



AS 5216:2021 Compliant



Fire Rated performance in cracked and non-cracked concrete

A4 (316)



ZINC

ZINC



NEW WITH SEISMIC C2 PERFORMANCE



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



Fire Rated Fasteners



Seismic Approved Fasteners



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



Seismic Approved Fasteners



Seismic Approved Fasteners



Fire Rated Fasteners

ZINC

ZINC & STAINLESS STEEL

TOGE TSM CONCRETE SCREW RANGE

The Toge TSM range features quick and safe installation, high load capacities in both cracked and non-cracked concrete with undercut load transmission. The TSM can be easily removed and does not leave residue or metal components in the drilled hole. Loads can be achieved immediately upon installation.

TOGE TSM STAINLESS STEEL CONCRETE SCREW RANGE

The Stainless Steel 316 (A4) high corrosion resistant Toge TSM Concrete Screws are one-piece self-tapping anchors for concrete and masonry applications providing high load performance in cracked and non-cracked concrete base materials. Clean, low profile appearance gives a aesthetic finish to the project.

TOGE TSM HIGH PERFORMANCE CONCRETE HANGER SCREW

TSM IM	TSM B		National Code Compliant	European Technical Assessment	Cracked Concrete Approved	Seismic Approved Fasteners	Fire Rated Fasteners	New Notches for easier setting, reduced torque and reduced concrete spalling.		
ZINC CLEAR INTERNAL USE	ZINC CLEAR INTERNAL USE	GAL EXTERNAL USE								
Part No.	Part No.	Part No.	Description	mm	mm	mm	mm	Nm	qty	
TSMIM06040ZG			6 x 40mm Hanger (M8 / M10 Internal)	6	40	M8 / M10	-	13	160	50
TSMIM06055ZG			6 x 55mm Hanger (M8 / M10 Internal)	6	55	M8 / M10	-	13	160	50
	TSMB06040ZG		6 x 40mm Hanger (M8 External Thread)	6	40	-	M8	10	160	100
	TSMB06055ZG		6 x 55mm Hanger (M8 External Thread)	6	55	-	M8	10	160	100
	TSMB06040ZG-M10		6 x 40mm Hanger (M10 External)	6	45	-	M10	13	160	100
		CPLRM8-M12	Coupler Nut M8 to M12	-	-	M8 to M12	-	16	-	100

= Impact screwdriver maximum torque capacity, excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation torque - refer page 4.

TOGE TSM HIGH PERFORMANCE HEX HEAD CONCRETE SCREWBOLTS

TSM	TSM	National Code Compliant	European Technical Assessment	Cracked Concrete Approved	Seismic Approved Fasteners	Seismic Approved Fasteners	Fire Rated Fasteners	New Notches for easier setting, reduced torque and reduced concrete spalling. Available for sizes 6mm, 8mm and 10mm		
ZINC CLEAR INTERNAL USE	316 SS A4 EXTERNAL USE									
Part No.	Part No.	Description	mm	mm	mm	mm	Nm	qty		
TSM06043		6x43mm	6	40	3	13	160	100		
TSM06050	TSM06050SS	6x50mm			10		160	100		
	TSM06060SS	6x60mm			20		160	100		
TSM06080		6x80mm			40		160	100		
TSM08050		8x50mm	8	45	5	13	300	50		
TSM08060		8x60mm			15		300	50		
TSM08070	TSM08070SS	8x70mm			25		300	50		
TSM08080	TSM08080SS	8x80mm			35		300	50		
TSM10060		10x60mm	10	55	5	15	400	50		
	TSM10090SS	10x90mm			35		400	50		
TSM10100	TSM10100SS	10x100mm			45		400	50		
	TSM10120SS	10x120mm			65		400	50		
TSM12110		12x110mm	12	65	45	17	650	25		
TSM14150		14x150mm	14	75	75	21	650	25		

C1 Seismic assessment only valid for the following embedment depths: TSM06 - 40mm + 55mm / TSM08 - 65mm / TSM10 - 55mm and 85mm / TSM12 - 100mm / TSM14 - 115mm.
 C2 Seismic assessment only valid for the following embedment depths: TSM08 - 40mm + 65mm / TSM10 - 85mm / TSM12 - 100mm / TSM14 - 115mm

= Impact screwdriver maximum torque capacity, excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation torque - refer page 4.

TOGE TSM HIGH PERFORMANCE COUNTERSUNK CONCRETE SCREWBOLTS



New Notches for easier setting, reduced torque and reduced concrete spalling. Available for sizes 6mm, 8mm and 10mm

316 SS A4 EXTERNAL USE

Part No.	Description	mm	mm	mm	mm	Nm	qty
TSMC06050SS	6x50mm	6	40	10	TX30 / VZ30	160	100
TSMC06065SS	6x65mm			25		160	100
TSMC06085SS	6x85mm			45		160	100
TSMC06105SS	6x105mm			65		160	100
TSMC08080SS	8x80mm	8	45	35	TX40 / VZ40	300	50
TSMC10090SS	10x90mm	10	55	35	TX50 / VZ50	400	50

C1 Seismic assessment only valid for the following embedment depths: TSMC06 - 40mm + 55mm / TSMC08 - 65mm / TSMC10 - 55mm and 85mm.

C2 Seismic assessment only valid for the following embedment depths: TSMC08 - 65mm / TSMC10 - 85mm

= Impact screwdriver maximum torque capacity, excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation torque - refer page 4.

TOGE TSM HIGH PERFORMANCE PAN HEAD CONCRETE SCREWBOLTS



New Notches for easier setting, reduced torque and reduced concrete spalling.

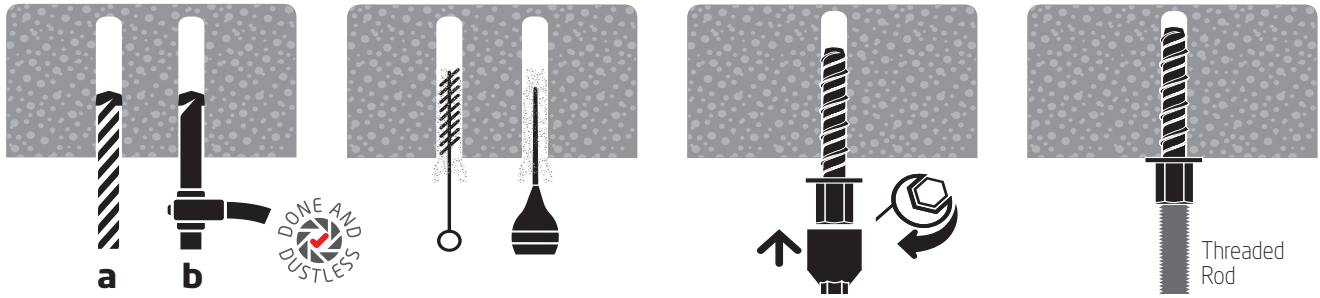
ZINC CLEAR INTERNAL USE 316 SS A4 EXTERNAL USE

Part No.	Part No.	Description	mm	mm	mm	mm	Nm	qty
TSMP06043		6x43mm	6	40	3	TX30 / VZ30	160	100
TSMP06050	TSMP06050SS	6x50mm			10		160	100
	TSMP06060SS	6x60mm			20		160	100
	TSMP06080SS	6x80mm			40		160	100
	TSMP06100SS	6x100mm			60		160	100

C1 Seismic assessment only valid for the following embedment depths: TSMP06 - 40mm + 55mm

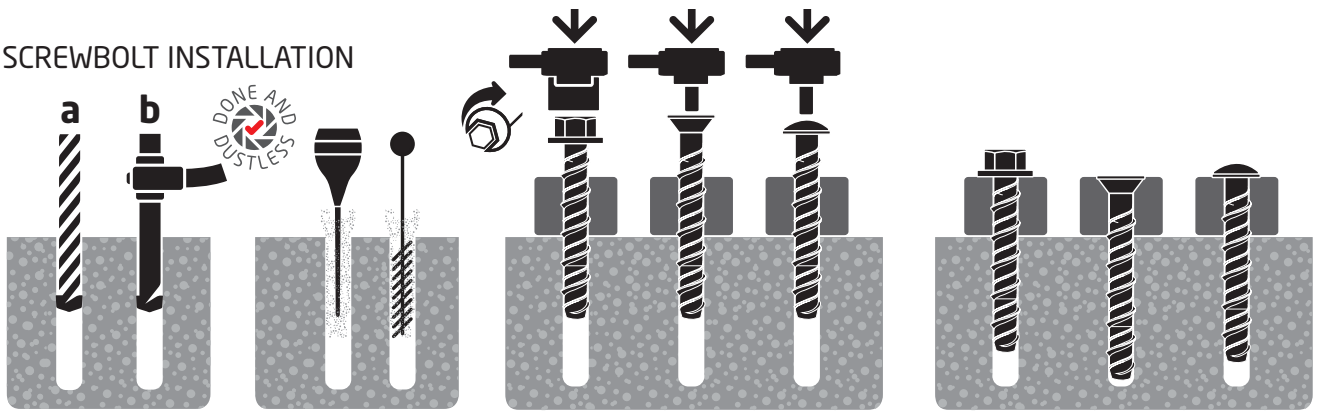
= Impact screwdriver maximum torque capacity, excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation torque - refer page 4.

HANGER INSTALLATION



- 1a With the correct diameter drill bit, drill a hole to the correct depth (add at least one anchor diameter to the depth to prevent the fastener from bottoming out). **OR**
- 1b Alternatively, use a Heller Set-Safe DE Hollow Drill Bit which vacuums out the dust (proceed to step 3).
- 2 Clean dust and other material from the hole.
- 3 Attach the Anchor to the correct size socket driver and install anchor perpendicular to the base material substrate. Be sure not to over torque the anchor. Install with either a socket or cordless impact driver.
- 4 The head of the anchor should be set flush with the base material. Install the threaded rod. The thread should be fully engaged in the anchor.

SCREWBOLT INSTALLATION



- 1a With the correct diameter drill bit, drill a hole to a depth of at least one anchor diameter deeper than required embedment. **OR**
- 1b Alternatively, use a Heller Set-Safe DE Hollow Drill Bit which vacuums out the dust.
- 2 Clean dust and other material from the hole.
- 3 Install with either a socket or cordless impact driver. Apply pressure against the fixing and rotate to engage the first thread.
- 4 Continue to tighten the anchor until flanged head is firmly seated against fixture. Be sure not to over torque the anchor. Installation complete!

TOGE TSM PERFORMANCE IN 32 MPa CONCRETE



Single anchor remote from edge

Size	Drill Hole Diameter (mm)	Anchor Embedment (mm)	Effective Anchor Depth h_{ef} (mm)	Fixture Hole Diameter (mm)	Installation Torque (Nm)	Min. Concrete Thickness (mm)	TENSILE DESIGN RESISTANCE				SHEAR DESIGN RESISTANCE				TENSILE DESIGN RESISTANCE	Impact Screw Driver Max. Torque (Nm)	Minimum Edge Distance (mm)	Minimum Spacing Distance (mm)
							Non-cracked Concrete (kN)	Cracked Concrete (kN)	SEISMIC		Non-cracked Concrete (kN)	Cracked Concrete (kN)	SEISMIC					
									C1 (kN)	C2 (kN)			C1 (kN)	C2 (kN)				
TSM 6	6	40	31	8	10	100	3.4	1.7	1.3		5.6	5.0	3.8		160	40	40	
		55	44				7.6	3.4	2.7	5.6	5.6	4.5						
TSM 8	8	45	35	12	20	100	6.3	4.2			8.6	6.0			300	40	40	
		55	43				10.1	7.6	10.8	8.2								
		65	52				12.0	13.4	10.1	8.0	1.6	13.6	10.9	6.8		7.9	50	50
TSM 10	10	55	43	14	40	100	10.1	7.6	6.0		11.7	8.2	7.0		400	50	50	
		75	60				16.8	13.5			27.2	27.0						
		85	68				21.0	16.3	13.8	3.6	27.2	12.2	14.8					
TSM 12	12	65	50	16	60	120	13.4	10.1			14.7	10.3			650	50	50	
		85	67				22.8	15.9			33.6	31.9						
		100	80				29.7	20.8	17.7	4.7	33.6	16.8	25.3	70		70		
TSM 14	14	75	58	18	80	130	18.3	12.8			18.3	12.8			650	50	50	
		100	79				29.1	20.4			44.8	40.8						
		115	92				36.6	25.6	21.8	7.0	44.8	17.9	32.6	70		70		

Note: The TSM high performance anchor may be used in applications subject to static or quasi-static loading in reinforced or unreinforced normal weight concrete of strength classes C20/25 - C50/60. The TSM high performance anchor may be used in cracked or non-cracked concrete. For specific design information including minimum edge and anchor spacing information please refer to ETA-15/0514. C1 and C2 Seismic design loads have been derived using AS 5216:2021 / EN 1992-4:2018 & TR049 ($a_{gap} = 1.0$). Performance data in the above table has been calculated using the relevant published ETA and based on single anchor installation at characteristic spacing and edge distance parameters.