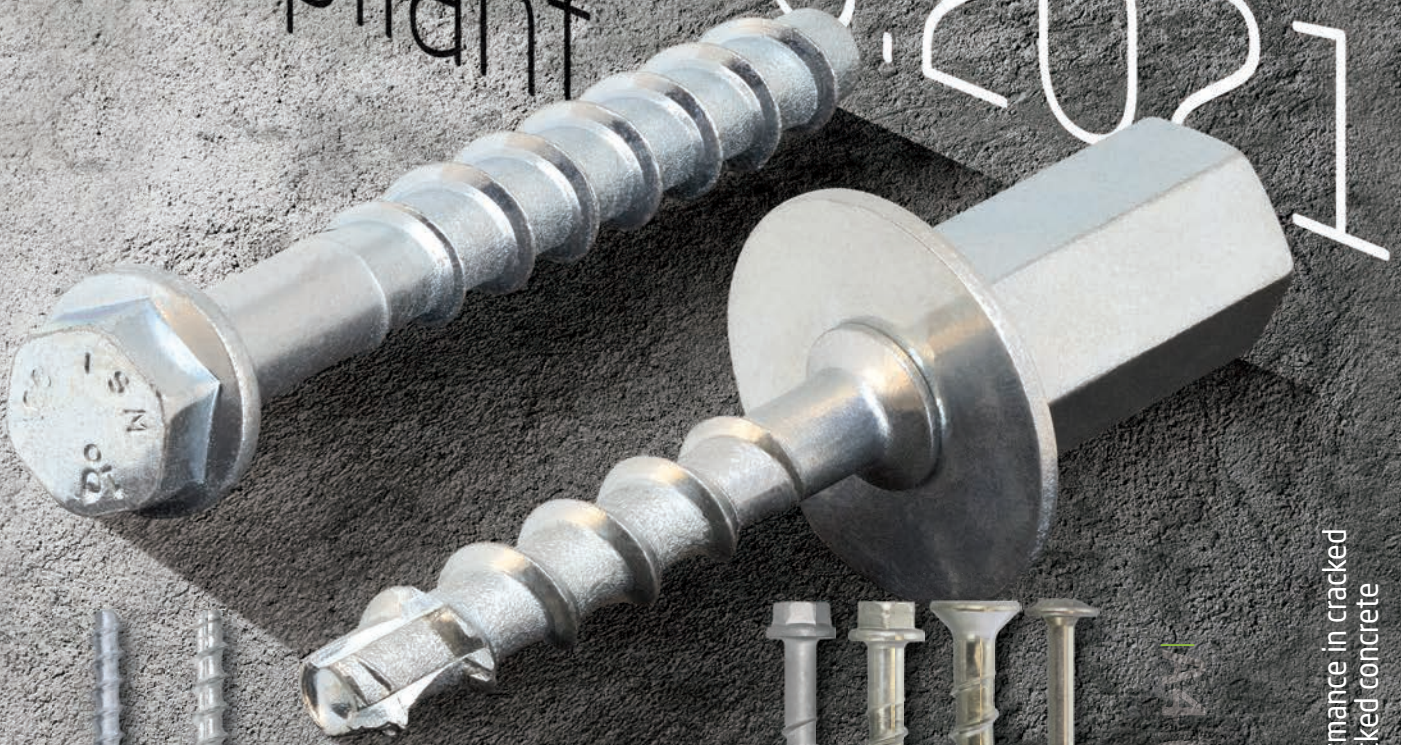


AS 5216:2021
Compliant



NEW WITH SEISMIC C2* PERFORMANCE
(*C2 for carbon steel only)



ZINC



(316/A4)

Fire Rated performance in cracked and non-cracked concrete



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



Seismic Approved Fasteners



Fire Rated 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.



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



C2 Seismic Approved Fasteners (Carbon steel only)



Fire Rated Fasteners



AS 5216



Made in Germany

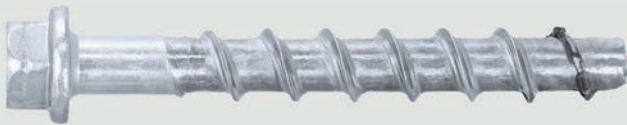


ICCONS Design PRO

TOGE TSM HIGH PERFORMANCE Hex Head Screw-Bolts

Ceiling Angle Bracket
Refer to ICCONS product guide (IPG) for further details.

1/2" Impact Sockets
Refer to ICCONS product guide (IPG) for further details.



Carbon Steel Zinc Clear - Internal Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Socket Part No.	Max. Impact Tool Torque T _{max} (Nm)	ETA Option	SEISMIC Assessment	qty
TSM06043	6x43mm	6	45	40	3	8	13	BTISS1338	160	Option 1 & RNSS	C1	100
TSM06050	6x50mm				10							100
TSM06060	6x60mm				20							100
TSM06080	6x80mm				40							100
TSM08050	8x50mm	8	55	45	5	12	13	BTISS1338	300	Option 1	n/a	50
TSM08060	8x60mm				15							50
TSM08070	8x70mm		5	50								
TSM08080	8x80mm	75	65	65	15	12	13	BTISS1338	300	Option 1	C1 & C2	50
TSM08100	8x100mm				35							50
TSM10060	10x60mm	10	65	55	5	14	15	BTISS1538	400	Option 1	C1	50
TSM10080	10x80mm				25							50
TSM10090	10x90mm		5	50								
TSM10100	10x100mm	95	85	85	15	14	15	BTISS1538	400	Option 1	C1 & C2	50
TSM10120	10x120mm				35							50
TSM12080	12x80mm	12	75	65	15	16	17	BTISS1738	650	Option 1	n/a	25
TSM12110	12x110mm		110	100	10							Option 1
TSM14080	14x80mm	14	85	75	5	18	21	BTISS2138	650	Option 1	n/a	25
TSM14150	14x150mm		125	115	35							Option 1

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

C2 Seismic assessment (Carbon steel) only valid for the following embedment depths: TSM08 - 65mm / TSM10 - 85mm / TSM12 - 100mm / TSM14 - 115mm

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



Made in Germany



ICCONS Design PRO

TOGE TSM HIGH PERFORMANCE Hex Head Screw-Bolts



1/2" Impact Sockets
Refer to ICCONS product guide (IPG) for further details.



316 SS A4 - Stainless Steel - External Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Socket Part No.	Max. Impact Tool Torque T _{max} (Nm)	ETA Option	SEISMIC Assessment	qty
TSM06050SS	6x50mm	6	45	40	10	8	13	BTISS1338	160	Option 1 & RNSS	C1	100
TSM06060SS	6x60mm				20							100
TSM08070SS	8x70mm	8	75	65	5	12	13	BTISS1338	300	Option 1	C1	50
TSM08080SS	8x80mm				15							50
TSM10090SS	10x90mm	10	65	55	35	14	15	BTISS1538	400	Option 1	C1	50
TSM10100SS	10x100mm				45							50
TSM10120SS	10x120mm				65							50

C1 Seismic assessment (Carbon steel & stainless steel) only valid for the following embedment depths: TSM06 - 40mm + 55mm / TSM08 - 65mm / TSM10 - 55mm + 85mm
Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



Made in Germany



ICCONS Design PRO

TOGE TSM HIGH PERFORMANCE

Pan Head Screw-Bolts



Ceiling Angle Bracket

Refer to ICCONS product guide (IPG) for further details.



T30 Torx Impact Driver

Refer to ICCONS product guide (IPG) for further details.



FASTDRIVE

Refer to ICCONS product guide (IPG) for further details.



Carbon Steel Zinc Clear - Internal Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Driver Part No.	Max. Impact Tool Torque T _{max} (Nm)	ETA Option	SEISMIC Assessment	qty
TSMP06050	6x50mm	6	45	40	10	8	T30 VZ30	BT1050T30	160	Option 1 & RNSS	C1	100
TSMP06060	6x60mm				20							100
TSMP06080	6x80mm				40							100
TSMP06100	6x100mm				60							100

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



Made in Germany



ICCONS Design PRO

TOGE TSM HIGH PERFORMANCE

Pan Head Screw-Bolts



T30 Torx Impact Driver

Refer to ICCONS product guide (IPG) for further details.



FASTDRIVE

Refer to ICCONS product guide (IPG) for further details.



316 SS A4 - Stainless Steel - External Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Driver Part No.	Max. Impact Tool Torque T _{max} (Nm)	ETA Option	SEISMIC Assessment	qty
TSMP06050SS	6x50mm	6	45	40	10	8	T30 VZ30	BT1050T30	160	Option 1 & RNSS	C1	100
TSMP06060SS	6x60mm				20							100
TSMP06080SS	6x80mm				40							100
TSMP06100SS	6x100mm				60							100

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



AS 5216:2021 COMPLIANT

TDS | 1018.16



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



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ICCONS Design PRO

T30 Torx Impact Driver
Refer to ICCONS product guide (IPG) for further details.



FASTDRIVE
Refer to ICCONS product guide (IPG) for further details.



TOGE TSM HIGH PERFORMANCE

Countersunk Head Screw-Bolts



Carbon Steel Zinc Clear - Internal Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Driver Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty
TSMC06060	6x60mm	6	45	40	20	8	T30 VZ30	BTI050T30	160	Option 1 & RNSS	C1	100
TSMC06080	6x80mm				40							100
TSMC06100	6x100mm				60							100

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



Made in Germany



ICCONS Design PRO

T30 | T40 | T50 Torx Impact Driver
Refer to ICCONS product guide (IPG) for further details.



FASTDRIVE
Refer to ICCONS product guide (IPG) for further details.



TOGE TSM HIGH PERFORMANCE

Countersunk Head Screw-Bolts



316 SS A4 - Stainless Steel - External Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Driver Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty
TSMC06050SS	6x50mm	6	45	40	10	8	T30/VZ30	BTI050T30	160	Option 1 & RNSS	C1	100
TSMC06065SS	6x65mm				25							100
TSMC06085SS	6x85mm				45							100
TSMC06105SS	6x105mm				65							100
TSMC08080SS	8x80mm	8	75	65	15	12	T40/VZ40	BTI050T40	300	Option 1	C1	50
TSMC10090SS	10x90mm	10	65	55	35	14	T50/VZ50	BTI050T50	400	Option 1	C1	50

C1 Seismic approval only valid for the following embedment depths: TSM06 - 40mm +55mm / TSM08 - 65mm / TSM10 - 55mm + 85mm

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



AS 5216:2021 COMPLIANT

TDS | 1018.16



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



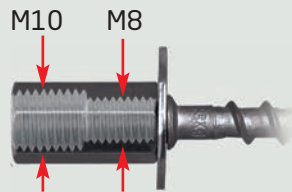
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ICCONS Design PRO

TOGE TSM IM

Threaded Rod Hanger



1/2" Impact Sockets
Refer to ICCONS product guide (IPG) for further details.



Carbon Steel Zinc Clear - Internal Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Head Size (mm)	Internal Thread (metric)	Driver Part No.	Installation Torque Tinst (Nm)	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty
TSMIM06040ZG (344 106 040)	6x40mm Rod Hanger	6	45	13	M8 / M10	BTIDS1378	10	160	Option 1 & RNSS	C1	50
TSMIM06055ZG (344 106 055)	6x55mm Rod Hanger	6	60	13	M8 / M10	BTIDS1378	10	160	Option 1 & RNSS	C1	50

Note: Max. power output of impact screw gun | Option 1 = ETA Option 1 = AS 5216 Compliant

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



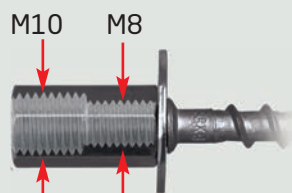
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ICCONS Design PRO

TOGE TSM IM

Threaded Rod Hanger



1/2" Impact Sockets
Refer to ICCONS product guide (IPG) for further details.



316 SS A4 - Stainless Steel - External Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Head Size (mm)	Internal Thread (metric)	Driver Part No.	Installation Torque Tinst (Nm)	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty
TSMIM06040SS (844 006 040)	6x40mm Rod Hanger	6	45	13	M8 / M10	BTIDS1378	10	160	Option 1 & RNSS	C1	50
TSMIM06055SS (844 006 055)	6x55mm Rod Hanger On request - lead times apply	6	60	13	M8 / M10	BTIDS1378	10	160	Option 1 & RNSS	C1	50

Note: Max. power output of impact screw gun | Option 1 = ETA Option 1 = AS 5216 Compliant

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.



AS 5216:2021 COMPLIANT

TDS | 1018.16



National Code Compliant



European Technical Assessment



Cracked Concrete Approved



C1 Seismic Approved Fasteners (Carbon steel & stainless steel)



Fire Rated Fasteners



AS 5216



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ICCONS Design PRO

TOGE TSM B



1/2" Impact Sockets
Refer to ICCONS product guide (IPG) for further details.



Carbon Steel Zinc Clear - Internal Use

Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Head Size (mm)	External Thread (metric)	Driver Part No.	Installation Torque Tinst (Nm)	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty
TSMB06040ZG (355 1006 040)	6x40mm M8 Ext Thread	6	45	10	M8 External	BTIDS1078	10	160	Option 1 & RNSS	C1	100
TSMB06055ZG (355 006 055)	6x55mm M8 Ext Thread		60	10		BTIDS1078		160			100
TSMB06040ZG-M10	6x40mm M10 Ext Thread		45	13	M10 External	BTIDS1378	160	100			

* Max. power output of impact screw gun | Option 1 = ETA Option 1 = AS 5216 Compliant

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.

ICCONS® Coupler Nut



1/2" Impact Sockets
Refer to ICCONS product guide (IPG) for further details.

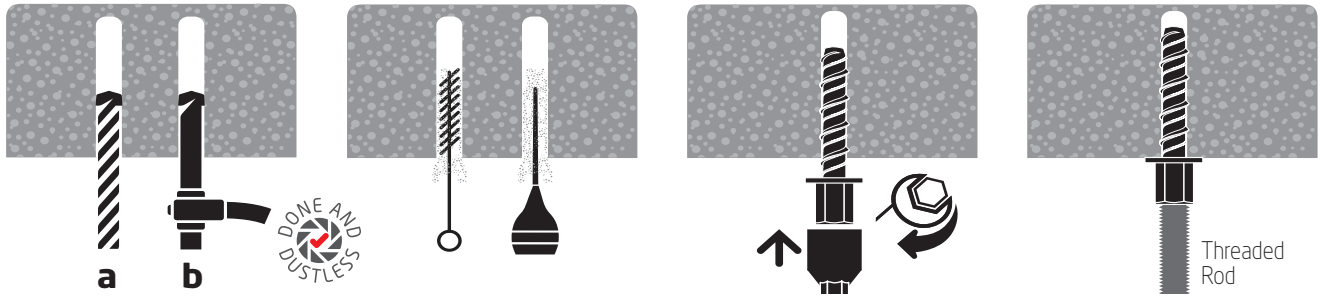


Carbon Steel Zinc Clear - Internal Use

Part No.	Description	Head Size (mm)	Internal Thread (metric)	Driver Part No.	qty
CPLRM8-M12	M8 to M12 Coupler Nut	16	M8 to M12	BTIDS1678	100

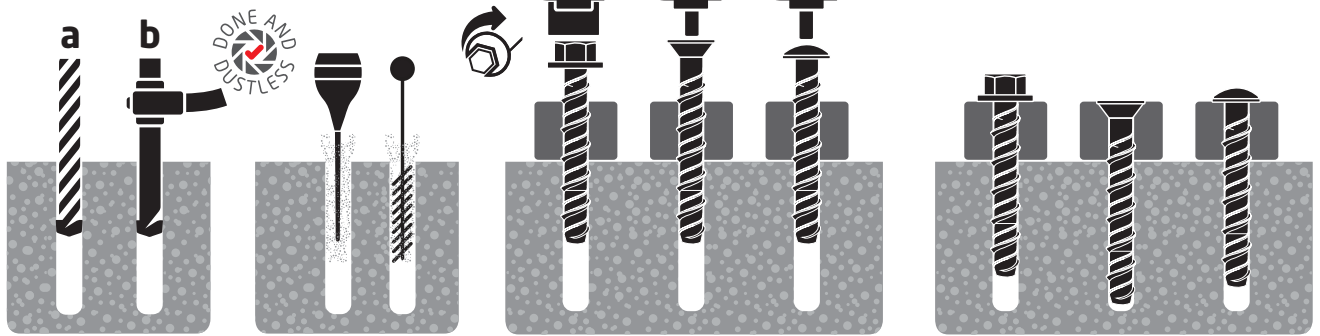


HANGER INSTALLATION



- 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		
							Non-cracked Concrete (kN)	Cracked Concrete (kN)	SEISMIC		Non-cracked Concrete (kN)	Cracked Concrete (kN)	SEISMIC		Impact Screw Driver Max. Torque (Nm)	Minimum Edge Distance (mm)	Minimum Spacing Distance (mm)
									C1*	C2*			C1*	C2*			
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
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			27.0						
		85	68				130	21.0	16.3	13.8	3.6	27.2	27.2				12.2
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			31.9						
		100	80				150	29.7	20.8	17.7	4.7	33.6	33.6				16.8
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			40.8					
		115	92				170	36.6	25.6	21.8	7.0	44.8	44.8				17.9

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.

* C1 valid for carbon steel and stainless steel TSM. * C2 valid for carbon steel TSM ONLY.