PRODUCT DATA SHEET

PANELTWISTEC AG, FLANGE BUTTON HEAD SCREWS, HARDENED STAINLESS STEEL

PRODUCT DESCRIPTION

Paneltwistec AG, flange button head screws, hardened stainless steel is a wood construction screw with a special screw tip and milling ribs above the thread. The special geometry of the screw tip reduces the torque needed to drive it in and minimises the risk of the timber splitting.

The larger head diameter allows for considerably higher torque and head pull-through capacity. his makes for better use of the screw's tensile load-bearing strength

APPLICATIONS

- Conditionally corrosion-resistant and suitable for use in service classes 1, 2 and 3 according to DIN EN 1995 (Eurocode 5)
- Not suitable for woods containing high levels of tannin, such as cumarú, oak, merbau, robinia, etc.
- Bedingt säurebeständig
- Not suitable for salty or chlorinated atmospheres

MATERIAL

- Hardened stainless steel (Martensitic stainless steel 1.4006 (C1))
- Stainless steel according to DIN EN 10088 (magnetisable)
- 50% higher breaking torque than A2 and A4
- 20 years of experience without any corrosion problems when used with suitable woods

Note
With martensitic steel, also known as martensite, many different substances can be added as an alloy. The key point is that the chromium content must be between 10.5 % and 13 %. Just as the carbon content must be between 0.2 % and 1 %.

CERTIFICATION

- European Technical Assessment ETA-11/0024 Self-tapping screws as wood connectors

Europ. Techn. Bewertung
European Technical Assessment
ETA-11/0024

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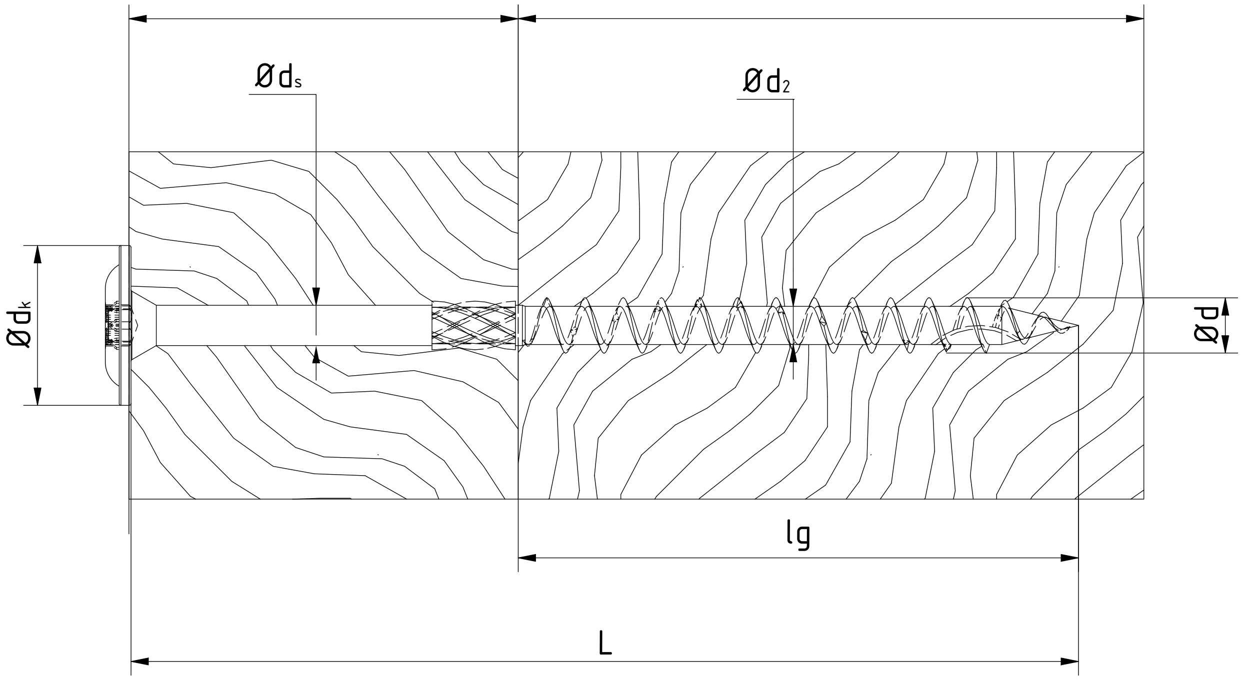
TECHNICAL INFORMATION



Side view

Paneltwistec AG, flange button head screws, hardened stainless steel										
Nominal-Ø	Head-Ø	Root-Ø	Shaft-Ø	Head shape	Head angle	char. tensile capacity	char. yield moment	char. withdrawal parameter	char. head pull-through parameter	char. torsional strength
d [mm]	dh [mm]	di [mm]	ds [mm]	–	[Degree°]	[kN]	[Nm]	[N/mm²]	[N/mm²]	[Nm]
6	14,0	4,0	4,4	TK	60	11,0	9,5	11,4	12	9,5

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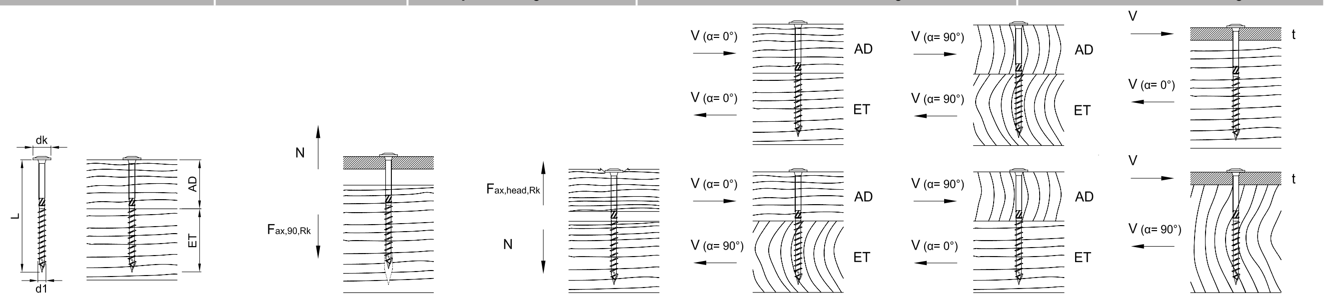
Dimensions				Extraction resistance	Head pull-through resistance	Wood-Wood shearing				Steel-Wood shearing		



d1 x L [mm]	dk [mm]	AD [mm]	ET [mm]	$F_{ax,90,Rk}$ [kN]	$F_{ax,head,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	t [mm]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]
								$\alpha_{AD}= 0°$	$\alpha_{AD}= 90°$			
						$\alpha= 0°$	$\alpha=90°$	$\alpha_{ET}= 90°$	$\alpha_{ET}= 0°$		$\alpha= 0°$	$\alpha= 90°$
6,0 x 40	14,0	16	24	1,64	2,35	1,33				2	1,63	
6,0 x 60	14,0	24	36	2,46	2,35	1,87				2	2,26	
6,0 x 70	14,0	28	42	2,87	2,35	1,97				2	2,36	
6,0 x 80	14,0	32	48	3,28	2,35	2,09				2	2,46	
6,0 x 90	14,0	36	54	3,69	2,35	2,21				2	2,57	
6,0 x 100	14,0	40	60	4,10	2,35	2,23				2	2,67	
6,0 x 110	14,0	44	66	4,79	2,35	2,23				2	2,77	
6,0 x 120	14,0	50	70	4,79	2,35	2,23				2	2,84	
6,0 x 130	14,0	60	70	4,79	2,35	2,23				2	2,84	
6,0 x 140	14,0	70	70	4,79	2,35	2,23				2	2,84	
6,0 x 150	14,0	80	70	4,79	2,35	2,23				2	2,84	
6,0 x 160	14,0	90	70	4,79	2,35	2,23				2	2,84	

Calculation according to ETA-11/0024. Wood density ρ_k= 350 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 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 kN and variable load (e. g. snow load) Q_k= 3,00 kN. k_{mod}= 0,9. γ_M= 1,3.
→ Dimensioning value of the load E_d= 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 $R_d \geq E_d$. → min $R_k= R_d \cdot \gamma_M / k_{mod}$
I.e. the characteristic minimum value is calculated based on: min $R_k= R_d \cdot \gamma_M / k_{mod}$ → R_k= 7,20 kN · 1,3/0,9= 10,40 kN → comparison with table values.

Please note: These are planning aids. Projects must only be calculated by authorised persons.

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Art. no.	Dimensions Ød x L [mm]	Drive	Thread length [mm]	PU
975771	6,0 x 40	TX30 •	40	100
975772	6,0 x 60	TX30 •	36	100
975773	6,0 x 80	TX30 •	48	100
975774	6,0 x 100	TX30 •	60	100
975775	6,0 x 120	TX30 •	70	100
975776	6,0 x 140	TX30 •	70	100
975777	6,0 x 160	TX30 •	70	100

If you are not familiar with this product's application, and particularly with the product's intended use, please contact our Application Technology department (technik@eurotec.team).

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