# TECHNICAL DATA SHEET N°4227

# SUPER WOOD TF ZN – Ø 6 – Ø 8 – SARKING

EN 14592+A1:2012

## PRODUCT DEFINITION

- Self-drilling wood screw Ø 6 and Ø 8 mm
- 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 connection between the counter-batten and the wood framework with rigid insulation σ ≥ 150 kPa (SARKING process)

## MATERIAL & FINISH

**Material:**

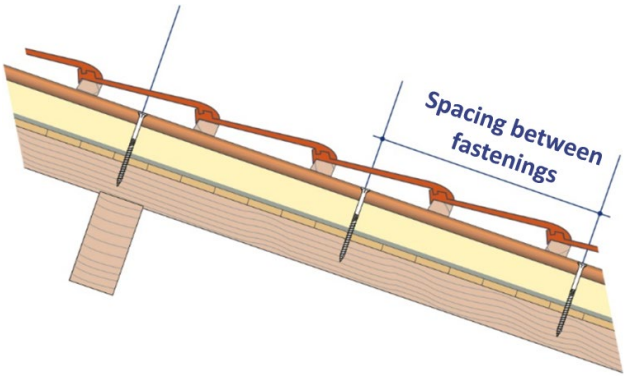
- Screw: Cemented steel

**Finish:**

- Coating: Electrogalvanized without Chrome VI
- Thickness ≥ 12 µm 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 30 (code: 325 090), Torx 40 (code: 325 120)
- Magnetic bits holder 1/4"(6.35 mm) (code: 323 105)
- Special magnetic socket for screwing in one hand (code: 33 904)




**SCHEMATIC DRAWING**

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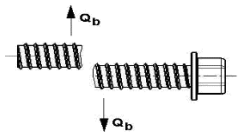
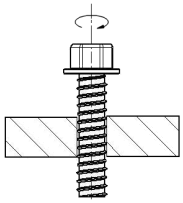
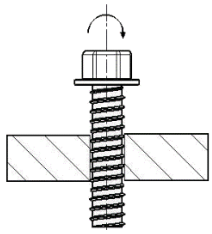
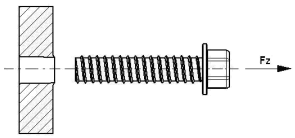
Tel : +33 (0)1 34 80 52 00 – commercial.france@etanco.fr

## PERFORMANCES

### Detailed characteristics:

| | | |
|---|---|---|
| Screw Ø (mm) – d | Ø 6 | Ø8 |
| Screw head Ø (mm) – $d_H$ | 12 | 14,5 |
| Thread root Ø (mm) – $d_I$ | 3,85 | 5,25 |
| Screw body Ø (mm) – $d_s$ | 4,27 | 5,82 |
| Head thickness – $h_t$ | 4 | 5 |
| Torx imprint- TX | 30 | 40 |
| Pre-drilling Ø – $d_v$ | 4,2 | 5,6 |

| | | |
|---|---|---|
| **Characteristic tensile strength:** | Ø 6 : $f_{tens,k}$ = 1359 daN<br>Ø 8 : $f_{tens,k}$ = 2420 daN |  |
| **Characteristic shearing strength:** | Ø 6 : $f_{shear,k}$ = 847 daN<br>Ø 8 : $f_{shear,k}$ = 1106 daN |  |
| **Characteristic torsion strength:** | Ø 6 : $f_{tor,k}$ = 12,0 N.m<br>Ø 8 : $f_{tor,k}$ = 25,6 N.m |  |
| **Characteristic flexural strength:** | Ø 6 : $M_{y,k}$ = 14,9 N.m<br>Ø 8 : $M_{y,k}$ = 32,0 N.m |  |
| **Pure tensile strength in a wooden fir support 450 kg/m³:**<br><br>According to of the NF P 30-310 norm.<br>The indicated values don't include the safety factor and are indicative. | Ø 6: Pk = 518 daN<br>implantation depth 50 mm<br>Ø 8: Pk = 607 daN<br>implantation depth 52 mm |  |

| SCREW LENGTH TABLE – SARKING PROCESS<br>SCREW USED IN A 90° ANGLE | | |
|---|---|---|
| Clamping thickness (daN)<br>(Wood frame + Insolation + Decking) | SUPER WOOD – L (mm) | |
| | Ø 6 | Ø 8 |
| 100 | 160 | |
| 120 | 180 | |
| 140 | 200 | |
| 160 | 220 | |
| 180 | 240 | |
| 200 | 260 | |
| 220 | 280 | |
| 240 | 300 | |
| 260 | - | 320 |
| 280 | - | 340 |
| 300 | - | 360 |
| 320 | - | 380 |
| 340 | - | 400 |

| SCREW LENGTH TABLE – SARKING PROCESS WITH SCREW USED IN A 90° ANGLE<br>FIR WOOD 350 KG/M3 – ACCORDING TO EN 1995-1-1 | | |
|---|---|---|
| Screw length | SUPER WOOD – L (mm) | |
| | Ø 6 – $F_{v,rk}$ (daN) | Ø 8 – $F_{v,rk}$ (daN) |
| 160 | 54 | 108 |
| 180 | 49 | 98 |
| 200 | 43 | 86 |
| 220 | 38 | 76 |
| 240 | 32 | 64 |
| 260 | 28 | 56 |
| 280 | 22 | 44 |
| 300 | 17 | 34 |
| 320 | - | 33 |
| 340 | - | 32 |
| 360 | - | 31 |
| 380 | - | 30 |
| 400 | - | 29 |

The values from the table on top are given after the following configuration:

- Solid insulation: compressibility class of insulation ≥ 150 kPa
- Installation of fasteners at 90° (0° being parallel to the slope)
- Thickness of counter-batten 27 mm
- Fastener implantation depth 60 mm

## Determination of numbers of fasteners / m² and the maximum spacing between the fasteners:

(Accordance with the Eurocodes rules)

### Calculation assumptions:

- Snow loads according to Eurocode 1, part 1-3 « Actions on Structures – Snow Action » and its national annex.
- Elevation < 2000 m
- Not taking into account the reduction of snow load depending on the slope (with a snow retention system)
- No snow accumulation phenomenon

### Calculation:

The calculation value is obtained by applying coefficients:

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

The coefficient $\gamma_M$ for a fir wood is 1,3.
The coefficient $k_{mod}$ to cover all the elevations is 0,8.

The shearing strength applied on the fastening (daN/m²) is determined with 3 combinations:

$$V_{d1} = 1{,}35 \times G_k \times \sin\alpha$$
$$V_{d2} = 1{,}35 \times G_k \times \sin\alpha + 1{,}5 \times S_k \times \sin\alpha \times \cos\alpha$$
$$V_{d3} = G_k \times \sin\alpha + S_{Ad} \times \sin\alpha \times \cos\alpha$$

$S_k$: characteristic load of snow on the ground in daN/m²
$S_{ad}$: exceptional snow load on the ground in daN/m²
$G_k$: real cover weight in daN/m²
α: roof slope in °

The fastening number per m² is determined with the following formula:

$$N = \max\left[\frac{V_d}{F_{v,Rd}}\right]_2$$

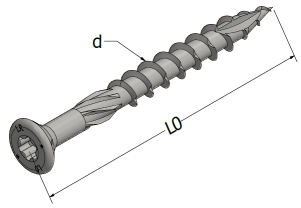
The maximum space between the fastening is determined with the following formula:

$$d_{max} = \min\left[\frac{1}{N \times e}\right]_{0,60}$$

N: Number of fastening per m²
$d_{max}$: Maximum spacing between fastenings in m
e: Spacing between wood framework in m

To determine the number of fastening per m² and the maximum space between them, you can contact ETANCO wood Departement (Tel.: +33 (0)1.34.80.51.61 – Fax: +33 (0)1.34.80.52.84 – Email : bois@etanco.fr)

## DIMENSIONS & CODES

| d x L0 | Code | Packaging | d x L0 | Code | Packaging |
|---|---|---|---|---|---|
| 6 x 80 | 34 422 | 100 | 8 x 80 | 34 435 | 100 |
| 6 x 90 | 34 423 | | 8 x 90 | 34 436 | |
| 6 x 100 | 34 424 | | 8 x 100 | 34 437 | |
| 6 x 120 | 34 425 | | 8 x 120 | 34 438 | 50 |
| 6 x 140 | 34 426 | | 8 x 140 | 34 439 | |
| 6 x 160 | 34 427 | | 8 x 160 | 34 440 | |
| 6 x 180 | 34 428 | | 8 x 180 | 34 441 | |
| 6 x 200 | 34 429 | | 8 x 200 | 34 442 | |
| 6 x 220 | 34 430 | | 8 x 220 | 34 443 | |
| 6 x 240 | 34 431 | | 8 x 240 | 34 444 | |
| 6 x 260 | 34 432 | | 8 x 260 | 34 445 | |
| 6 x 280 | 34 433 | | 8 x 280 | 34 446 | |
| 6 x 300 | 34 434 | | 8 x 300 | 34 447 | |
|  | | | 8 x 320 | 34 448 | |
| | | | 8 x 340 | 34 449 | |
| | | | 8 x 360 | 34 450 | |
| | | | 8 x 380 | 34 451 | |
| | | | 8 x 400 | 34 452 | |



## ACCORDANCE

- DTU 31.1: Frames and stairs in wood
- DTU 31.2: Houses buildings and timber frame buildings

- CE marking according to the harmonized European norm EN 14592+A1:2012: n° CPR-J-00754-21

## 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.