

PRODUCT DATA SHEET

TENSION ROD 340/440/540/620

PRODUCT DESCRIPTION

The tension rods 340 / 440 / 540 / 620 are moulded sheet steel parts especially for timber frame construction for transfer of tensile forces. They enable quick and easy base point anchoring of wooden elements in wood, steel or concrete substrates. The tension rods are particularly sturdy and can withstand high stresses.

ADVANTAGES

- Short root face (150 mm)
- Indirect fixing due to an intermediate layer (e.g. OSB)
- For installation in wood and concrete
- Optimised screw pattern for very high tensile capacities



MATERIAL

- Galvanised S355 construction steel



Note

Tension rod 340/440/540 may only be used in combination with pressure plate tension rod 340/440/540 (item no.: 954110).
Tension rod 620 may only be used in combination with pressure plate tension rod 620 (item no.: 954230).

CERTIFICATION

- European Technical Assessment ETA -19/0020



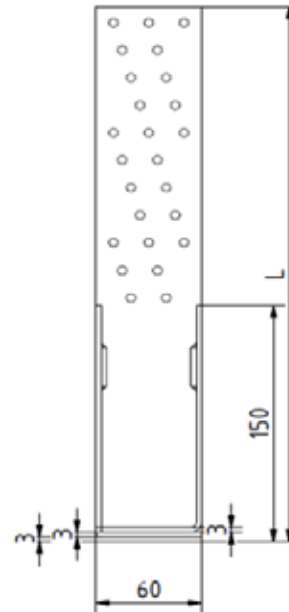
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TENSION ROD 340/440/540/620

TECHNICAL INFORMATION



Side view



Front view

CHARACTERISTIC TRACTIVE FORCE

340 tension rod					
Quantity [n]	Wood connections				Steel
	Anchor nails	F _{1,k} [kN]	Angle Bracket Screws (ABS)	F _{1,k} [kN]	F _{t,Rk} [kN]
25	4×40	47,5	5×40	53,5	57,1
	4×50	56,5	5×50	57,0	
	4×60	61,3	5×60	60,8	

The load-bearing capacities were determined based on ETA-19/0020. Characteristic load-bearing capacities in kN were specified for timber strength class C24 with a characteristic density of 350 kg/m³. The minimum distances between the connecting elements and the edges in line with EC5 must be observed. For the design values under wind loads, $\gamma_{m,timber} = 1.3$ and $k_{mod} = 0.9$ should be used for screws. $\gamma_{m,steel} = 1.25$ should be used for the breaking of steel plates.

Note: the values for cracked and uncracked concrete are still being provisioned. The calculated values were determined using the appropriate pressure plate.

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440 tension rod					
Quantity [n] 34	Wood connections				Steel
	Anchor nails	F _{l,k} [kN]	Angle Bracket Screws (ABS)	F _{l,k} [kN]	F _{t,Rk} [kN]
	4×40	64,6	5×40	72,8	57,1
	4×50	76,8	5×50	77,5	
4×60	83,3	5×60	82,6		

The load-bearing capacities were determined based on ETA-19/0020. Characteristic load-bearing capacities in kN were specified for timber strength class C24 with a characteristic density of 350 kg/m³. The minimum distances between the connecting elements and the edges in line with EC5 must be observed. For the design values under wind loads, $\gamma_{m,timber} = 1.3$ and $k_{mod} = 0.9$ should be used for screws. $\gamma_{m,steel} = 1.25$ should be used for the breaking of steel plates.

Note: the values for cracked and uncracked concrete are still being provisioned. The calculated values were determined using the appropriate pressure plate.

540 tension rod*					
Quantity [n] 43	Wood connections				Steel
	Anchor nails	F _{l,k} [kN]	Angle Bracket Screws (ABS)	F _{l,k} [kN]	F _{t,Rk} [kN]
	4×40	81,7	5×40	92,0	63,4
	4×50	97,2	5×50	98,0	
4×60	105,4	5×60	104,5		

The load-bearing capacities were determined based on ETA-19/0020. Characteristic load-bearing capacities in kN were specified for timber strength class C24 with a characteristic density of 350 kg/m³. The minimum distances between the connecting elements and the edges in line with EC5 must be observed. For the design values under wind loads, $\gamma_{m,timber} = 1.3$ and $k_{mod} = 0.9$ should be used for screws. $\gamma_{m,steel} = 1.25$ should be used for the breaking of steel plates.

* ETA-approval is pending.

Note: the values for cracked and uncracked concrete are still being provisioned. The calculated values were determined using the appropriate pressure plate.

620 tension rod*					
Quantity [n] 54	Wood connections				Steel
	Anchor nails	F _{l,k} [kN]	Angle Bracket Screws (ABS)	F _{l,k} [kN]	F _{t,Rk} [kN]
	4×40	102,6	5×40	115,6	85,2
	4×50	122,0	5×50	123,1	
4×60	132,3	5×60	131,2		

The load-bearing capacities were determined based on ETA-19/0020. Characteristic load-bearing capacities in kN were specified for timber strength class C24 with a characteristic density of 350 kg/m³. The minimum distances between the connecting elements and the edges in line with EC5 must be observed. For the design values under wind loads, $\gamma_{m,timber} = 1.3$ and $k_{mod} = 0.9$ should be used for screws. $\gamma_{m,steel} = 1.25$ should be used for the breaking of steel plates.

* ETA-approval is pending.

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INSTRUCTIONS FOR USE

The tension rods are placed on the planking in the floor area and fastened to the stem and, if necessary, to the sole plate with screws or anchor nails. In this regard, the connection can safely transfer tensile, suction and shearing forces into the tension rod via the screws and finally into the base plates via a dowel.

PRODUCT TABLE

Tension rod 340 / 440 / 540 / 620				
Art. no.	Designation	Dimension [mm]	Matching pressure plate	PU
954099	Tension rod 340	340 x 63 x 3	Tension rod 340/440/540 (954110)	1
954100	Tension rod 440	440 x 63 x 3	Tension rod 340/440/540 (954110)	1
954231	Tension rod 540 ¹⁾	540 x 63 x 3	Tension rod 340/440/540 (954110)	1
954232	Tension rod 620 ^{**1)}	620 x 83 x 3	Tension rod 620 (954230)	1

** Exclusively compatible with pressure plate tension rod 620 (954230).

¹⁾ EIA-approval is pending.

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HOLE SPACINGS

Tension rod 340

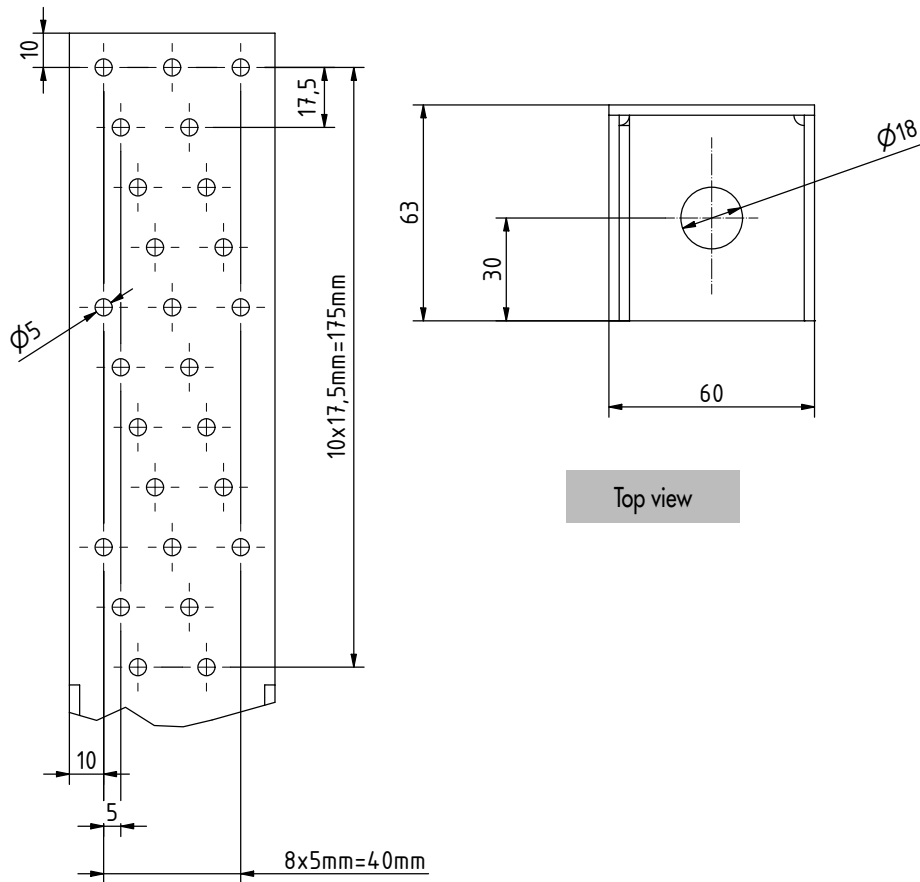


Image section front view

Top view

PRODUCT DATA SHEET

TENSION ROD 340/440/540/620

Tension rod 440

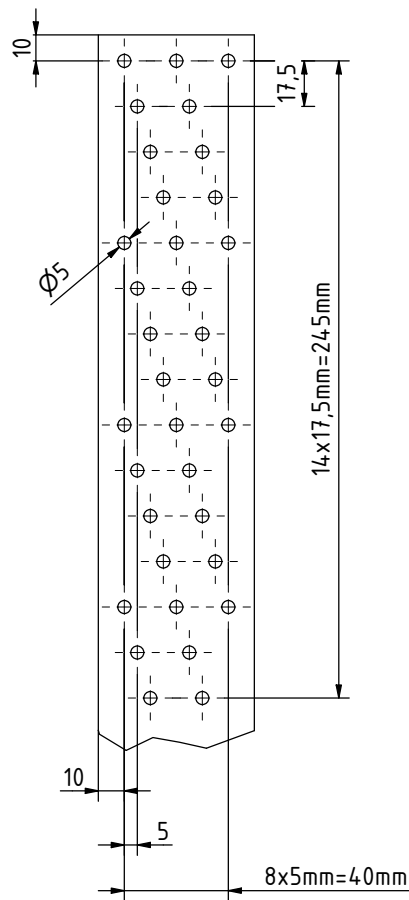
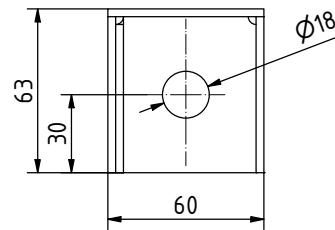


Image section front view



Top view

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Tension rod 540

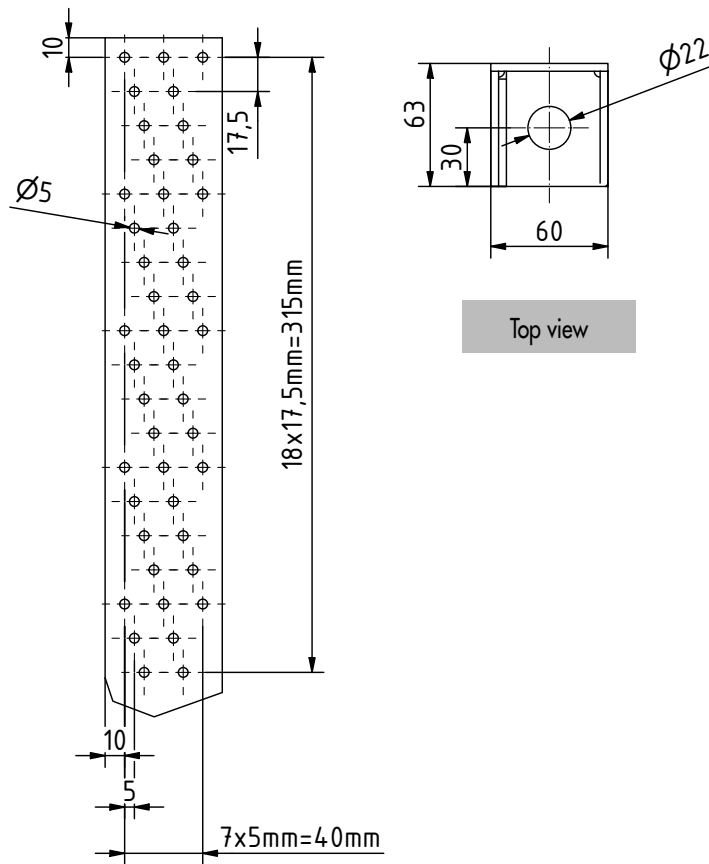


Image section front view

Top view

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Tension rod 620

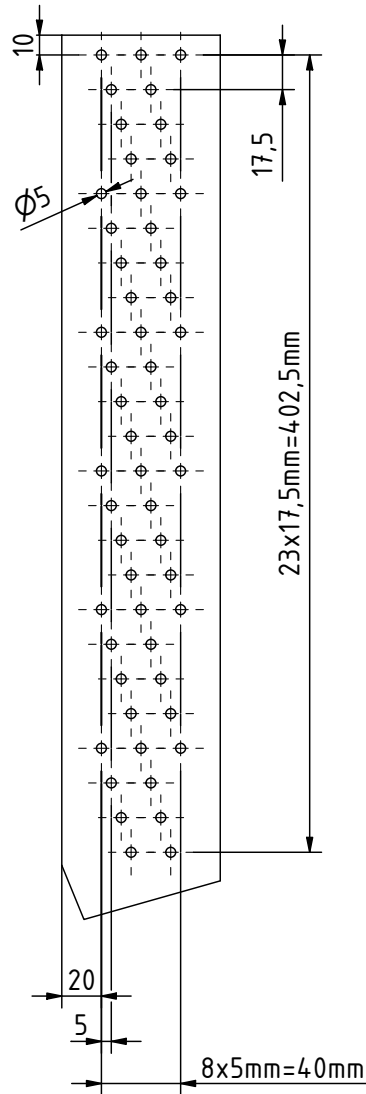
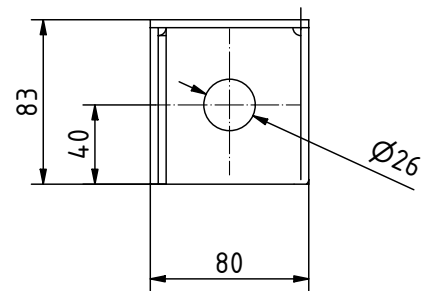


Image section front view



Top view

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).