

# SCREWBOLT TSM-S



## APPLICATION

Suitable for quick and safe fixation of PROS Channels to concrete and masonry ceilings or walls. To be applied in dry rooms not exposed to high corrosion resistance requirements.

Easy installation via self-cutting action of screwbolt threads into concrete  
Small edge and axial distances to adjacent fixings, due to low expansion pressure when installed  
No plug necessary  
Also fixes into pressure-resistant natural stones and different solid bricks (not part of ETA approval / guideline)  
Flexible use for high or standard load performances due to 3 anchoring depths  
Approved for the application under seismic impact of category C1/c2 ( $\varnothing$  8 - 12) for anchoring depth  $h_{nom}$  3

## INSTALLATION

Screw in the bolt screw in pre-drilled pilot hole. The special thread guarantees a mechanical form lock with the base material. Fine adjustment of depth is possible if the TSM-IM screw is initially installed too deep.

## TECHNICAL DATA

Material: Steel, zinc flake coated

Extract from application conditions of ETA-16/0655  
Admissible loads not affected by centre and edge distances.  
Total safety factor respected according ETAG 001 ( YM YF ).

Diameter 8 mm

	Anchoring depth $h_{nom}$ 1 45 mm	Anchoring depth $h_{nom}$ 2 55 mm	Anchoring depth $h_{nom}$ 3 65 mm
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### PROSYSTEM ITALIA SRL

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REA Padova n° 311219

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Drive	SW13	SW13	SW13
Nominal diameter of drill d0 [mm]	8	8	8
Depth of bore hole h1 [mm]	55	65	75
Perm. tensile load cracked concrete			
C20/25 [kN]	2.4	4.3	5.7
C25/30 [kN]	2.6	4.7	6.3
C30/37 [kN]	2.9	5.2	7.0
C40/50 [kN]	3.4	6.1	8.1
C50/60 [kN]	3.7	6.6	8.9
Perm. tensile load non-cracked concrete			
C20/25 [kN]	3.6	5.7	7.6
C25/30 [kN]	3.9	6.3	8.3
C30/37 [kN]	4.3	7.0	9.3
C40/50 [kN]	5.1	8.1	10.8
C50/60 [kN]	5.5	8.9	11.8
Min. thickness of component hmin [mm]	100	100	120
Charact. centre distance scr,N	105	129	156
Charact. edge distance ccr,N	52.5	64.5	78
Min. centre distance smin [mm]	40	50	50
Min. edge distance cmin [mm]	40	50	50
Clearance hole in component $\leq$ [mm]	12	12	12
Perm. bending moment Mzul [Nm]	14.9	14.9	14.9
Recommended max. torque Tinst [Nm]	20	20	20

Perm. loads under stress of fire in cracked/non-cracked concrete C20/25 to C50/60

	Anchoring depthhnom1 45 mm	Anchoring depthhnom2 55 mm	Anchoring depthhnom3 65 mm

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Perm. tensile load R30 perm. F [kN]	1.3	2.2	2.4
Perm. tensile load R60 perm. F [kN]	1.3	1.7	1.7
Perm. tensile load R90 perm. F [kN]	1.1	1.1	1.1
Perm. tensile load R120 perm. F [kN]	0.7	0.7	0.7
Charact. centre distance scr,fi	140	172	208
Charact. edge distance ccr,fi	70	86	104

Diameter 10 mm

	Anchoring depthhnom1 55 mm	Anchoring depthhnom2 75 mm	Anchoring depthhnom3 85 mm
Drive	SW15	SW15	SW15
Nominal diameter of drill d0 [mm]	10	10	10
Depth of bore hole h1 [mm]	65	85	95
Perm. tensile load cracked concrete			
C20/25 [kN]	4.3	8.0	9.6
C25/30 [kN]	4.7	8.7	10.5
C30/37 [kN]	5.2	9.7	11.7
C40/50 [kN]	6.1	11.3	13.6
C50/60 [kN]	6.6	12.3	14.9
Perm. tensile load non-cracked concrete			
C20/25 [kN]	5.7	9.5	11.9
C25/30 [kN]	6.3	10.4	13.0
C30/37 [kN]	7.0	11.6	14.5
C40/50 [kN]	8.1	13.5	16.8
C50/60 [kN]	8.9	14.8	18.4
Min. thickness of component hmin [mm]	100	130	130
Charact. centre distance scr,N	129	180	204

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Charact. edge distance ccr,N	64.5	90	102
Min. centre distance smin [mm]	50	50	50
Min. edge distance cmin [mm]	50	50	50
Clearance hole in component $\leq$ [mm]	14	14	14
Perm. bending moment Mzul [Nm]	32	32	32
Recommended max. torque Tinst [Nm]	40	40	40

Perm. loads under stress of fire in cracked/non-cracked concrete C20/25 to C50/60

	Anchoring depthhnom1 55 mm	Anchoring depthhnom2 75 mm	Anchoring depthhnom3 85 mm
Perm. tensile load R30 perm. F [kN]	2.2	4.2	4.4
Perm. tensile load R60 perm. F [kN]	2.2	3.3	3.3
Perm. tensile load R90 perm. F [kN]	2.2	2.2	2.2
Perm. tensile load R120 perm. F [kN]	1.7	1.7	1.7
Charact. centre distance scr,fi	172	240	272
Charact. edge distance ccr,fi	86	120	136

Diameter 12 mm

	Anchoring depthhnom1 65 mm	Anchoring depthhnom2 85 mm	Anchoring depthhnom3 100 mm
Drive	SW17	SW17	SW17
Nominal diameter of drill d0 [mm]	12	12	12
Depth of bore hole h1 [mm]	75	95	110
Perm. tensile load cracked concrete			
C20/25 [kN]	5.7	9.4	12.3
C25/30 [kN]	6.3	10.3	13.4
C30/37 [kN]	7.0	11.4	14.9

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C40/50 [kN]	8.1	13.3	17.3
C50/60 [kN]	8.9	14.6	19.0
Perm. tensile load non-cracked concrete			
C20/25 [kN]	7.6	13.2	17.2
C25/30 [kN]	8.3	14.4	18.8
C30/37 [kN]	9.3	16.0	20.9
C40/50 [kN]	10.8	18.7	24.3
C50/60 [kN]	11.8	20.4	26.7
Min. thickness of component h <sub>min</sub> [mm]	120	130	150
Charact. centre distance scr,N	150	201	240
Charact. edge distance ccr,N	75	100.5	120
Min. centre distance s <sub>min</sub> [mm]	50	50	70
Min. edge distance c <sub>min</sub> [mm]	50	50	70
Clearance hole in component ≤ [mm]	16	16	16
Perm. bending moment M <sub>zul</sub> [Nm]	64.6	64.6	64.6
Recommended max. torque T <sub>inst</sub> [Nm]	60	60	60

Perm. loads under stress of fire in cracked/non-cracked concrete C20/25 to C50/60

	Anchoring depth h <sub>nom1</sub> 65 mm	Anchoring depth h <sub>nom2</sub> 85 mm	Anchoring depth h <sub>nom3</sub> 100 mm
Perm. tensile load R30 perm. [kN]	3.0	4.9	6.4
Perm. tensile load R60 perm. F [kN]	3.0	4.9	5.8
Perm. tensile load R90 perm. [kN]	3.0	4.2	4.2
Perm. tensile load R120 perm. [kN]	2.4	3.4	3.4
Charact. centre distance scr,fi	200	268	320
Charact. edge distance ccr,fi	100	134	160

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## APPROVALS / COMPLIANCE

Approvals ETA-16/0655 and ETA-16/0656

Codice	Nome	Peso	Numero di pezzi
115735	8×80 mm	0.04	50
115745	10×100 mm	0.08	50
115748	12×130 mm	0.12	25

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