

SUPER WOOD TF ZN – Ø 4 – Ø 4,5 - Ø 4 – Ø 6 mm



PRODUCT DEFINITION

- Self-drilling wood screw Ø 4, Ø 4,5, Ø 5 et Ø 6mm
- Torx countersink head with ribs under head, reamer on the body and pointed tip.
- Shipped with bit

SCOPE OF APPLICATION

- Wood building
- Fastening for the assembly of wood elements for structural applications

MATERIAL & FINISH

Material:

- Screw: Cemented steel

Finish:

- Coating: Electrogalvanized without Chrome VI
- Thickness $\geq 12 \mu\text{m}$ according to EN ISO 4042
- Class 1 and 2 according to EN 1995-1-1

INSTALLATION


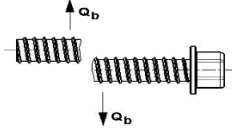
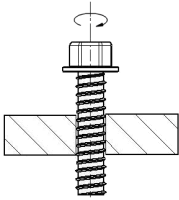
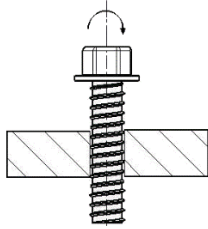
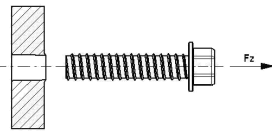
- Hammer drill MILWAUKEE M18 FDP-502X (code: 323 183)
- Drive bits: Torx 20 (code: 325 090), Torx 25 (code: 325 100), Torx 30 (code: 325 115)
- Magnetic bits holder 1/4" (6.35 mm) (code: 323 105)



PERFORMANCES

Detailed characteristics:

Screw \varnothing (mm) – d	$\varnothing 4$	$\varnothing 4,5$	$\varnothing 5$	$\varnothing 6$
Screw head \varnothing (mm) – d_h	8	9	9,7	11,8
Thread root \varnothing (mm) – d_l	2,7	3,05	3,4	4,2
Screw body \varnothing (mm) – d_s	2,9	3,25	3,6	4,4
Effective \varnothing (mm) – d_{ef}	2,97	3,36	3,74	4,62
Head thickness – h_t	2,9	3,4	3,4	3,55
Torx pattern - TX	20	25	25	30
Pre-drilling \varnothing – d_v	2.80	3,20	3,50	4,20

Characteristic tensile strength:	$\varnothing 4$: $f_{tens,k} = 522$ daN $\varnothing 4.5$: $f_{tens,k} = 654$ daN $\varnothing 5$: $f_{tens,k} = 850$ daN $\varnothing 6$: $f_{tens,k} = 1263$ daN	
Characteristic shearing strength:	$\varnothing 4$: $f_{shear,k} = 464$ daN $\varnothing 4.5$: $f_{shear,k} = 515$ daN $\varnothing 5$: $f_{shear,k} = 600$ daN $\varnothing 6$: $f_{shear,k} = 744$ daN	
Characteristic torsion strength:	$\varnothing 4$: $f_{tor,k} = 3,71$ N.m $\varnothing 4.5$: $f_{tor,k} = 5,00$ N.m $\varnothing 5$: $f_{tor,k} = 6,94$ N.m $\varnothing 6$: $f_{tor,k} = 12,06$ N.m	
Characteristic bending strength:	$\varnothing 4$: $M_{y,k} = 4,60$ N.m $\varnothing 4,5$: $M_{y,k} = 6,25$ N.m $\varnothing 5$: $M_{y,k} = 8,67$ N.m $\varnothing 6$: $M_{y,k} = 15,07$ N.m	
Pure tensile strength in a wood fir support 450 kg/m3: According to NF P 30-310 norm. The indicated values don't include the safety factor and are indicative.	$\varnothing 4$: $P_k = 518$ daN implantation depth 20 mm $\varnothing 4$: $P_k = 210$ daN implantation depth 30 mm $\varnothing 4,5$: $P_k = 300$ daN implantation depth 40 mm $\varnothing 5$: $P_k = 180$ daN implantation depth 25 mm $\varnothing 5$: $P_k = 420$ daN implantation depth 50 mm $\varnothing 6$: $P_k = 450$ daN implantation depth 50 mm	

CHARACTERISTIC STRENGTHS TABLE – WOOD-WOOD CONNECTION FIR WOOD 350KG/M³– ACCORDING TO THE NORM EN 1995-1-1

SUPER WOOD TF ZN (mm)	Threaded length (mm)	Thickness to fix (mm)	Thread tearing strength (daN) $F_{ax,Rk}$ (daN)		Head penetration resistance $F_{ax,Rk}$ (daN)	Shear strength $F_{v,Rk}$ (daN)	
			Perpendicular from the fibers	Parallel from the fibers		Perpendicular from the fibers	Parallel from the fibers
d x L0	L _f	T _{fix}					
4 x 45	30	15	212	176	55	63	
4 x 50		20				66	
4 x 60	40	20	284	236		78	
4 x 70		30				91	
4 x 80		40				101	
4,5 x 45	30	15	221	184		69	68
4,5 x 50		20			72		
4,5 x 60	40	20	297	248	91		
4,5 x 70		30			99		
4,5 x 80		40			111		
5 x 45	30	15	229	190	81		74
5 x 50		20				77	
5 x 60	40	20	309	258		98	
5 x 70		30				107	
5 x 80		40				120	
5 x 90		50				136	
5 x 100	60	40	465	387	143		
5 x 120		60			149		
6 x 50	30	20	181	151	119	90	
6 x 60	40	20	248	206		114	
6 x 70		30				124	

CHARACTERISTIC STRENGTHS TABLE – STEEL/WOOD CONNECTION FIR WOOD 350 KG/M³ – ACCORDING TO THE NORM EN 1995-1-1

SUPER WOOD TF ZN (mm)	Thread length (mm)	Thickness to fix (mm)	Thread tensile strength F_{ax,Rk} (daN)		Head penetration resistance F_{ax,Rk} (daN)	Shear strength F_{v,Rk} (daN)	
			Perpendicular from the fibers	Parallel from the fibers		Perpendicular from the fibers	Parallel from the fibers
d x L0	L _f	T _{fix}					
4 x 45	30	15	212	176	55	63	
4 x 50		20				66	
4 x 60	40	20	284	236	55	78	
4 x 70		30				91	
4 x 80		40				101	
4,5 x 45	30	15	221	184	69	68	
4,5 x 50		20				72	
4,5 x 60	40	20	297	248	69	91	
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5 x 45	30	15	229	190	81	74	
5 x 50		20				77	
5 x 60	40	20	309	258	81	98	
5 x 70		30				107	
5 x 80		40				120	
5 x 90		50				136	
5 x 100	60	40	465	387	81	143	
5 x 120		60				149	
6 x 50	30	20	181	151	119	90	
6 x 60	40	20	248	206		114	
6 x 70		30				124	

In the case of a steel plate with a different thickness, $E_p < d_{ef}$, an interpolation is possible for the calculation of $F_{v,Rk}$:

$$F_{v,Rk} = F_{v,Rk(d_{ef}/2)} + \frac{F_{v,Rk(d_{ef})} - F_{v,Rk(d_{ef}/2)}}{d_{ef} - d_{ef}/2} \times (E_p - d_{ef}/2)$$

The value is obtained by applying the coefficients:

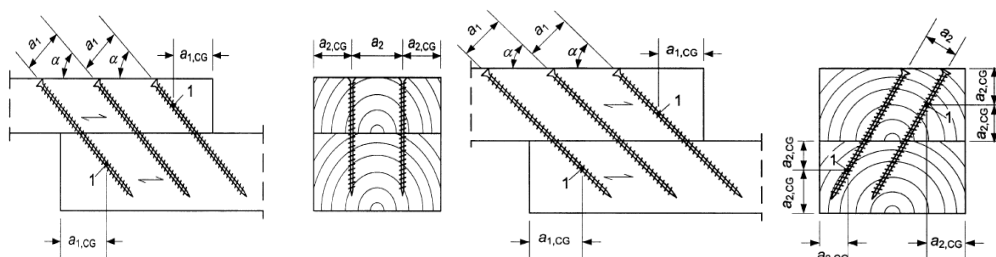
$$F_{Rd} = \frac{F_{Rk} \times k_{mod}}{\gamma_M}$$

The γ_M Coefficient for fir wood is 1,3.

CHARGING TIME CLASS	ABBREVIATION	K_{MOD} COEFFICIENT – CLASS 1
Instantaneous	I	1,1
Short term	S	0,9
Middle term	M	0,8
Long term	L	0,7
Permanent	P	0,6

MINIMUM SPACING AND EDGE DISTANCES OF AXIALLY CHARGED SCREW (MM) FIR WOOD 350 KG/M³ – ACCORDING TO EN 1995-1-1

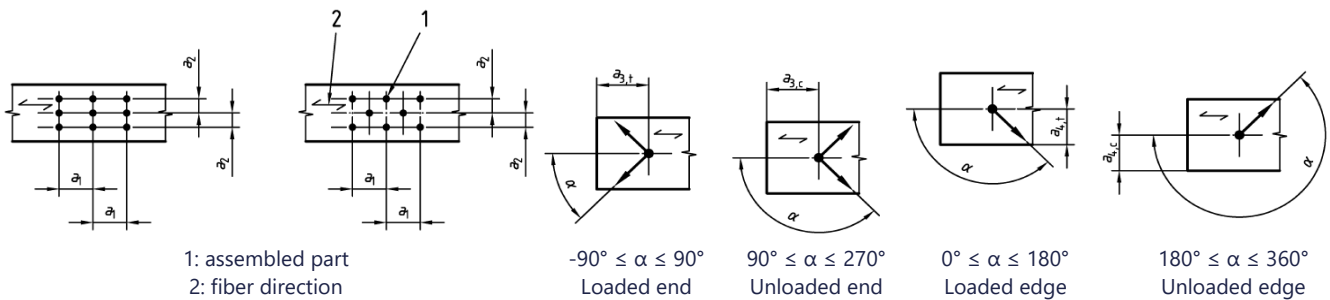
d_1	a_1	a_2	$a_{1,CG}$	$a_{2,CG}$
4	28	20	40	16
4,5	32	24	45	18
5	35	25	50	20
6	42	30	60	24



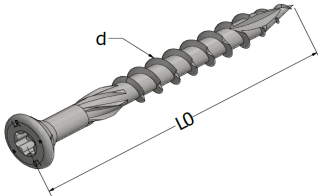
1: center of gravity of the pitched part of the assembled part in the element.

MINIMUM SPACING AND EDGE DISTANCES OF AXIALLY CHARGED SCREW (MM) FIR WOOD 350 KG/M³ – ACCORDING TO EN 1995-1-1

Without pre-drilling	Shearing Parallel to the fiber direction				Shearing Perpendicular to the fiber direction			
	d ₁	a ₁	a ₂	a _{3,t}	a _{3,c}	a _{4,t}	a _{4,c}	
	4	4,5	5	6	4	4,5	5	6
	30	34	37	46	15	17	19	23
	15	17	19	23	15	17	19	23
	45	50	56	69	30	34	37	46
	30	34	37	46	30	34	37	46
	15	17	19	23	21	24	26	32
	15	17	19	23	14	17	19	23
With pre-drilling	Shearing Parallel to the fiber direction				Shearing Perpendicular to the fiber direction			
	d ₁	a ₁	a ₂	a _{3,t}	a _{3,c}	a _{4,t}	a _{4,c}	
	4	4,5	5	6	4	4,5	5	6
	15	17	19	23	12	13	15	18
	9	10	11	14	12	13	15	18
	36	40	45	55	21	23	26	32
	21	23	26	32	21	23	26	32
	9	10	11	14	15	17	19	23
	9	10	11	14	9	10	11	14



DIMENSIONS & CODES

d x L0	Code	Packaging	d x L0	Code	Packaging
4 x 45	34 400	200	5 x 70	34 414	200
4 x 50	34 402		5 x 80	34 415	
4 x 60	34 403		5 x 90	34 416	
4 x 70	34 404		5 x 100	34 417	100
4 x 80	34 405		5 x 120	34 418	
4,5 x 45	34 406		6 x 50	34 419	200
4,5 x 50	34 407		6 x 60	34 420	
4,5 x 60	34 408		6 x 70	34 421	
4,5 x 70	34 409				
4,5 x 80	34 410				
5 x 45	34 411				
5 x 50	34 412				
5 x 60	34 413				

ACCORDANCE

- DTU 31.1: Frames and stairs in wood
- DTU 31.2: House buildings and timber frame buildings
- CE marking according to the harmonized European norm EN 14592+A1:2012:
 - n° CPR-J-00750-21 (Ø4)
 - n° CPR-J-00751-21 (Ø4,5)
 - n° CPR-J-00752-21 (Ø5)
 - n° CPR-J-00753-21 (Ø6)

MARKING & LABELING

- On the product: Screw length
- On the packaging: SUPER WOOD TF ZN Ø x L + CODE

QUALITY CONTROL

- ISO 9001 certified quality management system according to the certificate in force

NOTA

These products are intended for professional installers landlords whose the related service includes supply and installation. In accordance with rules and normative regulation, it's their responsibility to check that the use of these products is in conformity to themselves needs and their customers. They have to insure as well the adequacy of this material with their real operating conditions. The company excludes any guarantee for the use that does not respect these conditions. His responsibility is limited to the strict compliance with the specifications stipulated on the customer's purchase order. The guarantee is limited to the replacement of defective parts acknowledged by the Company's technical service, without workforce costs and travel expenses. It excludes material damage or physical injury and others direct or indirect damages, material or immaterial, which may result from defective parts including installation that not complying with the use for which they are designed and produced.

Registration date: 2021/06/07 – Revision D

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