



AS 5216:2018 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

ZINC CLEAR INTERNAL USE

TSM B

ZINC CLEAR INTERNAL USE

GAL

EXTERNAL USE

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

National Code Compliant

European Technical Assessment

Cracked Concrete Approved

Seismic Approved Fasteners

Fire Rated Fasteners

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
		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

ZINC CLEAR INTERNAL USE

316 SS A4 EXTERNAL USE

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

National Code Compliant

European Technical Assessment

Cracked Concrete Approved

Seismic Approved Fasteners

Seismic Approved Fasteners

Fire Rated Fasteners

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 - 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

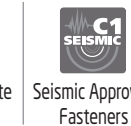
Part No.	Description	mm	mm	mm	mm	Nm	qty
TSMC06050SS	6x50mm	6	40	10	TX30 / VZ30	160	100
TSMC06065SS	6x65mm			25		160	100
TSMC06085SS	6x85mm			45		160	100
TSMC06105SS	6x105mm			65		160	100
TSMC08080SS	8x80mm	8	45	35	TX40 / VZ40	300	50
TSMC10090SS	10x90mm	10	55	35	TX50 / VZ50	400	50

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

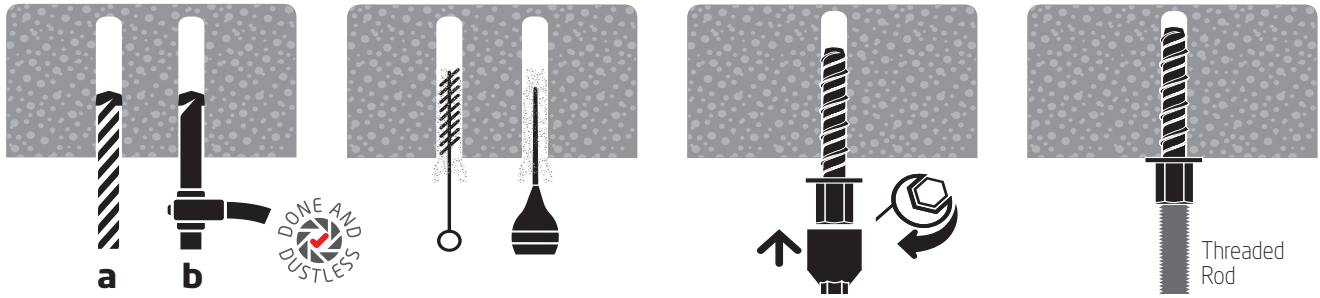
ZINC CLEAR INTERNAL USE 316 SS A4 EXTERNAL USE

Part No.	Part No.	Description	mm	mm	mm	mm	Nm	qty
TSMC06043		6x43mm	6	40	3	TX30 / VZ30	160	100
TSMC06050	TSMC06050SS	6x50mm			10		160	100
	TSMC06060SS	6x60mm			20		160	100
	TSMC06080SS	6x80mm			40		160	100
	TSMC06100SS	6x100mm			60		160	100

C1 Seismic assessment only valid for the following embedment depths: TSMC06 - 40mm + 55mm

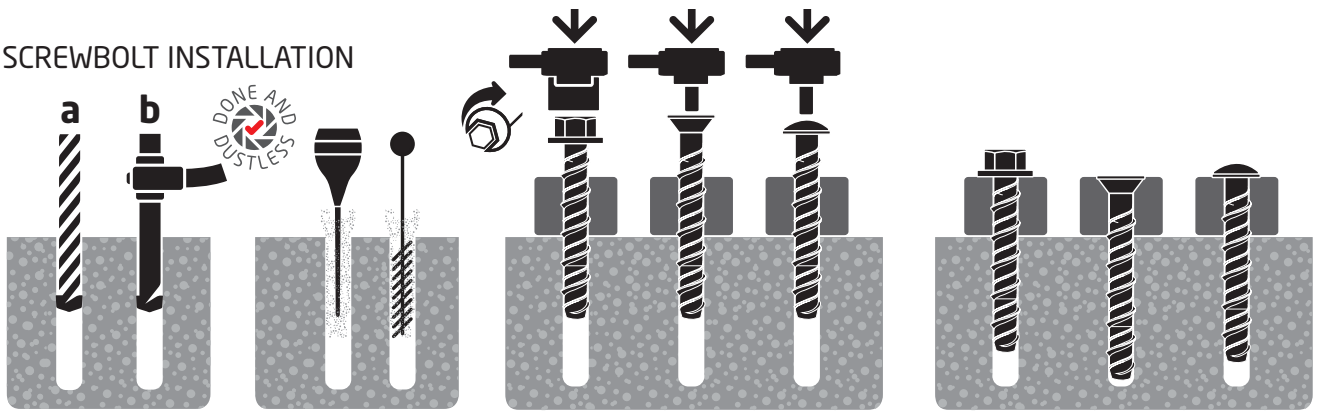
= Impact screwdriver maximum torque capacity, excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation torque - refer page 4.

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 C1 (kN) C2 (kN)		Non-cracked Concrete (kN)	Cracked Concrete (kN)	SEISMIC 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				120	13.4	10.1	8.0	1.6	13.6	10.9	6.8		7.9	
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				130	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				130	22.8	15.9			33.6	31.9				
		100	80				150	29.7	20.8	17.7	4.7	33.6	16.8	25.3			70
TSM 14	14	75	58	18	80	130	18.3	12.8			18.3	12.8			650	50	50
		100	79				150	29.1	20.4			44.8	40.8				
		115	92				170	36.6	25.6	21.8	7.0	44.8	17.9	32.6			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 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.