

PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

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 beams.

ADVANTAGES

- Reduced screwing torque
- High extraction resistance

CERTIFICATION

- European Technical Assessment ETA 11/0024



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KONSTRUX ST, CYLINDER HEAD

TECHNICAL INFORMATION

Example applications		Cylinder head		
		Ø 6,5 [mm]	Ø 8,0 [mm]	Ø 10,0 [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	✓	✓	✓

The table continues on the next page.

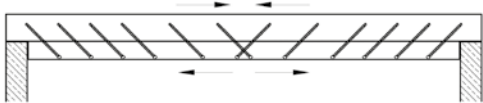
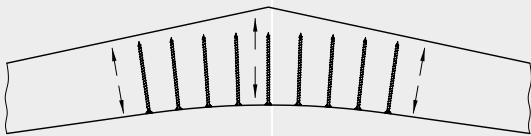
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Page 2 of 14

PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

TECHNICAL INFORMATION

Example applications	Cylinder head		
	Ø 6,5 [mm]	Ø 8,0 [mm]	Ø 10,0 [mm]
Joist doubling 	-	✓	✓
Transverse-shear reinforcement of building trusses 	-	-	✓

PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD NEW DRILL POINT 6,5 BIS 10,0 MM: TIMBER/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]	A [mm]	B [mm]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_k^{a)}$ - [kN]
				$\alpha = 0^\circ$	$\alpha = 90^\circ$	$\alpha_A = 0^\circ$	$\alpha_A = 90^\circ$	$\alpha_B = 0^\circ$
						$\alpha_B = 90^\circ$	$\alpha_B = 0^\circ$	
6,5 x 120	60	80	4,75	3,93	3,47	3,93	3,47	
6,5 x 140	80	80	4,75	3,93	3,47	3,47	3,93	
6,5 x 160	80	100	6,33	4,32	3,86	4,32	3,86	
6,5 x 195	100	100	7,52	4,62	4,16	4,16	4,62	
8,0 x 155	80	80	7,11	5,67	4,99	4,99	5,67	
8,0 x 195	100	100	9,01	6,15	5,46	5,46	6,15	
8,0 x 220	120	120	9,48	6,27	5,58	5,58	6,27	
8,0 x 245	120	140	11,38	6,74	6,06	6,74	6,06	
8,0 x 295	140	160	13,28	7,21	6,42	7,21	6,42	
8,0 x 330	160	180	15,17	7,69	6,42	7,69	6,42	
8,0 x 375	180	200	17,07	7,79	6,42	7,79	6,42	
8,0 x 400	200	220	18,97	7,79	6,42	7,79	6,42	
8,0 x 430	220	220	19,92	7,79	6,42	6,42	7,79	
8,0 x 480	240	260	22,76	7,79	6,42	7,79	6,42	
10,0 x 300	160	160	16,15	9,48	8,48	8,48	9,48	
10,0 x 330	160	180	18,46	10,06	8,90	10,06	8,90	
10,0 x 360	180	200	20,76	10,64	8,90	10,64	8,90	
10,0 x 400	200	220	23,07	10,89	8,90	10,89	8,90	
10,0 x 450	220	240	25,38	10,89	8,90	10,89	8,90	
10,0 x 500	240	280	27,68	10,89	8,90	10,89	8,90	
10,0 x 550	260	300	29,99	10,89	8,90	10,89	8,90	
10,0 x 600	300	320	33,00	10,89	8,90	10,89	8,90	

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.

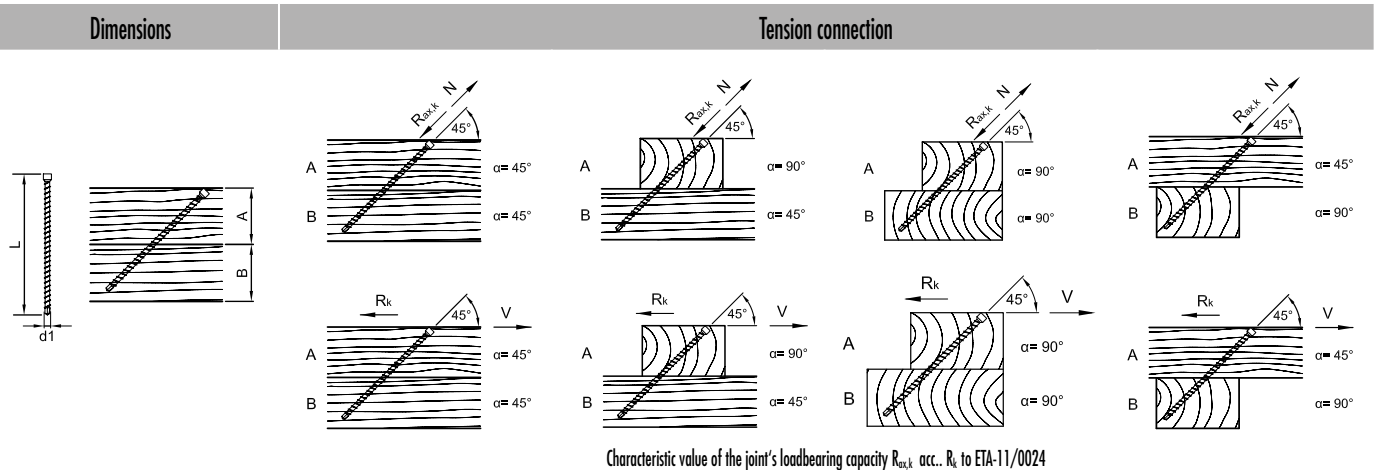
b) estimated with an efficient quantity of pairs of screws: $n \geq 9$.

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KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD NEW DRILL POINT 6,5 BIS 10,0 MM: TIMBER/TIMBER JOINTS



d1 x L [mm]	A [mm]	B [mm]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]
			$\alpha = 45^\circ$		$\alpha_A = 90^\circ$ $\alpha_B = 45^\circ$		$\alpha_A = 90^\circ$ $\alpha_B = 90^\circ$		$\alpha_A = 45^\circ$ $\alpha_B = 90^\circ$	
6,5 x 160	60	80	5,95	4,21	5,95	4,21	5,95	4,21	5,95	4,21
6,5 x 195	80	80	6,48	4,58	6,48	4,58	6,48	4,58	6,48	4,58
8,0 x 155	60	60	6,65	4,70	6,65	4,70	6,65	4,70	6,65	4,70
8,0 x 195	80	80	7,76	5,49	7,76	5,49	7,76	5,49	7,76	5,49
8,0 x 220	80	100	10,13	7,17	10,13	7,17	10,13	7,17	10,13	7,17
8,0 x 245	100	100	9,82	6,95	9,82	6,95	9,82	6,95	9,82	6,95
8,0 x 295	120	100	11,88	8,40	11,88	8,40	11,88	8,40	11,88	8,40
8,0 x 330	120	140	15,20	10,75	15,20	10,75	15,20	10,75	15,20	10,75
8,0 x 375	140	140	16,79	11,87	16,79	11,87	16,79	11,87	16,79	11,87
8,0 x 400	160	140	16,48	11,65	16,48	11,65	16,48	11,65	16,48	11,65
8,0 x 430	160	160	19,32	13,66	19,32	13,66	19,32	13,66	19,32	13,66
8,0 x 480	180	180	21,38	15,12	21,38	15,12	21,38	15,12	21,38	15,12
10,0 x 300	120	120	15,03	10,63	15,03	10,63	15,03	10,63	15,03	10,63
10,0 x 330	120	140	18,49	13,07	18,49	13,07	18,49	13,07	18,49	13,07
10,0 x 360	140	140	18,69	13,21	18,69	13,21	18,69	13,21	18,69	13,21
10,0 x 400	160	140	20,04	14,17	20,04	14,17	20,04	14,17	20,04	14,17
10,0 x 450	160	180	25,81	18,25	25,81	18,25	25,81	18,25	25,81	18,25
10,0 x 500	180	200	28,31	20,02	28,31	20,02	28,31	20,02	28,31	20,02
10,0 x 550	200	200	30,82	21,79	30,82	21,79	30,82	21,79	30,82	21,79
10,0 x 600	220	220	33,00	23,33	33,00	23,33	33,00	23,33	33,00	23,33

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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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.

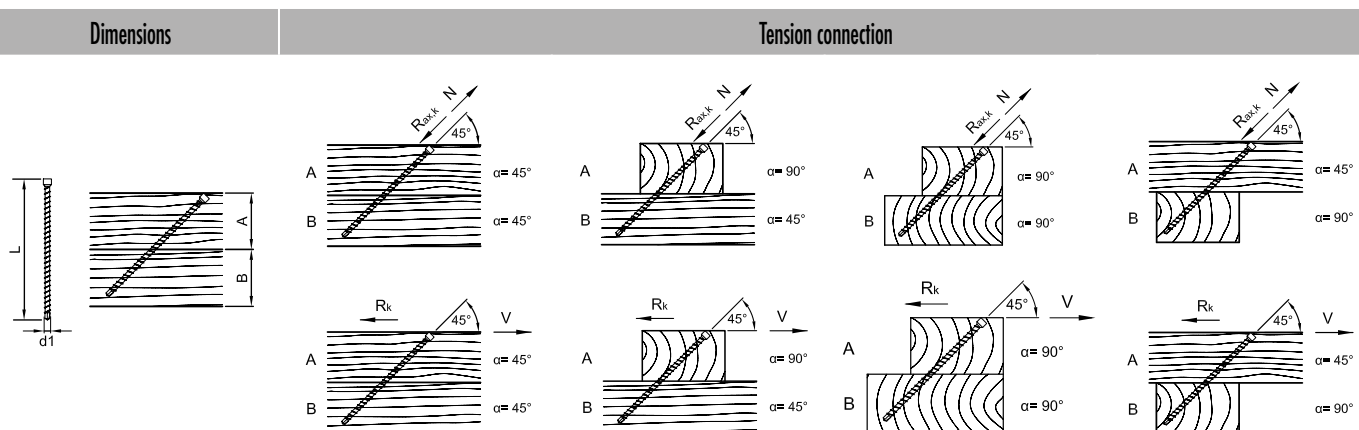
b) estimated with an efficient quantity of pairs of screws: $n \geq 0,9$.

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KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD NEW DRILL POINT 6,5 BIS 10,0 MM: TIMBER/TIMBER JOINTS



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

d1 x L [mm]	A [mm]	B [mm]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]	$R_{ax,k}^{a)}$ - [kN]	$R_k^{a)}$ - [kN]
			$\alpha = 45^\circ$		$\alpha_A = 90^\circ$ $\alpha_B = 45^\circ$		$\alpha_A = 90^\circ$ $\alpha_B = 90^\circ$		$\alpha_A = 45^\circ$ $\alpha_B = 90^\circ$	
6,5 x 160	60	80	5,95	4,21	5,95	4,21	5,95	4,21	5,95	4,21
6,5 x 195	80	80	6,48	4,58	6,48	4,58	6,48	4,58	6,48	4,58
8,0 x 155	60	60	6,65	4,70	6,65	4,70	6,65	4,70	6,65	4,70
8,0 x 195	80	80	7,76	5,49	7,76	5,49	7,76	5,49	7,76	5,49
8,0 x 220	80	100	10,13	7,17	10,13	7,17	10,13	7,17	10,13	7,17
8,0 x 245	100	100	9,82	6,95	9,82	6,95	9,82	6,95	9,82	6,95
8,0 x 295	120	100	11,88	8,40	11,88	8,40	11,88	8,40	11,88	8,40
8,0 x 330	120	140	15,20	10,75	15,20	10,75	15,20	10,75	15,20	10,75
8,0 x 375	140	140	16,79	11,87	16,79	11,87	16,79	11,87	16,79	11,87
8,0 x 400	160	140	16,48	11,65	16,48	11,65	16,48	11,65	16,48	11,65
8,0 x 430	160	160	19,32	13,66	19,32	13,66	19,32	13,66	19,32	13,66
8,0 x 480	180	180	21,38	15,12	21,38	15,12	21,38	15,12	21,38	15,12
10,0 x 300	120	120	15,03	10,63	15,03	10,63	15,03	10,63	15,03	10,63
10,0 x 330	120	140	18,49	13,07	18,49	13,07	18,49	13,07	18,49	13,07
10,0 x 360	140	140	18,69	13,21	18,69	13,21	18,69	13,21	18,69	13,21
10,0 x 400	160	140	20,04	14,17	20,04	14,17	20,04	14,17	20,04	14,17
10,0 x 450	160	180	25,81	18,25	25,81	18,25	25,81	18,25	25,81	18,25
10,0 x 500	180	200	28,31	20,02	28,31	20,02	28,31	20,02	28,31	20,02
10,0 x 550	200	200	30,82	21,79	30,82	21,79	30,82	21,79	30,82	21,79
10,0 x 600	220	220	33,00	23,33	33,00	23,33	33,00	23,33	33,00	23,33

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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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 ($R_d \geq E_d$).

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→ 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: $n \geq 0,9$.

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PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD NEW DRILL POINT 6,5 MM: MAIN/SECONDARY BEAM JOINTS

Dimensions

Main / secondary beam connection

A vertical screw with a threaded length L and a diameter d1.

Top view of a beam joint. It shows two beams, HT (Horizontal Top) and NT (Normal Top), joined by a screw. The distance from the beam centerline to the screw is m. The beam width is BHT. The angle between the beam and the screw is beta.

Bottom view of a beam joint. It shows the beam width BHT and the beam width BVT.

Side view of a beam joint. It shows the beam width BHT and the beam width BVT. The distance from the beam centerline to the screw is k.

Side view of a beam joint. It shows the beam width BHT and the beam width BVT. The distance from the beam centerline to the screw is k.

$$a_2 = \min. 33 \text{ mm}, a_{2,c} = \min. 20 \text{ mm}, k = \min. 10 \text{ mm}$$

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

$d1 \times L$ [mm]	min. B_{NT} [mm]	min. H_{NT} [mm]	min. B_{HT} [mm]	min. H_{HT} [mm]	m [mm]	β °	$R_{v,k}^{a) b)}$ - [kN]	Pair (s)
6,5 x 195	60						10,91	1
	100						20,36	2
	120	160	80	160	69	45	29,33	3
	160						38,00	4

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

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

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

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

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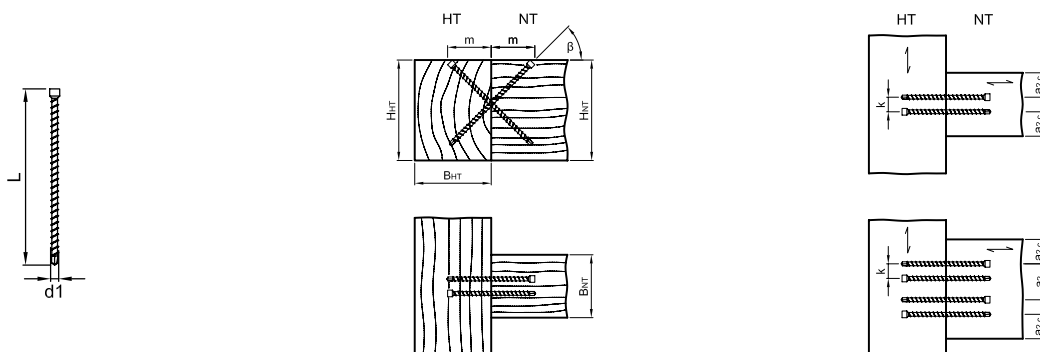
PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD NEW DRILL POINT 8,0 MM: MAIN/SECONDARY BEAM JOINTS

Dimensions

Main / secondary beam connection



$a_2 = \min. 40 \text{ mm}$, $a_{2,c} = \min. 24 \text{ mm}$, $k = \min. 12 \text{ mm}$

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

$d1 \times L$ [mm]	min. B_{HT} [mm]	min. H_{HT} [mm]	min. B_{HT} [mm]	min. H_{HT} [mm]	m [mm]	β °	$R_{v,k}^{a) b)}$ - [kN]	Pair (s)
8,0 x 245	80	200	100	200	87	45	16,43	1
	100						30,66	2
	140						44,16	3
	180						57,21	4
8,0 x 295	80	220	120	220	104	45	17,44	1
	100						32,55	2
	140						46,88	3
	180						60,74	4
8,0 x 330	80	260	140	260	117	45	17,44	1
	100						32,55	2
	140						46,88	3
	180						60,74	4
8,0 x 375	80	280	160	280	133	45	17,44	1
	100						32,55	2
	140						46,88	3
	180						60,74	4

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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→ 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: $n_{0,9}$.

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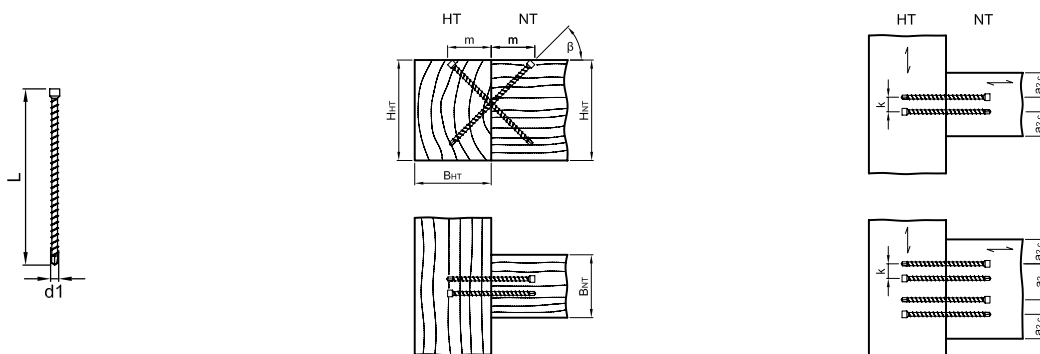
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KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD AND NEW DRILL POINT 8,0 MM:
MAIN/ SECONDARY BEAM JOINT

Dimensions

Main / secondary beam connection



$a_2 = \min. 40 \text{ mm}$, $a_{2,c} = \min. 24 \text{ mm}$, $k = \min. 12 \text{ mm}$

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

$d1 \times L$ [mm]	min. B_{HT} [mm]	min. H_{HT} [mm]	min. B_{NT} [mm]	min. H_{NT} [mm]	m [mm]	β °	$R_{v,k}^{a) b)}$ - [kN]	Pair (s)
8,0 x 400	80	300	160	300	141	45	17,44	1
	100						32,55	2
	140						46,88	3
	180						60,74	4
8,0 x 430	80	320	180	320	152	45	17,44	1
	100						32,55	2
	140						46,88	3
	180						60,74	4
8,0 x 480	80	360	180	360	170	45	17,44	1
	100						32,55	2
	140						46,88	3
	180						60,74	4

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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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.

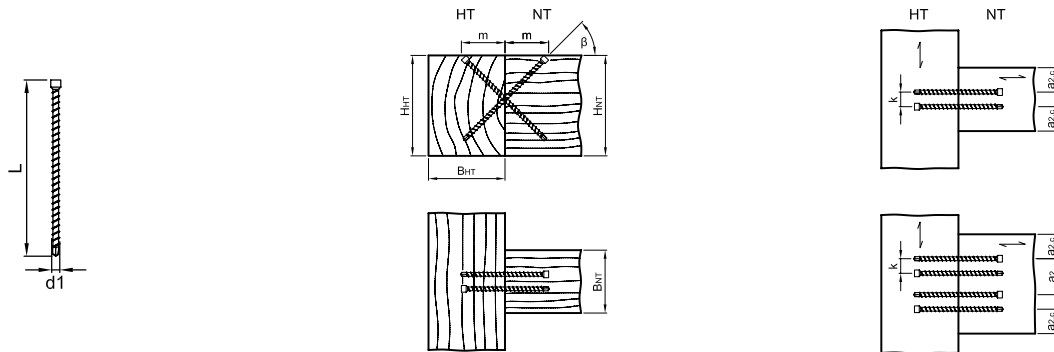
PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD AND NEW DRILL POINT 10,0 MM: MAIN/SECONDARY BEAM JOINTS

Dimensions

Main / secondary beam connection



$a_2 = \text{min. } 50 \text{ mm}$, $a_{2c} = \text{min. } 30 \text{ mm}$, $k = \text{min. } 15 \text{ mm}$

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

$d1 \times L$ [mm]	min. B_{HT} [mm]	min. H_{HT} [mm]	min. B_{NT} [mm]	min. H_{NT} [mm]	m [mm]	β °	$R_{yk}^{a) b)}$ - [kN]	Pair (s)
10,0 x 300	80	240	120	240	106	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 330	80	260	140	260	117	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 360	80	280	140	280	127	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 400	80	300	160	300	141	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 450	80	340	180	340	159	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 500	80	380	200	380	177	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4

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

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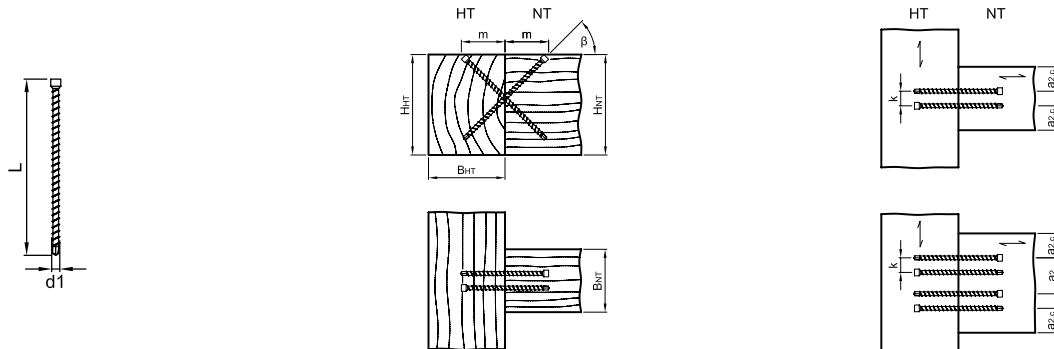
PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

KONSTRUX ST WITH CYLINDER HEAD AND NEW DRILL POINT 10,0 MM: MAIN/SECONDARY BEAM JOINTS

Dimensions

Main / secondary beam connection



$a_2 = \text{min. } 50 \text{ mm}$, $a_{2L} = \text{min. } 30 \text{ mm}$, $k = \text{min. } 15 \text{ mm}$

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

$d1 \times L$ [mm]	min. B_{NT} [mm]	min. H_{NT} [mm]	min. B_{HT} [mm]	min. H_{HT} [mm]	m [mm]	β °	$R_{yk}^{a) b)}$ - [kN]	Pair (s)
10,0 x 500	80	380	200	380	177	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 550	80	400	220	400	194	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4
10,0 x 600	80	440	240	440	212	45	23,67	1
	140						44,18	2
	180						63,63	3
	240						82,44	4

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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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: $n_{0,9}$.

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PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

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 ST 6,5 mm → rarely required in softwood
- KonstruX ST 8,0 mm → $d_{0, NH} = 5,0$ mm
- KonstruX ST 10,0 mm → $d_{0, NH} = 6,0$ mm
- 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 ST 6,5 mm → $d_{0, LH} = 5,0$ mm
- KonstruX ST 8,0 mm → $d_{0, LH} = 6,0$ mm
- KonstruX ST 10,0 mm → $d_{0, LH} = 8,0$ mm
- KonstruX AG 11,3 mm → not approved in hardwood

PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

PRODUCT TABLE

KonstruX ST, cylinder head			
Art. no.	Dimension [mm]	Drive	PU
Ø 6,5 mm			
904808	6,5 x 80	TX30 ●	100
904809	6,5 x 100	TX30 ●	100
904810	6,5 x 120	TX30 ●	100
904811	6,5 x 140	TX30 ●	100
904812	6,5 x 160	TX30 ●	100
904813	6,5 x 195	TX30 ●	100
100063 ^{a)}	6,5 x 200	TX30 ●	100
100064 ^{a)}	6,5 x 220	TX30 ●	100
100065 ^{a)}	6,5 x 240	TX30 ●	100
100066 ^{a)}	6,5 x 260	TX30 ●	100
Ø 8,0 mm			
954081	8,0 x 125	TX40 ●	50
904825	8,0 x 155	TX40 ●	50
904826	8,0 x 195	TX40 ●	50
904827	8,0 x 220	TX40 ●	50
904828	8,0 x 245	TX40 ●	50
904834	8,0 x 270	TX40 ●	50
904829	8,0 x 295	TX40 ●	50
904830	8,0 x 330	TX40 ●	50
904831	8,0 x 375	TX40 ●	50
904832	8,0 x 400	TX40 ●	50
944804	8,0 x 430	TX40 ●	50
944805	8,0 x 480	TX40 ●	50
944806	8,0 x 530	TX40 ●	50
944807	8,0 x 580	TX40 ●	50

a) European Technical Assessment (ETA) has been applied for.

PRODUCT DATA SHEET

KONSTRUX ST, CYLINDER HEAD

PRODUCT TABLE

KonstruX ST, cylinder head			
Art. no.	Dimension [mm]	Drive	PU
Ø 10,0 mm			
904872	10,0 x 195	TX50 •	25
904873	10,0 x 220	TX50 •	25
904874	10,0 x 245	TX50 •	25
904875	10,0 x 270	TX50 •	25
904815	10,0 x 300	TX50 •	25
904816	10,0 x 330	TX50 •	25
904817	10,0 x 360	TX50 •	25
904818	10,0 x 400	TX50 •	25
904819	10,0 x 450	TX50 •	25
904820	10,0 x 500	TX50 •	25
904821	10,0 x 550	TX50 •	25
904822	10,0 x 600	TX50 •	25
100080 ^{a)}	10,0 x 650	TX50 •	25
100081 ^{a)}	10,0 x 700	TX50 •	25
100082 ^{a)}	10,0 x 750	TX50 •	25
100083 ^{a)}	10,0 x 800	TX50 •	25
100084 ^{a)}	10,0 x 900	TX50 •	25
100085 ^{a)}	10,0 x 1000	TX50 •	25

a) European Technical Assessment (ETA) has been applied for.

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).