	9.94	17.01	10.47	17.01	10.47
240	460	18.98	11.68	16.91	10.41	17.78	10.94	17.78	10.94
260	500	19.74	12.15	17.02	10.47	18.54	11.41	18.54	11.41
280	540	20.50	12.62	17.02	10.47	18.75	11.54	18.75	11.54
300	580	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
320	620	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
340	660	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
360	700	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
380	750	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
400	800	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
460	900	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
500	1000	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
600	1200	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54
700	1400	21.15	13.02	17.02	10.47	18.75	11.54	18.75	11.54

Calculated according to EN 1995-1-1 without pre-drills and a wood thickness of pk= 380 kg/m3. The FRd measurement values were calculated taking into account kmod= 0.8 and γM= 1.3.
The thickness of component B is calculated using: B ≥ [L – A]. L is the minimum length of the screw to reach the respective load-bearing capacity.

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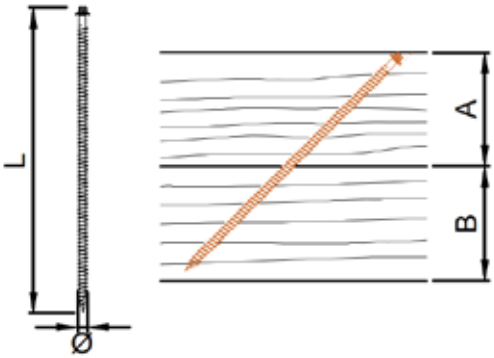
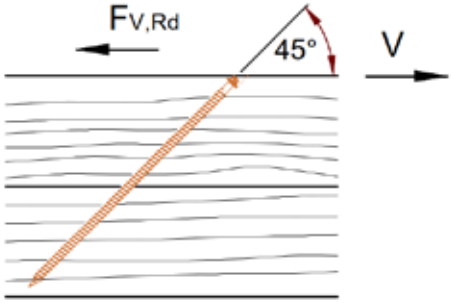
KONSTRUX, 13 MM E12, WOOD-WOOD CONNECTION

Dimensions	Tensile connection





		Ø 13 mm	
A [mm]	L [mm]	$F_{ax,Rk}$ a) [kN]	$F_{ax,Rd}$ a) [kN]
160	300	21.38	13.16
180	340	24.44	15.04
200	380	27.49	16.92
220	420	30.54	18.80
240	460	33.60	20.68
260	500	36.65	22.56
280	540	39.71	24.44
300	580	42.76	26.32
320	620	45.82	28.20
340	660	48.87	30.07
360	700	51.93	31.95
380	750	56.51	34.77
400	800	61.09	37.59
460	900	67.20	41.35
500	1000	75.00	46.99
600	1200	75.00	56.39
700	1400	75.00	57.69

Calculated according to EN 1995-1-1 without pre-drills and a wood thickness of pk= 380 kg/m3. The FRd measurement values were calculated taking into account kmod= 0.8 and γM= 1.3.
Depending on the installation and the surface quality, the measurement values may increase by 25 % due to friction. The thickness of component B is calculated using: B ≥ [L – sin(α) - A]. L is the minimum length of the screw to reach the respective load-bearing capacity.

The texture of wooden parts does not change the load-bearing capacity of the screws that are inserted at a 45-degree angle.

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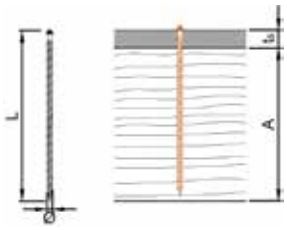
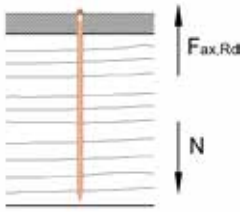
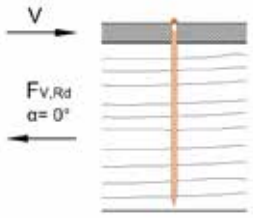
PRODUCT DATA SHEET KONSTRUX, 13 MM E12

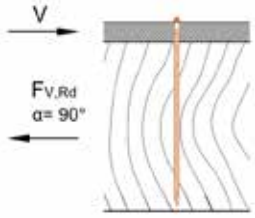
KONSTRUX, 13 MM E12, STEEL-WOOD CONNECTION

Dimensions	Pull-out resistance	Shearing









		Ø 13 mm					
A [mm]	L [mm]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]	$F_{v,Rk}$ [kN]	$F_{v,Rd}$ [kN]
300	300	42.76	26.32	25.65	15.78	22.72	13.98
340	340	48.87	30.07	27.18	16.72	24.07	14.81
380	380	54.98	33.83	28.70	17.66	24.07	14.81
420	420	61.09	37.59	29.91	18.41	24.07	14.81
460	460	67.20	41.35	29.91	18.41	24.07	14.81
500	500	75.00	46.29	29.91	18.41	24.07	14.81
540	540	75.00	50.05	29.91	18.41	24.07	14.81
580	580	75.00	53.81	29.91	18.41	24.07	14.81
620	620	75.00	57.57	29.91	18.41	24.07	14.81
660	660	75.00	57.69	29.91	18.41	24.07	14.81
700	700	75.00	57.69	29.91	18.41	24.07	14.81
750	750	75.00	57.69	29.91	18.41	24.07	14.81
800	800	75.00	57.69	29.91	18.41	24.07	14.81
900	900	75.00	57.69	29.91	18.41	24.07	14.81
1000	1000	75.00	57.69	29.91	18.41	24.07	14.81
1200	1200	75.00	57.69	29.91	18.41	24.07	14.81
1400	1400	75.00	57.69	29.91	18.41	24.07	14.81

Calculated according to EN 1995-1-1 without pre-drills and a wood thickness of ρk= 380 kg/m3. The FRd measurement values were calculated taking into account kmod= 0.8 and γM= 1.3.
L is the minimum length of the screw to reach the respective load-bearing capacity.

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If you are unfamiliar with the application of this product, especially with its intended use, please contact our Application Technology department (technik@eurotec.team).

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