PRODUCT DATA SHEET

PANELTWISTEC AG, COUNTERSUNK HEAD TX40

PRODUCT DESCRIPTION

Paneltwistec AG TX40 made of blue galvanised and hardened carbon 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.**

APPLICATIONS

- Conditionally corrosion-resistant and suitable for use in service classes 1 and 2 according to DIN EN 1995 (Eurocode 5)
- Timber Construction Screws Paneltwistec Ø 8.0 for fixing insulation above rafters
- Not suitable for use with woods containing tanning agents

MATERIAL

- Hardened carbon steel + blue galvanised
- Free of chromium (VI) oxide
- Good resistance to mechanical stresses

CERTIFICATION

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

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

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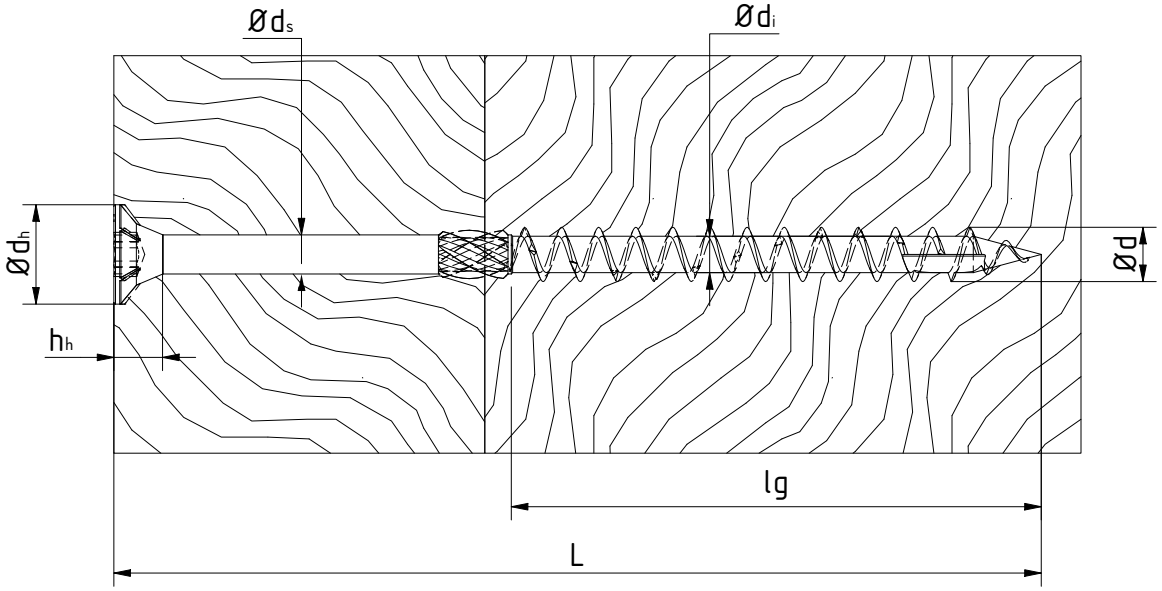
TECHNICAL INFORMATION



Side view

Paneltwistec AG, countersunk head, TX40 steel blue galvanized												
Nominal-Ø	Head-Ø	Root-Ø	Shank-Ø	Head height	Head shape	Upper head angle	Lower 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_i [mm]	d_s [mm]	h_h [mm]	–	[Degree °]	[Degree °]	$f_{tens,k}$ [kN]	$M_{y,k}$ [Nm]	$f_{ax,k}$ [N/mm²]	$f_{head,k}$ [N/mm²]	$f_{tor,k}$ [Nm]
5*	10.0	3.68	3.45	4.78	SK	60	60	7.9	5.9	12.1	12.0	3.1
6	12.0	4.4	3.98	5.65	SK	90	60	11.0	9.5	11.4	12.0	2.2
8	14.5	5.7	5.3	7	SK	90	60	20.0	20.0	11.1	12.0	3.2

[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.

* Head may differ from the picture

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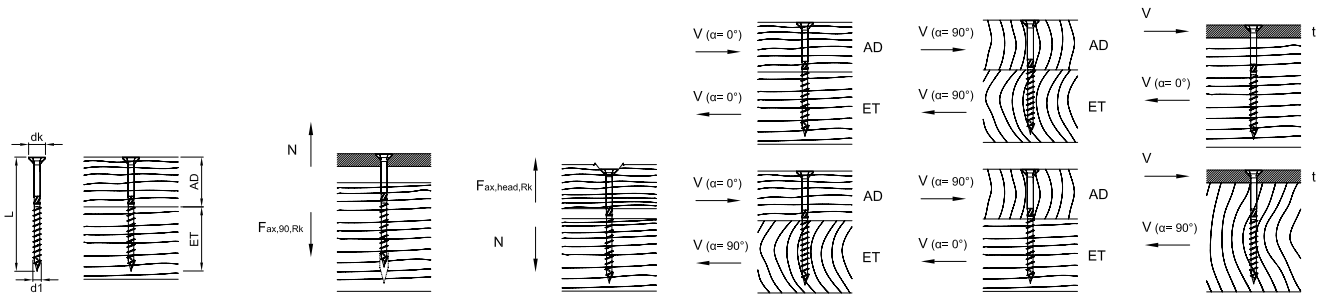
Dimensions	Extraction resistance	Head pull-through resistance	Wood-Wood shearing	Steel-Wood shearing



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]
								α_{AD}= 0°	α_{AD}= 90°			
						α= 0°	α=90°	α_{ET}= 90°	α_{ET}= 0°		α= 0°	α= 90°
5,0 x 40	10	16	24	1,45	1,20	1,11				2	1,44	
5,0 x 50	10	20	30	1,82	1,20	1,24				2	1,67	
5,0 x 60	10	24	36	2,18	1,20	1,34				2	1,76	
5,0 x 70	10	28	42	2,54	1,20	1,44				2	1,85	
5,0 x 80	10	32	48	2,90	1,20	1,52				2	1,94	
5,0 x 90	10	36	54	3,27	1,20	1,52				2	2,03	
5,0 x 100	10	40	60	3,63	1,20	1,52				2	2,12	
5,0 x 120	10	50	70	4,24	1,20	1,52				2	2,27	
6,0 x 60	12	24	36	2,46	1,73	1,71				2	2,26	
6,0 x 70	12	28	42	2,87	1,73	1,82				2	2,36	
6,0 x 80	12,0	32	48	3,28	1,73	1,93				2	2,46	
6,0 x 90	12	36	54	3,69	1,73	2,05				2	2,57	
6,0 x 100	12,0	40	60	4,10	1,73	2,07				2	2,67	
6,0 x 120	12,0	50	70	4,79	1,73	2,07				2	2,84	
6,0 x 140	12,0	70	70	4,79	1,73	2,07				2	2,84	
6,0 x 160	12,0	90	70	4,79	1,73	2,07				2	2,84	
6,0 x 180	12,0	110	70	4,79	1,73	2,07				2	2,84	
6,0 x 200	12,0	130	70	4,79	1,73	2,07				2	2,84	
6,0 x 220	12,0	150	70	4,79	1,73	2,07				2	2,84	
6,0 x 240	12,00	170	70	4,79	1,73	2,07				2	2,84	
6,0 x 260	12	190	70	4,79	1,73	2,07				2	2,84	
6,0 x 280	12	210	70	4,79	1,73	2,07				2	2,84	
6,0 x 300	12	230	70	4,79	1,73	2,07				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.

*Table continues on the next page

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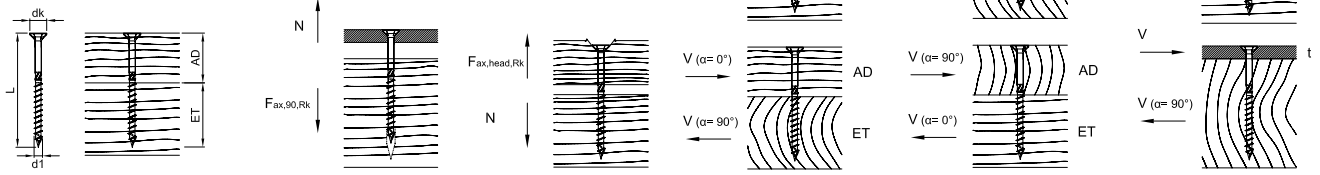

d1 x L [mm]	dk [mm]	AD [mm]	ET [mm]	$F_{ax,90,Rk}$ [kN]	$F_{ax,head,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]	t [mm]	$F_{la,Rk}$ [kN]	$F_{la,Rk}$ [kN]
								α_{AD}= 0°	α_{AD}= 90°			
						α= 0°	α=90°	α_{ET}= 90°	α_{ET}= 0°		α= 0°	α= 90°
8,0 x 80	14,5	30	50	4,26	2,52	3,71	2,90	3,71	2,90	3	4,56	3,94
8,0 x 100	14,5	40	60	5,33	2,52	4,13	3,30	4,13	3,30	3	4,83	4,20
8,0 x 120	14,5	50	70	5,86	2,52	4,13	3,50	4,13	3,50	3	4,96	4,34
8,0 x 140	14,5	40	100	8,44	2,52	4,13	3,30	4,13	3,30	3	5,60	4,98
8,0 x 160	14,5	60	100	8,44	2,52	4,13	3,50	4,13	3,50	3	5,60	4,98
8,0 x 180	14,5	80	100	8,44	2,52	4,13	3,50	4,13	3,50	3	5,60	4,98
8,0 x 200	14,5	100	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 220	14,5	120	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 240	14,5	140	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 260	14,5	160	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 280	14,5	180	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 300	14,5	200	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 320	14,5	220	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 340	14,5	240	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 360	14,5	260	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 380	14,5	280	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 400	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 420	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 440	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 460	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 480	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 500	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 550	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98
8,0 x 600	14,5	300	100	8,44	2,52	4,13	3,50	3,50	4,13	3	5,60	4,98

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PRODUCT TABLE

Paneltwistec AG, countersunk head, TX40 steel blue galvanized				
Art. no.	Dimensions Ød x L [mm]	Drive	Thread length [mm]	PU
945574-TX40	5,0 x 40*	TX40 •	24	200
945575-TX40	5,0 x 50*	TX40 •	30	200
945576-TX40	5,0 x 60*	TX40 •	36	200
945577-TX40	5,0 x 70*	TX40 •	42	200
945578-TX40	5,0 x 80*	TX40 •	48	200
945579-TX40	5,0 x 90*	TX40 •	54	200
945580-TX40	5,0 x 100*	TX40 •	60	200
945581-TX40	5,0 x 120*	TX40 •	70	200
945630-TX40	6,0 x 60	TX40 •	36	200
945631-TX40	6,0 x 70	TX40 •	42	200
945632-TX40	6,0 x 80	TX40 •	48	200
945633-TX40	6,0 x 90	TX40 •	54	200
945634-TX40	6,0 x 100	TX40 •	60	100
945636-TX40	6,0 x 120	TX40 •	70	100
945638-TX40	6,0 x 140	TX40 •	70	100
945640-TX40	6,0 x 160	TX40 •	70	100
945641-TX40	6,0 x 180	TX40 •	70	100
945642-TX40	6,0 x 200	TX40 •	70	100
945643-TX40	6,0 x 220	TX40 •	70	100
945644-TX40	6,0 x 240	TX40 •	70	100
945645-TX40	6,0 x 260	TX40 •	70	100
945646-TX40	6,0 x 280	TX40 •	70	100
945647-TX40	6,0 x 300	TX40 •	70	100

* Head may differ from the picture

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Paneltwistec AG, countersunk head, TX40 steel blue galvanized				
Art. no.	Dimensions Ød x L [mm]	Drive	Thread length [mm]	PU
944715	8,0 x 80	TX40 •	50	50
944716	8,0 x 100	TX40 •	60	50
944717	8,0 x 120	TX40 •	70	50
944718	8,0 x 140	TX40 •	100	50
944719	8,0 x 160	TX40 •	100	50
944720	8,0 x 180	TX40 •	100	50
944721	8,0 x 200	TX40 •	100	50
944722	8,0 x 220	TX40 •	100	50
944723	8,0 x 240	TX40 •	100	50
944724	8,0 x 260	TX40 •	100	50
944725	8,0 x 280	TX40 •	100	50
944726	8,0 x 300	TX40 •	100	50
944727	8,0 x 320	TX40 •	100	50
944728	8,0 x 340	TX40 •	100	50
944729	8,0 x 360	TX40 •	100	50
944730	8,0 x 380	TX40 •	100	50
944731	8,0 x 400	TX40 •	100	50
944732	8,0 x 420	TX40 •	100	50
944733	8,0 x 440	TX40 •	100	50
944734	8,0 x 460	TX40 •	100	25
944735	8,0 x 480	TX40 •	100	25
944736	8,0 x 500	TX40 •	100	25
944737	8,0 x 550	TX40 •	100	25
944739	8,0 x 600	TX40 •	100	25

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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