PRODUCT DATA SHEET

PANELTWISTEC 1000, FLANGE BUTTON HEAD

PRODUCT DESCRIPTION

Made of a **specially coated** and **hardened carbon steel**, Paneltwistec 1000 is a fastener for load-bearing timber constructions between components made of solid timber (softwood), laminated timber, laminated veneer timber or similar bonded wood-based materials. The screw has a **mill slot** at the end of the thread and **self-milling ribs** above the thread. Its special geometry **reduces the splitting effect** during screwing, and the special coating **reduces the screwing resistance**; i.e. the friction between the screw body and the wood is significantly reduced.

APPLICATIONS

- Suitable for usage classes 1 and 2 according to DIN EN 1995 –Eurocode 5
- Withstands up to 1,000 hours of salt spray testing according to DIN EN ISO 9227 NSS
- Corrosivity category C4 long according to DIN EN ISO 12944-6
- Not suitable for tannin-containing woods

MATERIAL

- Hardened **carbon steel**, special „1000" coating
- Resistant to mechanical stress

CERTIFICATION

- European Technical Approval ETA-11/0024 Self-tapping screws for use in timber structures
- General building authority approval Z-9.1-661 Paneltwistec 1000 screws for use in timber structures
  → Dimensions: Ø 8.0 x 80 mm to Ø 10.0 x 400 mm

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

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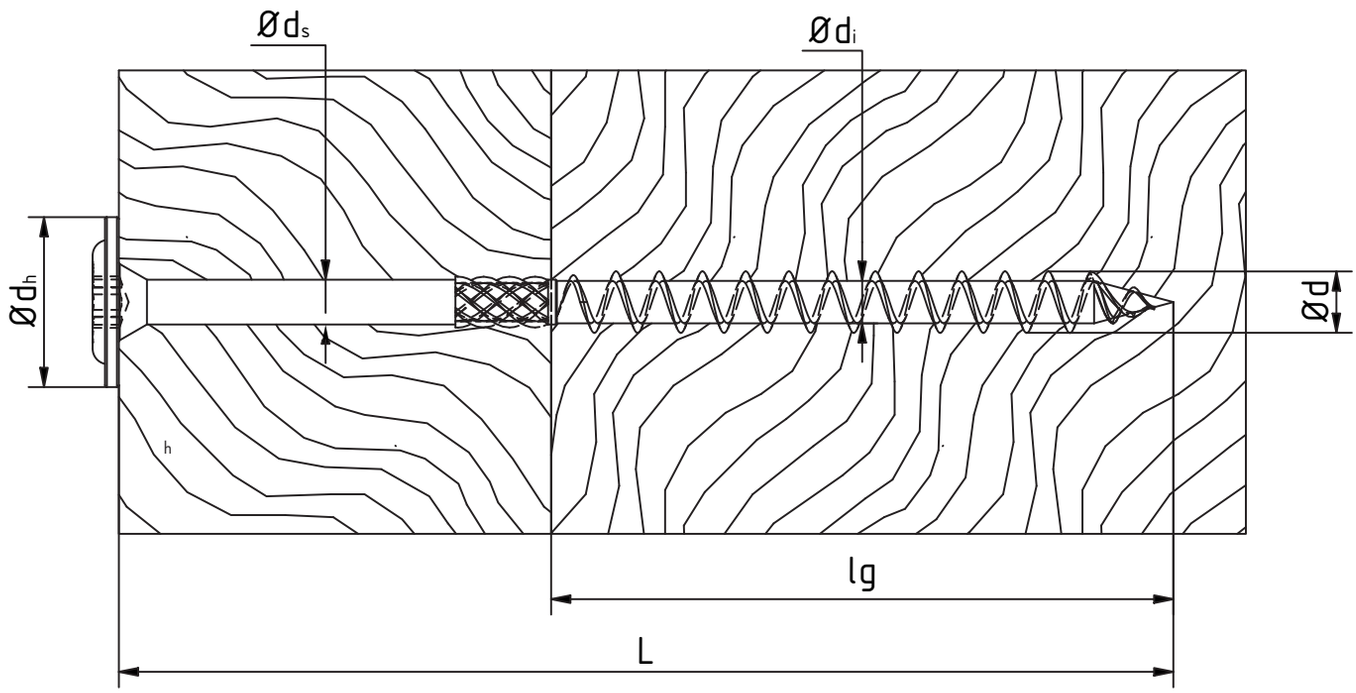
TECHNICAL INFORMATION



Side view

Paneltwistec 1000, flange button screw, special coated steel										
Nominal-Ø	Head-Ø	Root-Ø	Shank-Ø	Head shape	Head angle	char. tensile capacity	char. yield moment	char. withdrawal parameter	char. head pull-through parameter	char. torsional strength
d [mm]	d_h [mm]	d_1 [mm]	d_s [mm]	–	[Degree °]	$f_{tens,k}$ [kN]	$M_{y,k}$ [Nm]	$f_{ax,k}$ [N/mm²]	$f_{head,k}$ [N/mm²]	$f_{tor,k}$ [Nm]
6	14,0	4,0	4,3	TK	60	11,0	9,5	11,4	12	9,5
8	22,0	5,3	5,7	TK	60	20,0	20,0	11,1	12	22,0
10	25,0	6,3	6,9	TK	60	28,0	35,8	10,8	12	40,0

[1] The values have been taken from ETA 11/0024 and DoP-ETA110024-05-2017. We cannot guarantee that there are no typographical or printing errors and therefore recommend that you check the documents mentioned above.

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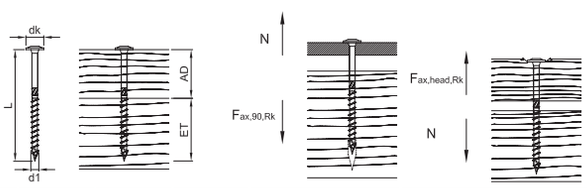

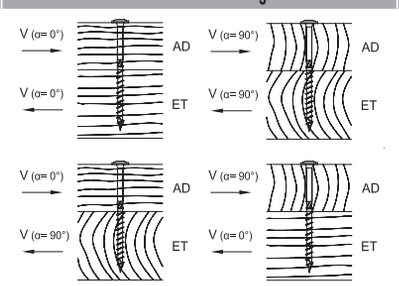

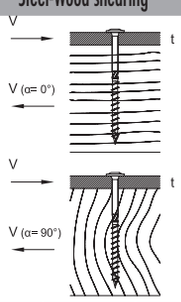

Dimensions				Extraction resistance	Head pull-through resistance	Wood-Wood shearing				Steel-Wood shearing		
d x L [mm]	dk [mm]	AD [mm]	ET [mm]	$F_{ax,90,Rk}$ [kN]	$F_{ax,head,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	t [mm]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]
								$\alpha_A = 0°$	$\alpha_A = 90°$			
						$\alpha = 0°$	$\alpha = 90°$	$\alpha_B = 90°$	$\alpha_B = 0°$		$\alpha = 0°$	$\alpha = 90°$
6,0 x 40	14,0	16	24	1,64	2,35	1,27				2	1,53	
6,0 x 50	14,0	20	30	2,05	2,35	1,60				2	1,90	
6,0 x 60	14,0	24	36	2,46	2,35	1,81				2	2,21	
6,0 x 80	14,0	32	48	3,28	2,35	2,01				2	2,41	
6,0 x 90	14,0	36	54	3,69	2,35	2,12				2	2,51	
6,0 x 100	14,0	40	60	4,10	2,35	2,18				2	2,62	
6,0 x 120	14,0	50	70	4,80	2,35	2,18				2	2,80	
6,0 x 140	14,0	70	70	4,80	2,35	2,18				2	2,80	
6,0 x 180	14,0	110	70	4,80	2,35	2,18				2	2,80	
6,0 x 200	14,0	130	70	4,80	2,35	2,18				2	2,80	
8,0 x 60	22,0	24	36	3,20	5,81	3,36	2,65	2,92	2,92	3	4,15	3,33
8,0 x 80	22,0	30	50	4,26	5,81	3,94	3,21	3,72	3,36	3	4,41	3,83
8,0 x 100	22,0	40	60	4,80	5,81	4,55	3,71	4,21	3,87	3	4,55	3,96
8,0 x 120	22,0	60	60	5,33	5,81	4,68	4,10	4,34	4,34	3	4,68	4,10
8,0 x 140	22,0	60	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 160	22,0	80	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 180	22,0	100	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 200	22,0	120	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 220	22,0	140	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 240	22,0	160	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 260	22,0	180	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 280	22,0	200	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 300	22,0	220	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 340	22,0	260	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 360	22,0	280	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 380	22,0	300	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
8,0 x 400	22,0	320	80	7,10	5,81	4,80	4,21	4,46	4,46	3	5,12	4,54
10,0 x 60	25,0	24	36	3,90	7,50	4,30	3,18	3,90	3,54	3	5,90	3,93
10,0 x 80	25,0	30	50	5,40	7,50	5,20	4,25	4,78	4,47	3	6,30	5,30
10,0 x 100	25,0	40	60	6,48	7,50	6,44	5,08	6,44	5,08	3	6,78	5,81
10,0 x 120	25,0	50	70	7,13	7,50	6,94	5,74	6,94	5,74	3	6,94	5,97
10,0 x 160	25,0	60	90	9,23	7,50	7,03	6,07	7,03	6,07	3	7,72	6,76
10,0 x 180	25,0	80	100	10,26	7,50	7,03	6,07	7,03	6,07	3	7,72	6,76
10,0 x 200	25,0	100	100	10,26	7,50	7,03	6,07	6,07	6,07	3	7,72	6,76
10,0 x 220	25,0	120	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 240	25,0	140	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76

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
R901351	6,0 x 40	TX30 ●	24	100
R901352	6,0 x 50	TX30 ●	30	100
R901353	6,0 x 60	TX30 ●	36	100
R901353	6,0 x 80	TX30 ●	48	100
R901356	6,0 x 90	TX30 ●	54	100
R901357	6,0 x 100	TX30 ●	60	100
R901359	6,0 x 120	TX30 ●	70	100
R901361	6,0 x 140	TX30 ●	70	100
R901364	6,0 x 180	TX30 ●	70	100
R901365	6,0 x 200	TX30 ●	70	100
R903127	8,0 x 60	TX40 ●	36	50
R903060	8,0 x 80	TX40 ●	48	50
R903062	8,0 x 100	TX40 ●	54	50
R903064	8,0 x 120	TX40 ●	60	50
R903066	8,0 x 140	TX40 ●	80	50
R903067	8,0 x 160	TX40 ●	80	50
R903470	8,0 x 180	TX40 ●	80	50
R903069	8,0 x 200	TX40 ●	80	50
R903472	8,0 x 220	TX40 ●	80	50
R903071	8,0 x 240	TX40 ●	80	50
R903072	8,0 x 260	TX40 ●	80	50
R903073	8,0 x 280	TX40 ●	80	50
R903074	8,0 x 300	TX40 ●	80	50
R903477	8,0 x 340	TX40 ●	80	50
R903475	8,0 x 360	TX40 ●	80	50
R903476	8,0 x 400	TX40 ●	80	50
R903077	10,0 x 60	TX50 ●	36	50
R903079	10,0 x 80	TX50 ●	50	50
R903081	10,0 x 100	TX50 ●	60	50
R903083	10,0 x 120	TX50 ●	70	50
R903085	10,0 x 160	TX50 ●	90	50
R903056	10,0 x 180	TX50 ●	100	50
R903087	10,0 x 200	TX50 ●	100	50
R903088	10,0 x 220	TX50 ●	100	50
R903089	10,0 x 240	TX50 ●	100	50

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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