



TDS | 1032.14

THUNDERBOLT® PRO SCREW-BOLT ANCHOR



THUNDERBOLT® PRO





THUNDERBOLT® PRO SCREW-BOLT ANCHOR

FEATURES

- Optimum high-performance concrete and masonry screw-bolt anchor
- AS 5216:2021 compliant
- ETA assessed for cracked concrete and fire performance
- Flanged hex head design with “lightning bolt” locking serrations for a secure fix
- Also available in CSK, internal thread, external thread, pan and truss head designs
- Stamped head markings for easy identification and traceability
- Zinc, galvanised, Stainless Steel and corrosion resistant Nautilus® C coating options (refer to offering)
- Fast installation at reduced torque
- No expansion, ideal for close to edge applications
- Suitable for installation with impact drivers
- Removable
- Tamperproof option
- Available on ICCONS Design Pro AS 5216:2021 compliant software

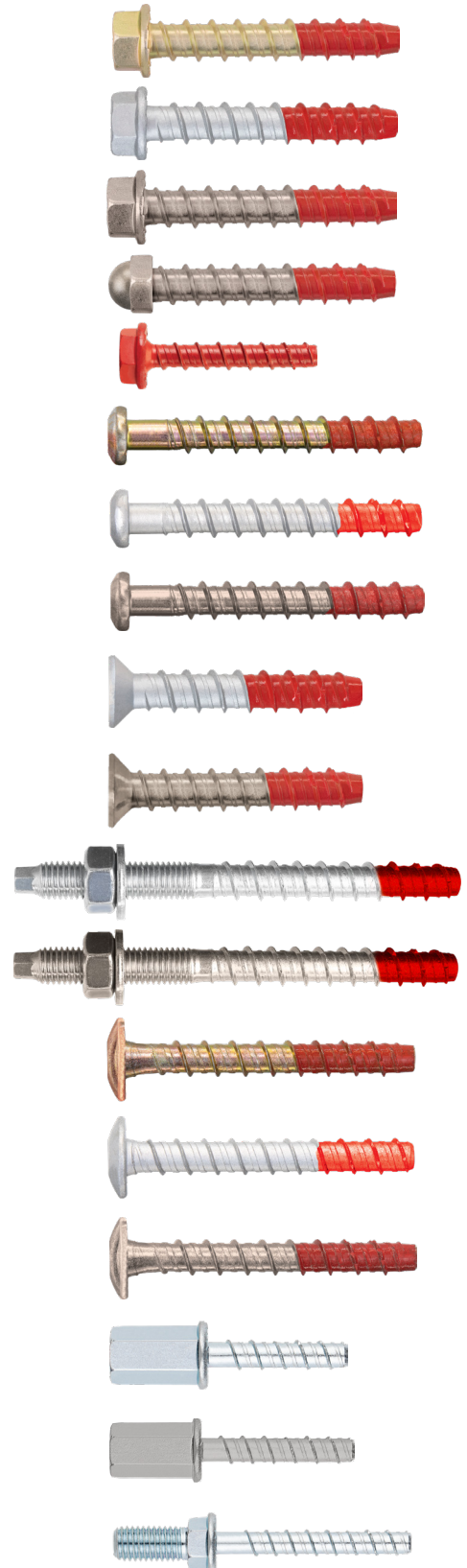
APPLICATIONS

- Structural fixings in cracked and uncracked concrete.
- Glazing, windows and storefronts
- Racking and shelving
- Attaching railings, handrails and balustrades
- Timber frame construction to concrete
- Steel frame construction to concrete
- Façades, scaffolding. Stadium seating
- HVAC and fire services

ETA 20/0902-Option 1

ETA 20/0901 (RNSS)

RNSS = Redundant Non-Structural Systems





RANGE IDENTIFICATION

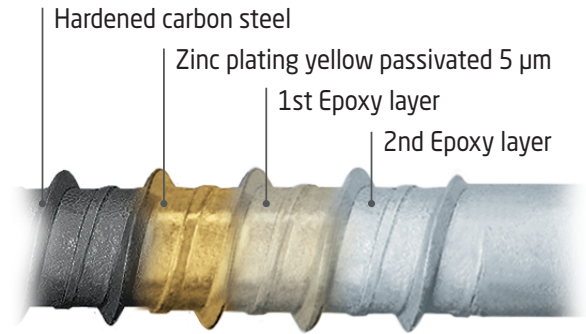
Code	Size		Description	Material
SXTB_____	Ø5 - Ø18		Hexagonal head with flange Screw-Bolt anchor	Carbon Steel Zinc Yellow Coating ≥ 5 µm plus Red Tip
SXTB_____G	Ø5 - Ø18		Hexagonal head with flange Screw-Bolt anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip Transitioning to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.
SXTB_____SS	Ø6 - Ø12		Hexagonal head with flange Screw-Bolt anchor	Shaft and Head-316 (A4) & Tip- Hardened carbon steel
SXTBD_____SS	Ø6 - Ø12		Dome Hexagonal head with flange Screw-Bolt anchor	Shaft and Head-316 (A4) & Tip-hardened carbon steel
SXTBCS_____G	Ø6 - Ø12		Countersunk Screw-Bolt anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip Transitioning to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.
SXTBCS_____SS	Ø6 - Ø12		Countersunk Screw-Bolt anchor	Shaft and Head-316 (A4) & Tip- Hardened carbon steel
SXTBTS_____G-M_____	Ø8 - Ø14		Thru-Screw Screw-Bolt anchor	Carbon Steel Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average)
SXTBTS_____SS-M_____	Ø8 - Ø10		Thru-Screw Screw-Bolt anchor	Shaft and Head-316 (A4) & Tip- Hardened carbon steel
SXTBP_____	Ø8		Pan Head Screw-Bolt anchor	Carbon steel zinc yellow coating ≥ 5 µm plus Red Tip
SXTBP_____G	Ø8		Pan Head Screw-Bolt anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip Transitioning to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.
SXTBP_____SS	Ø8		Pan Head Screw-Bolt anchor	Shaft and Head-316 (A4) & Tip- Hardened carbon steel
SXTBTR_____	Ø6		Truss Head Screw-Bolt anchor	Carbon steel zinc yellow coating ≥ 5 µm plus Red Tip
SXTBTR_____G	Ø6		Truss Head Screw-Bolt anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip Transitioning to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.
SXTBTR_____SS	Ø6		Truss Head Screw-Bolt anchor	Shaft and Head-316 (A4) & Tip- Hardened carbon steel
SXTB-IM_____	Ø6 - Ø8		Rod hanger internal thread Screw-Bolt anchor	Carbon steel, zinc clear plated coating ≥ 5 µm
SXTB-IM_____G	Ø6 - Ø8		Rod hanger internal thread Screw-Bolt anchor	Carbon Steel Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average)
SXTB-B_____	Ø6		Rod hanger external thread Screw-Bolt anchor	Carbon steel, zinc clear plated coating ≥ 5 µm
SXTBTH_____G	Ø6		Hex Track Hawk™ Screw-Bolt anchor	Carbon Steel NAUTILUS®C Coating (Red)

Note: Corrosion performance of the Thunderbolt PRO and coatings should be reviewed and determined in accordance with AEFAC TN 15 (Durability of Fasteners).



ICCONS NAUTILUS® C CORROSION RESISTANT COATING

Nautilus® C corrosion resistant coating is a multi layered corrosion resistant coating designed for indoor applications as well as outdoor applications based on urban and industrial atmospheres, moderate sulfur dioxide pollution and coastal areas with low salinity. This is typically covered in EN ISO 12944-2, corrosivity category environment C3 and durability range HIGH according to EN ISO 12944-1. Under these conditions the Nautilus® C coating offers a typical minimum life expectancy of between 15 to 25 yrs. This information is based on testing in accordance with EN ISO 12944.6 and provides average life expectancy data for typical applications. The final decision on coating suitability should be made by the customer/design professional responsible for the application and based on local specific environmental conditions.





THUNDERBOLT® PRO HEX HEAD

ZINC YELLOW - INTERNAL USE



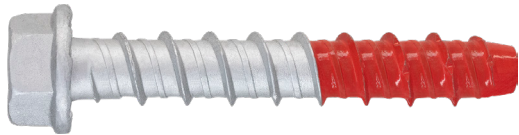
Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Socket Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.									
SXTB05050	5 x 50mm	5	45	35	15	8	8	BTISS0838	250	RNSS	n/a	100	1600									
SXTB06040	6 x 40mm	6	45	35	5	9	10	BTISS1038	250	Option 1 & RNSS	n/a	100	1200									
SXTB06045	6 x 45mm		50	40	5					Option 1	C1	100	1200									
SXTB06050	6 x 50mm				10					100		1200										
SXTB06060	6 x 60mm		65	55	5					Option 1 & RNSS	C1	100	600									
SXTB06075	6 x 75mm				20							100	600									
SXTB06100	6 x 100mm				45							100	600									
SXTB08055	8 x 55mm		8	60	50					5	12	13	BTISS1338	350	Option 1	C1 & C2	100	600				
SXTB08060	8 x 60mm	10				100	600															
SXTB08070	8 x 70mm	20				100	400															
SXTB08075	8 x 75mm	25				100	400															
SXTB08100	8 x 100mm	35				100	400															
SXTB08140	8 x 140mm	75				65	75	25	150													
SXTB10060	10 x 60mm	10				65	55	5	14	17							BTISS1738	600	Option 1	C1 & C2	50	300
SXTB10075	10 x 75mm		20	50	300																	
SXTB10090	10 x 90mm		5	50	200																	
SXTB10100	10 x 100mm		15	50	200																	
SXTB10120	10 x 120mm		95	85	35			C1 & C2			50	200										
SXTB10150	10 x 150mm		65	25	100																	
SXTB10200	10 x 200mm		115	25	100																	
SXTB12080	12 x 80mm	12	90	75	5	16	19	BTISS1938	600	Option 1	C1 & C2	50	200									
SXTB12100	12 x 100mm				25							50	100									
SXTB12120	12 x 120mm				15							25	150									
SXTB12150	12 x 150mm				45							25	100									
SXTB12200	12 x 200mm				95							20	80									
SXTB14080	14 x 80mm				14							90	75	5	18	21	BTISS2138	600	Option 1	C1 & C2	25	150
SXTB14100	14 x 100mm													25							25	150
SXTB14130	14 x 130mm	15	25	100																		
SXTB14150	14 x 150mm	35	25	100																		
SXTB16100	16 x 100mm	16	100	80		20	20	24	BTISS2440	600	Option 1			Pending							15	90
SXTB16150	16 x 150mm					70															15	60
SXTB16200	16 x 200mm					80															10	40
SXTB18100	18 x 100mm				110	90						10	C1 & C2		20	26	BTISS2643	600	Option 1	C1 & C2	20	80
SXTB18150	18 x 150mm				160	140						30									15	60
SXTB18170	18 x 170mm											60									15	60
SXTB18200	18 x 200mm				10	10						40										
SXTB18300	18 x 300mm	160	5	20																		

Max. power output of impact screw gun | RNSS = ETA Redundant non-structural systems | 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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm / Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 12 - 115mm / Anchor size 18 - 140mm C2
 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 12 - 105mm / Anchor size 14 - 115mm / Anchor size 18 - 140mm



THUNDERBOLT® PRO HEX HEAD

■ NAUTILUS®C - EXTERNAL USE



SXTBTH06043G*

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 Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTB05050G	5 x 50mm	5	45	35	15	8	8	BTISS0838	250	RNSS	n/a	100	1600
SXTB06040G	6 x 40mm		45	35	5		10	BTISS1038		Option 1 & RNSS	n/a	100	1200
SXTBTH06043G*	6 x 43mm		50	40	3		13Ext / T30Int	BTISS1338				100	500
SXTB06045G	6 x 45mm		50	40	5	9	10	BTISS1038	250	Option 1 & RNSS	C1	100	1200
SXTB06050G	6 x 50mm	10			100							1200	
SXTB06060G	6 x 60mm	6			5							100	600
SXTB06075G	6 x 75mm		65	55	20					Option 1 & RNSS	C1	100	600
SXTB06100G	6 x 100mm				45	100	600						
SXTB06150G*	6 x 150mm		60	50	95							50	300
SXTB08055G	8 x 55mm		60	50	5	12	13	BTISS1338	350	Option 1	C1 & C2	100	600
SXTB08060G	8 x 60mm				10							100	600
SXTB08070G	8 x 70mm	8			20							100	400
SXTB08075G	8 x 75mm				25							100	400
SXTB08100G	8 x 100mm		75	65	35							25	150
SXTB08130G*	8 x 130mm				65	25	150						
SXTB08140G	8 x 140mm				75							25	150
SXTB10060G	10 x 60mm		65	55	5	14	17	BTISS1738	600	Option 1	n/a	50	300
SXTB10075G	10 x 75mm				20							50	300
SXTB10090G	10 x 90mm	10			5							50	200
SXTB10100G	10 x 100mm		95	85	15							50	200
SXTB10120G	10 x 120mm				35	50	200						
SXTB10150G	10 x 150mm				65							25	100
SXTB10200G	10 x 200mm				115							25	100
SXTB12080G	12 x 80mm		90	75	5	16	19	BTISS1938	600	Option 1	n/a	50	200
SXTB12100G	12 x 100mm				25							50	100
SXTB12110G	12 x 110mm	12			5							25	150
SXTB12120G	12 x 120mm		120	105	15							25	150
SXTB12150G	12 x 150mm				45	100	100						
SXTB12200G	12 x 200mm				95							20	80
SXTB14080G	14 x 80mm		90	75	5	18	21	BTISS2138	600	Option 1	n/a	25	150
SXTB14100G	14 x 100mm				25							100	100
SXTB14130G	14 x 130mm	14			15							25	100
SXTB14150G	14 x 150mm		130	115	35							25	100
SXTB16100G	16 x 100mm				20	100	100						
SXTB16150G	16 x 150mm	16	100	80	70	20	24	BTISS2440	600	Option 1	Pending	15	60
SXTB16200G	16 x 200mm		140	120	80							10	40
SXTB18100G	18 x 100mm		110	90	10	22	26	BTISS2643	600	Option 1	n/a	20	80
SXTB18150G	18 x 150mm				15							100	100
SXTB18170G	18 x 170mm	18			30							15	60
SXTB18200G	18 x 200mm		160	140	60							10	40
SXTB18300G	18 x 300mm				160	100	100						

NOTE: Nautilus C coating will transition to a corresponding Mechanical Galvanized coating. A combination of both coatings will be available during this period. Except for SXTBTH06043G which retains the Nautilus C coating

Max. power output of impact screw gun | RNSS = ETA Redundant non-structural systems | 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 max. impact torque tool settings.

C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm / Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 12 - 105mm / Anchor size 14 - 115mm / Anchor size 18 - 140mm C2

Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 12 - 105mm / Anchor size 14 - 115mm / Anchor size 18 - 140mm

* Available in New Zealand



THUNDERBOLT® PRO HEX HEAD

■ STAINLESS STEEL 316 (A4) - EXTERNAL USE



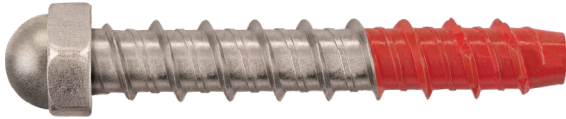
Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Socket Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTB06045SS	6 x 45mm	6	50	40	5	9	10	BTISS1038	250	Option 1	C1	100	1200
SXTB06050SS	6 x 50mm				10							100	600
SXTB06060SS	6 x 60mm		65	55	5							100	600
SXTB06075SS	6 x 75mm				20							100	600
SXTB06100SS	6 x 100mm				45							100	400
SXTB08055SS	8 x 55mm	8	60	50	5	12	13	BTISS1338	600	Option 1	C1	100	600
SXTB08070SS	8 x 70mm				5							100	400
SXTB08075SS	8 x 75mm				10							100	400
SXTB08090SS	8 x 90mm		75	65	25							100	400
SXTB08100SS	8 x 100mm				35							100	400
SXTB10060SS	10 x 60mm	10	65	55	5	14	17	BTISS1738	600	Option 1	C1	50	300
SXTB10075SS	10 x 75mm				20							50	200
SXTB10080SS	10 x 80mm				25							50	200
SXTB10090SS	10 x 90mm		95	85	5							50	200
SXTB10100SS	10 x 100mm				15							50	200
SXTB10110SS	10 x 110mm				25							50	200
SXTB10120SS	10 x 120mm				35							50	200
SXTB10140SS*	10 x 140mm				55							25	100
SXTB12080SS	12 x 80mm				12							90	75
SXTB12100SS	12 x 100mm	25	50	100									
SXTB12120SS	12 x 120mm	120	105	15		25	150						
SXTB12150SS*	12 x 150mm			45		25	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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm / Anchor size 8 - 50mm & 65mm / Anchor size 10 - 55 & 85mm / Anchor size 12 - 75 & 105mm
 * Available in New Zealand



THUNDERBOLT® PRO DOME HEX HEAD

■ STAINLESS STEEL 316 (A4) - EXTERNAL USE



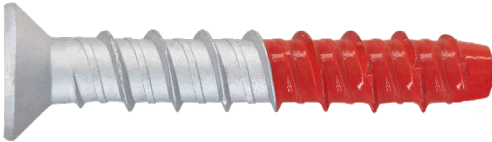
Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Head Size (mm)	Socket Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBD06050SS	6 x 50mm	6	50	40	10	9	10	BTISS1038	250	Option 1	C1	100	600
SXTBD08075SS	8 x 75mm	8	75	65	10	12	13	BTISS1338	600	Option 1	C1	100	400
SXTBD10075SS	10 x 75mm	10	65	55	20	14	17	BTISS1738	600	Option 1	C1	50	200
SXTBD12100SS	12 x 100mm	12	90	75	25	16	19	BTISS1938	600	Option 1	C1	50	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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40mm / Anchor size 8 - 65mm / Anchor size 10 - 55mm / Anchor size 12 - 75mm



THUNDERBOLT® PRO COUNTERSUNK HEAD

■ NAUTILUS® C - EXTERNAL USE



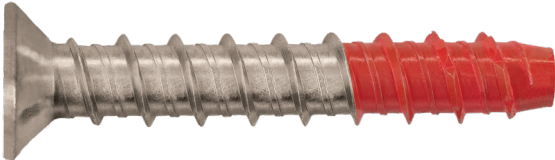
Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Dia. of CSK Drill Size (mm)	CSK Head Height (mm)	Drive Type Driver (Torx)	Torx Impact Tool Torque Part No.	Max. Impact T _{max} (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBCS06050G	6 x 50mm	6	50	40	10	9	15	4.5	T30	BTI050T30	250	Option 1	C1	100	1200
SXTBCS06075G	6 x 75mm		65	55	20							Option 1 & RNSS		100	600
SXTBCS06100G	6 x 100mm		45	100	600										
SXTBCS08060G	8 x 60mm	8	60	50	10	12	21	6.5	T45	BTI050T45	350	Option 1	C1 & C2	100	600
SXTBCS08075G	8 x 75mm				25									100	400
SXTBCS08100G	8 x 100mm				50									100	400
SXTBCS08130G	8 x 130mm				65									50	200
SXTBCS10060G	10 x 60mm	10	65	55	5	14	24.5	7.3	T50	BTI050T50	600	Option 1	n/a	50	200
SXTBCS10065G	10 x 65mm				10									50	200
SXTBCS10075G	10 x 75mm				20									50	200
SXTBCS10100G	10 x 100mm				15								50	200	
SXTBCS12085G	12 x 85mm	12	90	75	10	16	28	8	T55	BTI050T55	600	Option 1	n/a	50	200
SXTBCS12100G	12 x 100mm				25									50	200
SXTBCS12150G	12 x 150mm				45								20	120	

Max. power output of impact screw gun | RNSS = ETA Redundant non-structural systems | 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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm / Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 12 - 105mm
 C2 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 12 - 105mm
 Transitioning from Nautilus C to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.



THUNDERBOLT® PRO COUNTERSUNK HEAD

■ STAINLESS STEEL 316 (A4) - 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)	Dia. of CSK Drill Size (mm)	CSK Head Height (mm)	Drive Type Driver (Torx)	Torx Impact Tool Torque Part No.	Max. Impact T _{max} (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBCS06050SS	6 x 50mm	6	50	40	10	9	15	4.5	TX30	BTI050T30	250	Option 1	C1	100	1200
SXTBCS06075SS	6 x 75mm				20									100	600
SXTBCS06080SS	6 x 80mm		65	55	25									100	600
SXTBCS06100SS	6 x 100mm				45									100	400
SXTBCS08075SS	8 x 75mm	8	60	50	25	12	21	6.5	TX45	BTI050T45	600	Option 1	C1	100	400
SXTBCS08090SS	8 x 90mm				25									100	400
SXTBCS08095SS	8 x 95mm		75	65	30									100	400
SXTBCS08100SS	8 x 100mm				35									100	400
SXTBCS10075SS	10 x 75mm	10	65	55	20	14	24.5	7.3	TX50	BTI050T50	600	Option 1	C1	50	200
SXTBCS10100SS	10 x 100mm				15									50	200
SXTBCS10120SS	10 x 120mm		95	85	35									50	200
SXTBCS10150SS	10 x 150mm				65									25	150
SXTBCS12100SS	12 x 100mm	12	90	75	25	16	28	8	TX55	BTI050T55	600	Option 1	C1	50	200
SXTBCS12150SS	12 x 150mm		120	105	45									20	120

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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm / Anchor size 8 - 50mm & 65mm / Anchor size 10 - 55 & 85mm / Anchor size 12 - 75 & 105mm



THUNDERBOLT® PRO THRU-SCREW

MECHANICAL GALVANISED - 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)	External Thread (metric)	Nut Across Flat (mm)	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBTS08110G-M10-29	Ø8 x 110 (M10)	8	75	65	29	12	7	M10	17	350	Option 1	C1 & C2	25	250
SXTBTS08130G-M10-49	Ø8 x 130 (M10)	8	75	65	49	12	7	M10	17	350	Option 1	C1 & C2	25	250
SXTBTS10120G-M12-16	Ø10 x 120 (M12)	10	95	85	16	14	8	M12	19	600	Option 1	C1 & C2	25	150
SXTBTS10140G-M12-36	Ø10 x 140 (M12)	10	95	85	36	14	8	M12	19	600	Option 1	C1 & C2	25	150
SXTBTS14155G-M16-16	Ø14 x 155 (M16)	14	130	115	16	18	12	M16	24	600	Option 1	C1 & C2	25	50
SXTBTS14185G-M16-46	Ø14 x 185 (M16)	14	130	115	46	18	12	M16	24	600	Option 1	C1 & C2	25	50

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.

C1 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 14 - 115mm. C2 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm / Anchor size 10 - 85mm / Anchor size 14 - 115mm.



THUNDERBOLT® PRO THRU-SCREW

■ STAINLESS STEEL 316 (A4) - 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)	External Thread (metric)	Nut Across Flat (mm)	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBTS08110SS-M10-29	Ø8 x 110 (M10)	8	75	65	29	12	7	M10	17	600	Option 1	C1	25	250
SXTBTS08130SS-M10-49	Ø8 x 130 (M10)	8	75	65	49	12	7	M10	17	600	Option 1	C1	25	250
SXTBTS10120SS-M12-16	Ø10 x 120 (M12)	10	95	85	16	14	8	M12	19	600	Option 1	C1	25	150
SXTBTS10140SS-M12-36	Ø10 x 140 (M12)	10	95	85	36	14	8	M12	19	600	Option 1	C1	25	150

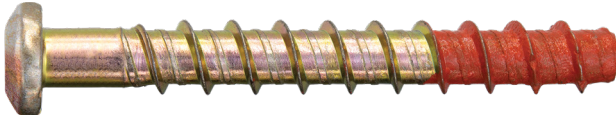
Option 1 = ETA Option 1 = AS 5216 Compliant

Excessive torque during installation may damage the anchor. Training, expertise and good judgment is required. Always adhere to anchor installation impact tool torque guidelines.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm / Anchor size 10 - 55 & 85mm.



THUNDERBOLT® PRO PAN HEAD

ZINC YELLOW - INTERNAL USE



Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embed. (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Drive Type (Torx)	Torx Impact Driver Part No.	Max. Impact Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBP08060	8 x 60mm	8	60	50	10	12	T45	BTI050T45	350	Option 1	C1 & C2	100	600
SXTBP08080	8 x 80mm		75	65	30							100	400
SXTBP080100	8 x 100mm		75	65	35							100	400

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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm
 C2 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm

THUNDERBOLT® PRO PAN HEAD

NAUTILUS® C - EXTERNAL USE

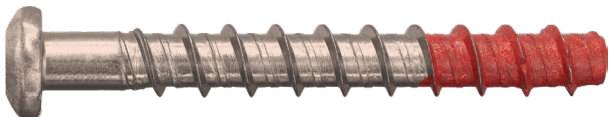


Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embed. (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Drive Type (Torx)	Torx Impact Driver Part No.	Max. Impact Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBP08060G	8 x 60mm	8	60	50	10	12	T45	BTI050T45	350	Option 1	C1 & C2	100	600
SXTBP08080G	8 x 80mm		75	65	30							100	400
SXTBP080100G	8 x 100mm		75	65	35							100	400

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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm
 C2 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm
 Transitioning from Nautilus C to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.

THUNDERBOLT® PRO PAN HEAD

STAINLESS STEEL 316 (A4) - EXTERNAL USE



Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embed. (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Drive Type (Torx)	Torx Impact Driver Part No.	Max. Impact Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBP08060SS	8 x 60mm	8	60	50	10	12	T45	BTI050T45	350	Option 1	C1 & C2	100	600
SXTBP08080SS	8 x 80mm		75	65	30							100	400
SXTBP080100SS	8 x 100mm		75	65	35							100	400

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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 8 - 50mm & 65mm



THUNDERBOLT® PRO TRUSS HEAD

■ ZINC YELLOW - INTERNAL USE

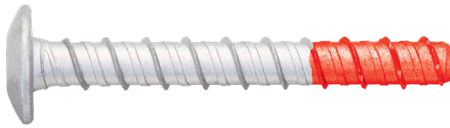


Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embed. (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Drive Type (Torx)	Torx Impact Driver Part No.	Max. Impact Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBTR06045	6 x 45mm	6	50	40	5	9	T30	BTI050T30	250	Option 1	C1	100	1200
SXTBTR06060	6 x 60mm		5	100	600								
SXTBTR06080	6 x 80mm		65	55	25					100		600	
SXTBTR06100	6 x 100mm		45	100	600								

Max. power output of impact screw gun | RNSS = ETA Redundant non-structural systems | 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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm

THUNDERBOLT® PRO TRUSS HEAD

■ NAUTILUS® C - EXTERNAL USE

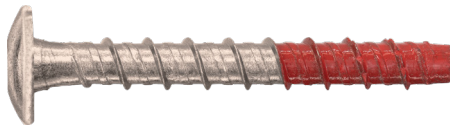


Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embed. (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Drive Type (Torx)	Torx Impact Driver Part No.	Max. Impact Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBTR06045G	6 x 45mm	6	50	40	5	9	T30	BTI050T30	250	Option 1	C1	100	1200
SXTBTR06060G	6 x 60mm		5	100	600								
SXTBTR06080G	6 x 80mm		65	55	25					100		600	
SXTBTR06100G	6 x 100mm		45	100	600								

Max. power output of impact screw gun | RNSS = ETA Redundant non-structural systems | 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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm
 Transitioning from Nautilus C to Mechanical Galvanised Zinc Coating ≥ 40 microns (min.) (45 microns average). Refer to packaging.

THUNDERBOLT® PRO TRUSS HEAD

■ STAINLESS STEEL 316 (A4) - EXTERNAL USE



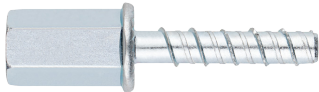
Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embed. (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Drive Type (Torx)	Torx Impact Driver Part No.	Max. Impact Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTBTR06045SS	6 x 45mm	6	50	40	5	9	T30	BTI050T30	250	Option 1	C1	100	1200
SXTBTR06060SS	6 x 60mm		5	100	600								
SXTBTR06080SS	6 x 80mm		65	55	25							100	600
SXTBTR06100SS	6 x 100mm		45	100	600								

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 max. impact torque tool settings.
 C1 Seismic assessment only valid for the following embedment depths: Anchor size 6 - 40 & 55mm



THUNDERBOLT® PRO ROD HANGERZ™

☐ CARBON STEEL ZINC CLEAR - INTERNAL USE



Part No.	Description	Drill Diameter (mm)	Drill Depth (mm)	Head / Socket Size (mm)	Internal Thread (metric)	Socket Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.		
SXTB-IM06035	6 x 35 Rod Hanger (M8/M10)	6	45	13	M8/ M10	HZCM10-D	250	Option 1 & RNSS	n/a	50	400		
SXTB-IM06035-BK	6 x 35 Rod Hanger (M8/M10) Bucket				M10					500	n/a		
SXTB-IM06040-M10	6 x 40 Rod Hanger (M10)		50		M10			HZCM10-D	250	Option 1	C1	100	400
SXTB-IM06040-M10-BK	6 x 40 Rod Hanger (M10) Bucket											500	n/a
SXTB-IM06055	6 x 55 Rod Hanger (M8/M10)		65		M8/ M10			HZCM10-D	250	Option 1 & RNSS	C1 & C2	50	400
SXTB-IM06055-BK	6 x 55 Rod Hanger (M8/M10) Bucket											500	n/a
SXTB-IM08050-M10	8 x 50 Rod Hanger (M10)	8	60	13	M10	HZCM10-D	350	Option 1	C1 & C2	100	400		
SXTB-IM08050-M12	8 x 50 Rod Hanger (M12)			17	M12					BTIDS1778	100	400	

RNSS = ETA Redundant non-structural systems | 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

THUNDERBOLT® PRO ROD HANGERZ™

■ MECHANICAL GALVANISED - EXTERNAL USE



Part No.	Description	Drill Diameter (mm)	Drill Depth (mm)	Head / Socket Size (mm)	Internal Thread (metric)	Socket Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTB-IM06040G-M10	6 x 40 ETA Rod Hanger (M10)	6	50	13	M10	HZCM10-D	250	Option 1	C1	100	400
SXTB-IM08050G-M10	8 x 50 ETA Rod Hanger (M10)	8	60	13	M10	HZCM10-D	350	Option 1	C1 & C2	100	400
SXTB-IM08050G-M12	8 x 50 ETA Rod Hanger (M12)			17	M12					BTIDS1778	100

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.

THUNDERBOLT® PRO HANGERZ™

☐ CARBON STEEL ZINC CLEAR - EXTERNAL THREAD



Part No.	Description	Drill Diameter (mm)	Drill Depth (mm)	Head / Socket Size (mm)	External Thread (metric)	Socket Part No.	Max. Impact Tool Torque Tmax (Nm)	ETA Option	SEISMIC Assessment	qty.	qty.
SXTB-B06040-M10	6 x 40 External Thread Hanger	6	50	13	M10	BTIDS1378	250	Option 1	C1	100	400

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.



INSTALLATION DATA

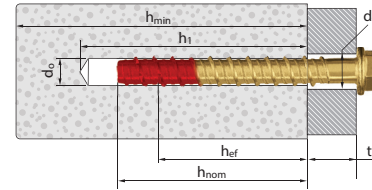
THUNDERBOLT® PRO HEX HEAD

■ ZINC YELLOW

■ NAUTILUS® C



SXTBTH06043G^



d_b : Nominal diameter of drill bit
 d_f : Fixture clearance hole diameter
 h_{ef} : Effective anchorage depth
 h_1 : Depth of drilled hole
 h_{nom} : Overall fastener embedment depth in the concrete
 h_{min} : Minimum thickness of concrete member
 t_{fix} : Fixture thickness



General Installation parameters			Standard Installation depth (hef, std)															Reduced Installation depth (hef, red)													
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_f (mm)	Spanner SW/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)					
SXTB05050/G	Ø5 x 50	RNSS ✓	5	8	SW 8	250	35	35	80	55	45	35.0	5	105	53	105	53	80	45	35	26.5	15	80	40	80	40					
SXTB06040/G	Ø6 x 40	✓	6	9	SW 10	250	35	35	-	-	-	-	-	-	-	-	-	100	45	35	26.0	5	78	39	90	45					
SXTBTH06043G	Ø6 x 43	✓			13 Ext/T30 Int				-	-	-	-	-	-	-	-	-										-	-	-	-	3
SXTB06045/G	Ø6 x 45	✓			-				-	-	-	-	-	-	-	-	-										-	-	-	-	5
SXTB06050/G	Ø6 x 50	✓			-				-	-	-	-	-	-	-	-	-										-	-	-	-	10
SXTB06060/G	Ø6 x 60	✓			SW 10				100	65	55	43.0	5	129	65	170	85										20				
SXTB06075/G	Ø6 x 75	✓			-				-	-	-	-	-	-	-	-	-										45	35			
SXTB06100/G	Ø6 x 100	✓			-				-	-	-	-	-	-	-	-	-										60	60			
SXTB08055/G	Ø8 x 55	✓	8	12	SW 13	350	35	35	-	-	-	-	-	-	-	-	-	100	60	50	37.5	25	113	57	130	65					
SXTB08060/G	Ø8 x 60	✓							-	-	-	-	-	-	-	-	-										-	10			
SXTB08070/G	Ø8 x 70	✓							5	20																					
SXTB08075/G	Ø8 x 75	✓							10	25																					
SXTB08100/G	Ø8 x 100	✓							35	50																					
SXTB08130G	Ø8 x 130	✓							65	80																					
SXTB08140/G	Ø8 x 140	✓							75	90																					
SXTB10060/G	Ø10 x 60	✓	10	14	SW 17	600	50	40	-	-	-	-	-	-	-	-	-	100	65	55	41.5	45	125	63	140	70					
SXTB10075/G	Ø10 x 75	✓							-	-	-	-	-	-	-	-	-										-	20			
SXTB10090/G	Ø10 x 90	✓							5	35																					
SXTB10100/G	Ø10 x 100	✓							15	45																					
SXTB10120/G	Ø10 x 120	✓							35	65																					
SXTB10150/G	Ø10 x 150	✓							65	95																					
SXTB10200/G	Ø10 x 200	✓							115	140																					

Note: Add "G" to the part no for Nautilus® C option, e.g. SXTB05050G.

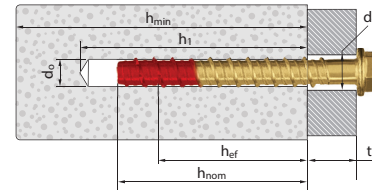
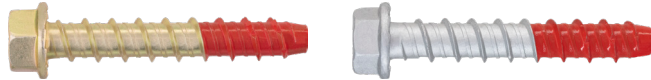


INSTALLATION DATA

THUNDERBOLT® PRO HEX HEAD

■ ZINC YELLOW

■ NAUTILUS® C



d_0 : Nominal diameter of drill bit
 d_1 : Fixture clearance hole diameter
 h_{ef} : Effective anchorage depth
 h_1 : Depth of drilled hole
 h_{nom} : Overall fastener embedment depth in the concrete
 h_{min} : Minimum thickness of concrete member
 t_{fix} : Fixture thickness



General Installation parameters							Standard Installation depth ($h_{ef, std}$)										Reduced Installation depth ($h_{ef, red}$)									
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_1 (mm)	Spanner SW/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTB12080/G	Ø12 x 80	✓	12	16	SW 19	600	75	45	-	-	-	-	-	-	-	-	-	120	90	75	58.0	5	174	87	190	95
SXTB12100/G	Ø12 x 100	✓							25																	
SXTB12110/G	Ø12 x 110	✓							35																	
SXTB12120/G	Ø12 x 120	✓							45																	
SXTB12150/G	Ø12 x 150	✓							75																	
SXTB12200/G	Ø12 x 200	✓							125																	
SXTB14080/G	Ø14 x 80	✓	14	18	SW 21	600	80	50	-	-	-	-	-	-	-	-	-	120	90	75	58.0	5	174	87	190	95
SXTB14100/G	Ø14 x 100	✓							25																	
SXTB14130/G	Ø14 x 130	✓							55																	
SXTB14150/G	Ø14 x 150	✓							75																	
SXTB16100/G	Ø16 x 100	✓	16	20	SW 24	600	80	50	-	-	-	-	-	-	-	-	-	115	100	80	58	20	174	87	180	90
SXTB16150/G	Ø16 x 150	✓							70																	
SXTB16200/G	Ø16x 200	✓							120																	
SXTB18100/G	Ø18 x 100	✓	18	22	SW 26	600	90	55	-	-	-	-	-	-	-	-	-	140	110	90	69.5	10	209	105	230	115
SXTB18150/G	Ø18 x 150	✓							60																	
SXTB18170/G	Ø18 x 170	✓							80																	
SXTB18200/G	Ø18 x 200	✓							110																	
SXTB18300/G	Ø18 x 300	✓							210																	

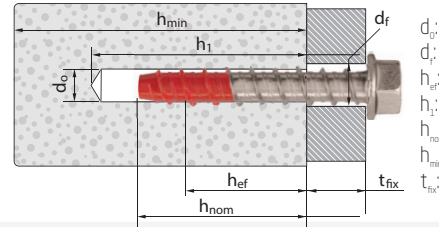
Note: Add "G" to the part no for Nautilus® C option, e.g. SXTB12080G



INSTALLATION DATA

THUNDERBOLT® PRO HEX HEAD

■ STAINLESS STEEL 316 (A4)



d_o : Nominal diameter of drill bit
 d_f : Fixture clearance hole diameter
 h_{ef} : Effective anchorage depth
 h_1 : Depth of drilled hole
 h_{nom} : Overall fastener embedment depth in the concrete
 h_{min} : Minimum thickness of concrete member
 t_{fix} : Fixture thickness



General Installation parameters

Standard Installation depth ($h_{ef, std}$)

Reduced Installation depth ($h_{ef, red}$)

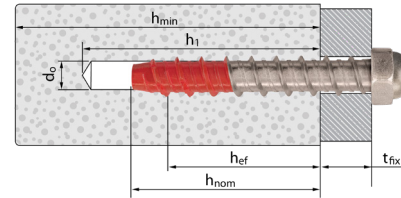
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_o (mm)	Fixture clearance hole d_f (mm)	Spanner SW/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Standard Installation depth ($h_{ef, std}$)								Reduced Installation depth ($h_{ef, red}$)																			
									Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)										
SXTB06045SS	Ø6 x 45	✓	6	9	SW 10	250	35	35	-	-	-	-	-	-	-	-	-	-	-	80	50	40	30.0	5	90	45	110	55								
SXTB06050SS	Ø6 x 50	✓							-	-	-	-	-	-	-	-	-	-	-										-	-	-	-	-	10		
SXTB06060SS	Ø6 x 60	✓							5	20	129	65	190	95	20																					
SXTB06075SS	Ø6 x 75	✓							45	20	129	65	190	95	35																					
SXTB06100SS	Ø6 x 100	✓							60																											
SXTB08055SS	Ø8 x 55	✓	8	12	S 13	350	35	35	-	-	-	-	-	-	-	-	-	-	-	80	60	50	37.5	5	113	57	130	65								
SXTB08070SS	Ø8 x 70	✓							-	-	-	-	-	-	-	-	-	-	-										-	-	-	-	-	20		
SXTB08075SS	Ø8 x 75	✓							10	25	152	76	220	110	10																					
SXTB08090SS	Ø8 x 90	✓							40	20	152	76	220	110	40																					
SXTB08100SS	Ø8 x 100	✓							50																											
SXTB10060SS	Ø10 x 60	✓	10	14	SW 17	600	50	40	-	-	-	-	-	-	-	-	-	-	-	100	65	55	41.5	5	125	63	140	70								
SXTB10075SS	Ø10 x 75	✓							-	-	-	-	-	-	-	-	-	-	-										-	-	-	-	-	20		
SXTB10080SS	Ø10 x 80	✓							5	35	201	101	210	105	25																					
SXTB10090SS	Ø10 x 90	✓							45	35	201	101	210	105	45																					
SXTB10100SS	Ø10 x 100	✓							85																											
SXTB10120SS	Ø10 x 120	✓	12	16	SW 19	600	75	45	135	95	85	67.0	15	201	101	210	105	15	201	101	210	105	120	90	75	58.0	25	174	87	190	95					
SXTB10140SS	Ø10 x 140	✓							-	-	-	-	-	-	-	-	-	-	-	-	-	-										-	-	-	-	45
SXTB12080SS	Ø12 x 80	✓							5	35	251	126	240	120	5																					
SXTB12100SS	Ø12 x 100	✓							45	35	251	126	240	120	45																					
SXTB12120SS	Ø12 x 120	✓							160	120	105	83.5	15	251	126	240	120	15	251	126	240	120														
SXTB12150SS	Ø12 x 150	✓							45				75				75																			



INSTALLATION DATA

THUNDERBOLT® PRO DOME HEX HEAD

■ STAINLESS STEEL 316 (A4)



d_b : Nominal diameter of drill bit
 d_f : Fixture clearance hole diameter
 h_1 : Effective anchorage depth
 h_d : Depth of drilled hole
 h_{nom} : Overall fastener embedment depth in the concrete
 h_{min} : Minimum thickness of concrete member
 t_{fix} : Fixture thickness



General Installation parameters

Standard Installation depth (hef, std)

Reduced Installation depth (hef, red)

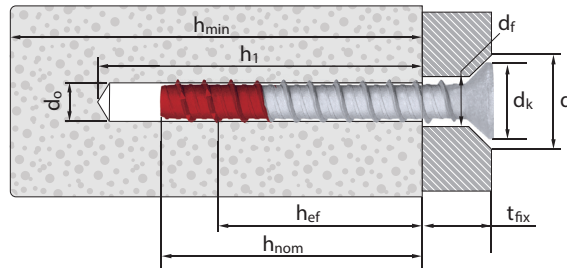
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_b (mm)	Fixture clearance hole d_f (mm)	Spanner SW/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Standard Installation depth (hef, std)								Reduced Installation depth (hef, red)									
									Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTBD06050SS	Ø6 x 50	✓	6	9	SW 10	250	35	35	-	-	-	-	-	-	-	-	-	80	50	40	30.0	10	90	45	110	55
SXTBD08075SS	Ø8 x 75	✓	8	12	SW 13	600	35	35	80	75	65	50.5	10	152	76	220	110	80	60	50	37.5	25	113	57	130	65
SXTBD10075SS	Ø10 x 75	✓	10	14	SW 17	600	50	40	-	-	-	-	-	-	-	-	-	80	65	55	41.5	20	125	63	140	70
SXTBD12100SS	Ø12 x 100	✓	12	16	SW 19	600	75	45	-	-	-	-	-	-	-	-	-	120	90	75	58.0	25	174	87	190	95



INSTALLATION DATA

THUNDERBOLT® PRO COUNTERSUNK HEAD

■ NAUTILUS® C



- d_i : Diameter of CSK head
- $d_{0,1}$: Nominal diameter of drill bit
- d_f : Fixture clearance hole diameter
- d_k : Effective anchorage depth
- h_{ef} : Depth of drilled hole
- h_{nom} : Overall fastener embedment depth in the concrete
- h_{min} : Minimum thickness of concrete member
- t_{fix} : Fixture thickness
- d_i : Diameter of CSK drill size



General Installation parameters

Standard Installation depth ($h_{ef, std}$)

Reduced Installation depth ($h_{ef, red}$)

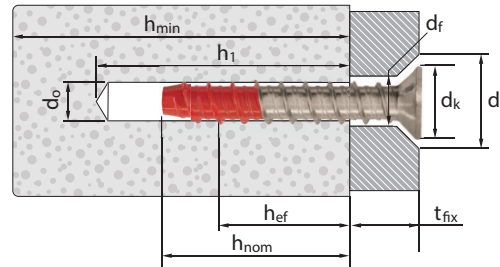
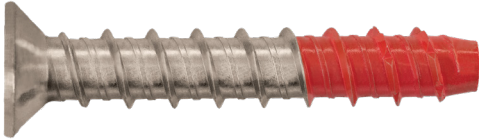
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_f (mm)	Diameter of CSK Head d_k (mm)	Diameter of CSK drill hole d_1 (mm)	Spanner Sl/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Standard Installation depth ($h_{ef, std}$)								Reduced Installation depth ($h_{ef, red}$)									
											Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTBCS06050G	Ø6 x 50	✓	6	9	12.4	15	TX30	250	35	35	-	-	-	-	-	-	-	-	-	100	50	40	30.0	10	90	45	90	45
SXTBCS06075G	Ø6 x 75	✓									35	65	55	43.00	20	129	65	170	85	35	90	45	90	45				
SXTBCS06100G	Ø6 x 100	✓									60	65	55	43.00	45	129	65	170	85	60	90	45	90	45				
SXTBCS08055G	Ø8 x 55	✓	8	12	18	21	TX45	350	35	35	-	-	-	-	-	-	-	-	-	100	60	50	37.5	10	113	57	130	65
SXTBCS08075G	Ø8 x 75	✓									10	75	65	50.5	10	152	76	200	100	25	113	57	130	65				
SXTBCS08100G	Ø8 x 100	✓									35	75	65	50.5	35	152	76	200	100	50	113	57	130	65				
SXTBCS08130G	Ø8 x 130	✓									80	75	65	50.5	65	152	76	200	100	80	113	57	130	65				
SXTBCS10060G	Ø10 x 60	✓	10	14	21	24.5	TX50	600	50	40	-	-	-	-	-	-	-	-	-	100	65	55	41.5	5	125	63	140	70
SXTBCS10065G	Ø10 x 65	✓									10	-	-	-	-	-	-	-	-	10	125	63	140	70				
SXTBCS10075G	Ø10 x 75	✓									20	-	-	-	-	-	-	-	-	20	125	63	140	70				
SXTBCS10100G	Ø10 x 100	✓									45	135	95	85	67.0	15	201	101	210	105	45	125	63	140	70			
SXTBCS12085G	Ø12 x 85	✓	12	16	24	28	TX55	600	75	45	-	-	-	-	-	-	-	-	-	120	90	75	58	10	174	87	190	95
SXTBCS12100G	Ø12 x 100	✓									25	-	-	-	-	-	-	-	-	25	174	87	190	95				
SXTBCS12150G	Ø12 x 150	✓									75	170	120	105	83.5	45	251	126	220	110	75	174	87	190	95			



INSTALLATION DATA

THUNDERBOLT® PRO COUNTERSUNK HEAD

■ STAINLESS STEEL 316 (A4)



- d_c : Diameter of CSK head
- d_b : Nominal diameter of drill bit
- d_f : Fixture clearance hole diameter
- d_k : Effective anchorage depth
- d_1 : Depth of drilled hole
- h_{nom} : Overall fastener embedment depth in the concrete
- h_{min} : Minimum thickness of concrete member
- t_{fix} : Fixture thickness
- d_1 : Diameter of CSK drill size



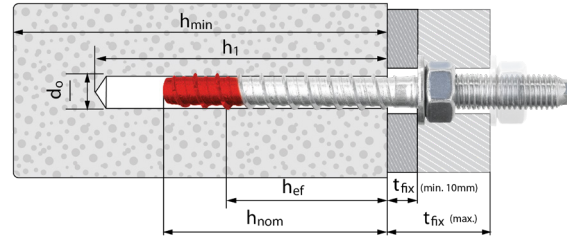
General Installation parameters		Standard Installation depth ($h_{ef, std}$)																		Reduced Installation depth ($h_{ef, red}$)													
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d ₀ (mm)	Fixture clearance hole d _f (mm)	Diameter of CSK Head d _k (mm)	Diameter of CSK drill hole d ₁ (mm)	Spanner Sw/Tx [-]	Impact tool torque T _{max} [Nm]	Minimum allowable spacing S _{min} (mm)	Minimum allowable edge distance C _{min} (mm)	Minimum concrete thickness h _{min} (mm)	Depth of drill hole h ₁ (mm)	Installation depth h _{nom} (mm)	Effective anchorage depth h _{ef} (mm)	Thickness of fixture t _{fix} (mm)	Critical spacing (concrete cone) Scr,N (mm)	Critical edge distance (cone) Ccr,N (mm)	Critical spacing (splitting) Scr,sp (mm)	Critical edge distance (splitting) Ccr,sp (mm)	Minimum concrete thickness h _{min} (mm)	Depth of drill hole h ₁ (mm)	Installation depth h _{nom} (mm)	Effective anchorage depth h _{ef} (mm)	Thickness of fixture t _{fix} (mm)	Critical spacing (concrete cone) Scr,N (mm)	Critical edge distance (cone) Ccr,N (mm)	Critical spacing (splitting) Scr,sp (mm)	Critical edge distance (splitting) Ccr,sp (mm)					
SXTBCS06050SS	Ø6 x 50	✓	6	9	12.4	15	TX30	250	35	35	-	-	-	-	-	-	-	-	-	80	50	40	30.0	10	90	45	110	55					
SXTBCS06075SS	Ø6 x 75	✓									20	25	129	65	190	95	35																
SXTBCS06080SS	Ø6 x 80	✓									45	40	60	60																			
SXTBCS06100SS	Ø6 x 100	✓									60	60	60	60																			
SXTBCS08075SS	Ø8 x 75	✓	8	12	18	21	TX45	600	35	35	80	75	65	50.5	10	152	76	220	110	80	60	50	37.5	25	113	57	130	65					
SXTBCS08090SS	Ø8 x 90	✓													25									30					152	76	220	110	40
SXTBCS08095SS	Ø8 x 95	✓													30									45					60	60			
SXTBCS08100SS	Ø8 x 100	✓													35									50					60	60			
SXTBCS10075SS	Ø10 x 75	✓	10	14	21	24.5	TX50	600	50	40	100	95	85	67	-	201	101	230	115	80	65	55	41.5	20	125	63	140	70					
SXTBCS10100SS	Ø10 x 100	✓													15									35					201	101	230	115	45
SXTBCS10120SS	Ø10 x 120	✓													35									65					60	60			
SXTBCS10150SS	Ø10 x 150	✓													65									95					60	60			
SXTBCS12100SS	Ø12 x 100	✓	12	16	24	28	TX55	600	75	45	-	-	-	-	-	-	-	-	120	90	75	58	25	174	87	190	95						
SXTBCS12150SS	Ø12 x 150	✓																					75					75	251	126	240	120	75



INSTALLATION DATA

THUNDERBOLT® PRO THRU-SCREW

MECHANICAL GALVANISED



- d_1 : Diameter of CSK head
- d_0 : Nominal diameter of drill bit
- d_1 : Fixture clearance hole diameter
- h_{ef} : Effective anchorage depth
- h_1 : Depth of drilled hole
- h_{nom} : Overall fastener embedment depth in the concrete
- h_{min} : Minimum thickness of concrete member
- t_{fix} : Fixture thickness
- d_1 : Diameter of CSK drill size



General Installation parameters

Standard Installation depth ($h_{ef, std}$)

Reduced Installation depth ($h_{ef, red}$)

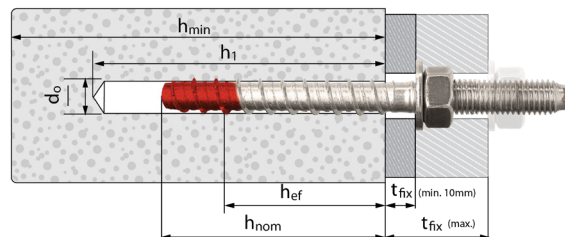
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_f (mm)	Spanner SW/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Standard Installation depth ($h_{ef, std}$)								Reduced Installation depth ($h_{ef, red}$)											
									Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Min. Thickness of fixture t_{fix} (mm)	Max. Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Min. Thickness of fixture t_{fix} (mm)	Max. Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTBTS08110G-M10-29	Ø8 x 110	✓	8	12	7	350	35	35	100	75	65	50.5	10	29	152	76	200	100	100	60	50	37.5	25	44	113	57	130	65
SXTBTS08130G-M10-49	Ø8 x 130	✓											10	49									25	64				
SXTBTS10120G-M12-16	Ø10 x 120	✓	10	14	8	600	50	40	135	95	85	67	10	16	201	101	210	105	100	65	55	41.5	40	46	125	63	140	70
SXTBTS10140G-M12-36	Ø10 x 140	✓											10	36									40	66				
SXTBTS14155G-M16-16	Ø14 x 155	✓	14	18	12	600	80	50	185	130	115	92	10	16	276	138	230	115	120	90	75	58	50	56	174	87	190	95
SXTBTS14185G-M16-46	Ø14 x 185	✓											10	46									50	86				



INSTALLATION DATA

THUNDERBOLT® PRO THRU-SCREW

■ STAINLESS STEEL 316 (A4)



- d_s : Diameter of CSK head
- d_{dr} : Nominal diameter of drill bit
- d_f : Fixture clearance hole diameter
- h_{ef} : Effective anchorage depth
- h_1 : Depth of drilled hole
- h_{nom} : Overall fastener embedment depth in the concrete
- h_{min} : Minimum thickness of concrete member
- t_{fix} : Fixture thickness
- d_s : Diameter of CSK drill size



General Installation parameters		Standard Installation depth ($h_{ef, std}$)														Reduced Installation depth ($h_{ef, red}$)												
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_f (mm)	Spanner Sw/Tx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Min. Thickness of fixture t_{fix} (mm)	Max. Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) Scr, N (mm)	Critical edge distance (cone) Ccr, N (mm)	Critical spacing (splitting) Scr, sp (mm)	Critical edge distance (splitting) Ccr, sp (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Min. Thickness of fixture t_{fix} (mm)	Max. Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) Scr, N (mm)	Critical edge distance (cone) Ccr, N (mm)	Critical spacing (splitting) Scr, sp (mm)	Critical edge distance (splitting) Ccr, sp (mm)
SXTBTS08110SS-M10-29	Ø8 x 110	✓	8	12	7	600	35	35	80	75	65	50.5	10	29	152	76	220	110	80	60	50	37.5	25	44	113	57	130	65
SXTBTS08130SS-M10-49	Ø8 x 130	✓											10	49									201	101				
SXTBTS10120SS-M12-16	Ø10 x 120	✓	10	14	8	600	50	40	100	95	85	67	10	16	201	101	230	115	80	65	55	41.5	40	46	125	63	140	70
SXTBTS10140SS-M12-36	Ø10 x 140	✓											10	36									201	101				

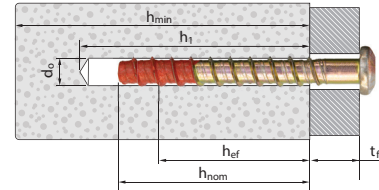


INSTALLATION DATA

THUNDERBOLT® PRO PAN HEAD

■ ZINC YELLOW

■ NAUTILUS® C



d_0 : Nominal diameter of drill bit
 d_F : Fixture clearance hole diameter
 h_{ef} : Effective anchorage depth
 h_1 : Depth of drilled hole
 h_{nom} : Overall fastener embedment depth in the concrete
 h_{min} : Minimum thickness of concrete member
 t_{fix} : Fixture thickness

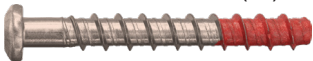


General Installation parameters									Standard Installation depth ($h_{ef, std}$)								Reduced Installation depth ($h_{ef, red}$)									
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_F (mm)	Drive type Torx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTBP08060/G	Ø8 x 60	✓	8	12	T45	350	35	35	-	-	-	-	-	-	-	-	-	100	60	50	37.5	10	113	57	130	65
SXTBP08080/G	Ø8 x 80	✓							15	152	76	200	100	30												
SXTBP08100/G	Ø8 x 100	✓							35	50	50	50	50	50												

Note: Add "G" to the part no for Nautilus® C option, e.g. SXTBP08080G

THUNDERBOLT® PRO PAN HEAD

■ STAINLESS STEEL 316 (A4)



General Installation parameters									Standard Installation depth ($h_{ef, std}$)								Reduced Installation depth ($h_{ef, red}$)									
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Fixture clearance hole d_F (mm)	Drive type Torx [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)	Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Thickness of fixture t_{fix} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTBP08060SS	Ø8 x 60	✓	8	12	T45	600	35	35	-	-	-	-	-	-	-	-	-	80	60	50	37.5	10	113	57	130	65
SXTBP08080SS	Ø8 x 80	✓							15	152	76	200	100	30												
SXTBP08100SS	Ø8 x 100	✓							35	50	50	50	50	50												

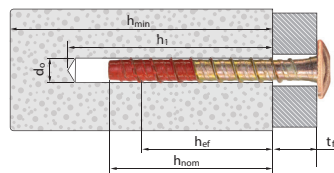


INSTALLATION DATA

THUNDERBOLT® PRO TRUSS HEAD

ZINC YELLOW

NAUTILUS® C



- d0 Nominal diameter of drill bit
- df Fixture clearance hole diameter
- hef Effective anchorage depth
- h1 Depth of drilled hole
- hnom Overall fastener embedment depth in the concrete
- hmin Minimum thickness of concrete member
- tfix Fixture thickness



General Installation parameters		Standard Installation depth ($h_{ef, std}$)														Reduced Installation depth ($h_{ef, red}$)										
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d0 (mm)	Fixture clearance hole df (mm)	Drive type Torx [-]	Impact tool torque Tmax [Nm]	Minimum allowable spacing Smin (mm)	Minimum allowable edge distance Cmin (mm)	Minimum concrete thickness hmin (mm)	Depth of drill hole h1 (mm)	Installation depth hnom (mm)	Effective anchorage depth hef (mm)	Thickness of fixture tfix (mm)	Critical spacing (concrete cone) Scr,N (mm)	Critical edge distance (cone) Ccr,N (mm)	Critical spacing (splitting) Scr,sp (mm)	Critical edge distance (splitting) Ccr,sp (mm)	Minimum concrete thickness hmin (mm)	Depth of drill hole h1 (mm)	Installation depth hnom (mm)	Effective anchorage depth hef (mm)	Thickness of fixture tfix (mm)	Critical spacing (concrete cone) Scr,N (mm)	Critical edge distance (cone) Ccr,N (mm)	Critical spacing (splitting) Scr,sp (mm)	Critical edge distance (splitting) Ccr,sp (mm)
SXTBTR06045/G	Ø6 x 45	✓	6	9	T30	250	35	35	-	-	-	-	-	-	-	-	-	100	50	40	30.0	5	90	45	90	45
SXTBTR06060/G	Ø6 x 60	✓							5																	
SXTBTR06080/G	Ø6 x 80	✓							25	129	65	170	85													
SXTBTR06100/G	Ø6 x 100	✓							45																	

Note: Add "G" to the part no for Nautilus® C option. e.g. SXTBTR06080G

THUNDERBOLT® PRO TRUSS HEAD

STAINLESS STEEL 316 (A4)



General Installation parameters		Standard Installation depth ($h_{ef, std}$)														Reduced Installation depth ($h_{ef, red}$)										
Thunderbolt®PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d0 (mm)	Fixture clearance hole df (mm)	Drive type Torx [-]	Impact tool torque Tmax [Nm]	Minimum allowable spacing Smin (mm)	Minimum allowable edge distance Cmin (mm)	Minimum concrete thickness hmin (mm)	Depth of drill hole h1 (mm)	Installation depth hnom (mm)	Effective anchorage depth hef (mm)	Thickness of fixture tfix (mm)	Critical spacing (concrete cone) Scr,N (mm)	Critical edge distance (cone) Ccr,N (mm)	Critical spacing (splitting) Scr,sp (mm)	Critical edge distance (splitting) Ccr,sp (mm)	Minimum concrete thickness hmin (mm)	Depth of drill hole h1 (mm)	Installation depth hnom (mm)	Effective anchorage depth hef (mm)	Thickness of fixture tfix (mm)	Critical spacing (concrete cone) Scr,N (mm)	Critical edge distance (cone) Ccr,N (mm)	Critical spacing (splitting) Scr,sp (mm)	Critical edge distance (splitting) Ccr,sp (mm)
SXTBTR06045SS	Ø6 x 45	✓	6	9	T30	250	35	35	-	-	-	-	-	-	-	-	-	80	50	40	30.0	5	90	45	110	55
SXTBTR06060SS	Ø6 x 60	✓							5																	
SXTBTR06080SS	Ø6 x 80	✓							25	129	65	190	95													
SXTBTR06100SS	Ø6 x 100	✓							45																	

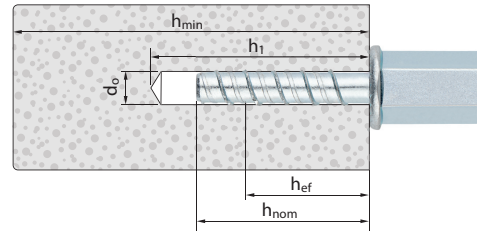
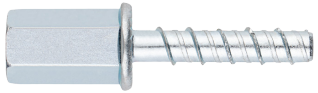


INSTALLATION DATA

THUNDERBOLT® PRO ROD HANGERZ™

☐ ZINC CLEAR

■ GALVANISED - INTERNAL THREAD



d_0 : Nominal diameter of drill bit
 h_{ef} : Effective anchorage depth
 h_1 : Depth of drilled hole
 h_{nom} : Overall fastener embedment depth in the concrete
 h_{min} : Minimum thickness of concrete member



General Installation parameters

Standard Installation depth ($h_{ef, std}$)

Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d_0 (mm)	Spanner SW/TX [-]	Impact tool torque T_{max} [Nm]	Minimum allowable spacing S_{min} (mm)	Minimum allowable edge distance C_{min} (mm)	Standard Installation depth ($h_{ef, std}$)							
								Minimum concrete thickness h_{min} (mm)	Depth of drill hole h_1 (mm)	Installation depth h_{nom} (mm)	Effective anchorage depth h_{ef} (mm)	Critical spacing (concrete cone) $S_{cr,N}$ (mm)	Critical edge distance (cone) $C_{cr,N}$ (mm)	Critical spacing (splitting) $S_{cr,sp}$ (mm)	Critical edge distance (splitting) $C_{cr,sp}$ (mm)
SXTB-IM06035	Ø6 x 35 (M8-M10)	✓	6	SW13	250	35	35	100	45	35	26.0	78	39	90	45
SXTB-IM06040/G-M10	Ø6 x 40 (M10)	✓						100	50	40	30.0	90	45	90	45
SXTB-IM06055	Ø6 x 55 (M8-M10)	✓						100	65	55	43.0	129	65	170	85
SXTB-IM08050/G-M10	Ø8 x 50 (M10)	✓	8	SW13	350	35	35	100	60	50	37.5	113	57	130	65
SXTB-IM08050/G-M12	Ø8 x 50 (M12)	✓		SW17											

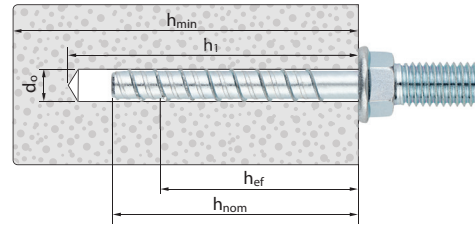
Note: Add 'G' to the part no. for the Mechanically Galvanised option.. e.g. SXTB-IM06040G-M10



INSTALLATION DATA

THUNDERBOLT® PRO HANGERZ™

☐ ZINC CLEAR - EXTERNAL THREAD



d_0 Nominal diameter of drill bit
 h_{ef} Effective anchorage depth
 h_1 Depth of drilled hole
 h_{nom} Overall fastener embedment depth in the concrete
 h_{min} Minimum thickness of concrete member



General Installation parameters

Standard Installation depth ($h_{ef, STD}$)

Thunderbolt®PRO	Size	Assessed	Drill bit diameter	Spanner	Impact tool torque	Minimum allowable spacing	Minimum allowable edge distance	Minimum concrete thickness	Depth of drill hole	Installation depth	Effective anchorage depth	Critical spacing (concrete cone)	Critical edge distance (cone)	Critical spacing (splitting)	Critical edge distance (splitting)
Part No.	[-]	ETA	d_0 (mm)	SW/TX [-]	T_{max} [Nm]	S_{min} (mm)	C_{min} (mm)	h_{min} (mm)	h_1 (mm)	h_{nom} (mm)	h_{ef} (mm)	Scr,N (mm)	Ccr,N (mm)	Scr,sp (mm)	Ccr,sp (mm)
SXTB-B06040-M10	Ø6 x 40 (M10)	✓	6	SW13	250	35	35	100	50	40	30.0	90	45	90	45



PERFORMANCE IN ACCORDANCE WITH AS 5216

Parameters: Qualification based on AS 5216

Concrete: 20 MPa

Conditions: Single anchor, no edge distance, min recommended concrete thickness

Design Resistance Capacities

Diameter (mm)	Installation Depth h_{nom} (mm)	Effective Depth h_{ef} (mm)	Uncracked concrete Tension N_{Rd} (kN)	Cracked concrete Tension N_{Rd} (kN)	Uncracked Concrete Shear V_{Rd} (kN)	Cracked concrete Shear V_{Rd} (kN)
6	40	30.0	4.5	3.1	7.8	5.4
	55	43.0	9.2	6.5	8.4	7.4
8	50	37.5	6.3	4.4	13.0	9.5
	65	50.5	11.8	8.2	13.0	10.5
10	55	41.5	8.8	6.1	17.1	12.0
	75	58.5	14.7	10.3	18.3	13.6
	85	67.0	18.0	12.6	18.3	18.3
12	75	58.0	14.5	10.1	24.8	23.6
	105	83.5	25.0	17.5	24.8	24.8
14	75	58.0	14.5	10.1	35.1	25.9
	115	92.0	28.9	20.3	35.1	35.1
16	80	58.0	14.5	10.1	32.6	22.8
	120	92.0	28.9	20.3	38.6	38.6
18	90	69.5	19.0	13.3	50.5	35.4
	140	112.0	38.9	27.2	53.9	53.9

Information presented in the above table has been derived from the product ETA (ETA 20/0902) and in accordance with AS 5216:2021. Data is based on single anchor with no edge or spacing influence. For detailed calculations incorporating multiple anchors please download the ICCONS anchor software program for assistance, this download is available via the ICCONS website www.iccons.com.au

PERFORMANCE FOR USE IN REDUNDANT NON-STRUCTURAL SYSTEMS - 20 MPA

Design Resistance Capacities

Diameter (mm)	Installation Depth h_{nom} (mm)	Effective Depth h_{ef} (mm)	Uncracked concrete Tension N_{Rd} (kN)	Cracked concrete Tension N_{Rd} (kN)	Uncracked Concrete Shear V_{Rd} (kN)	Cracked concrete Shear V_{Rd} (kN)
5	35	26.5	4.5	3.1	4.5	3.1
	45	35.0	6.8	4.8	5.5	4.8
6	35	26.0	3.6	2.5	4.3	3.0
	55	43.0	9.2	6.5	8.4	6.5

Information presented in the above table has been derived from the product ETA (ETA 20/0901) and in accordance with AS 5216:2021 for redundant non-structural systems. Redundant non-structural systems incorporate multiple fixings and fixing points please refer to product ETA and AS 5216:2021 for further details.

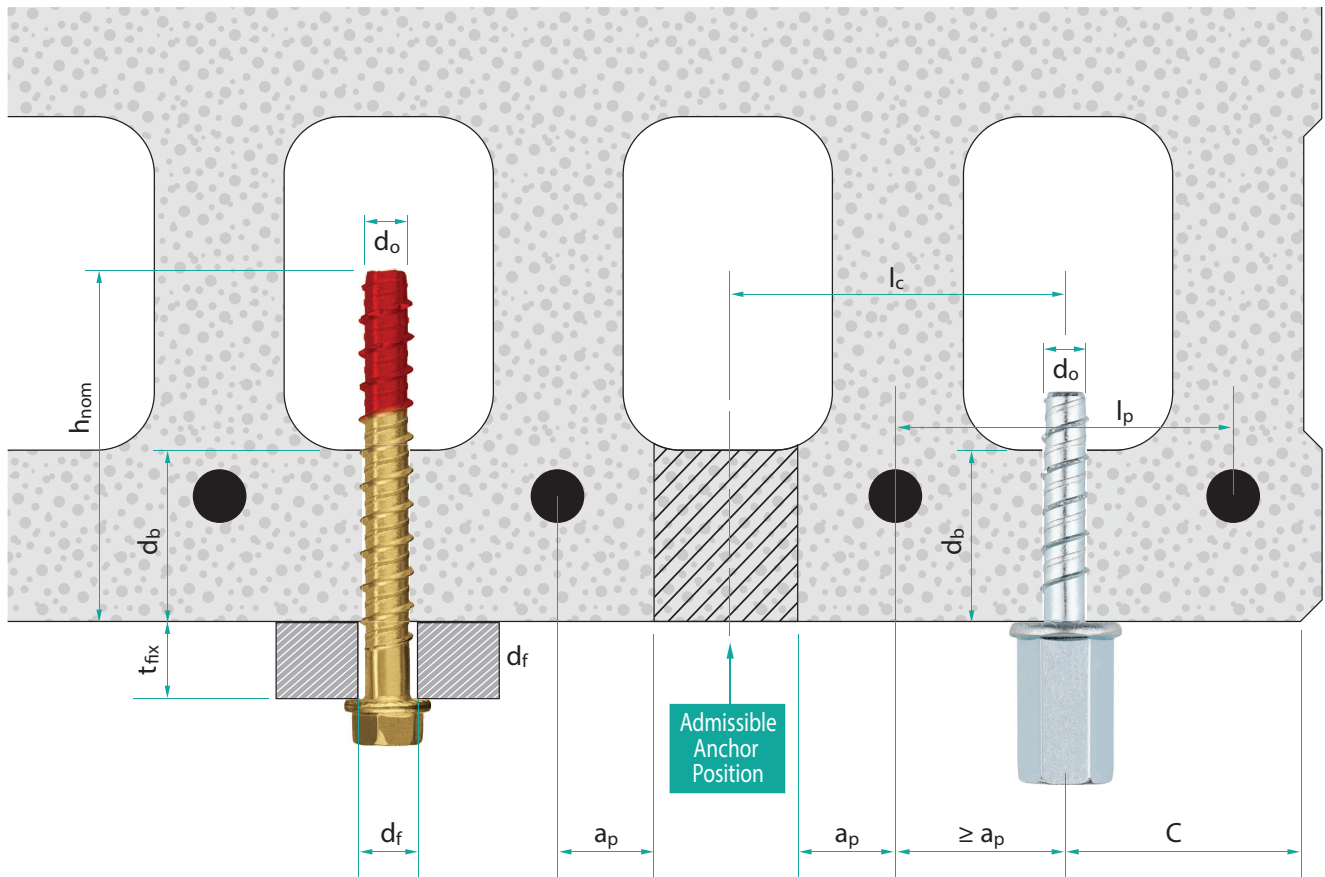


THUNDERBOLT® PRO PERFORMANCE FOR USE IN REDUNDANT NON-STRUCTURAL SYSTEMS PRESTRESSED HOLLOW CORE SLABS (C30/37 TO C50/60)

Design Resistance Capacities

Diameter d_o (mm)	Min. Bottom Flange Thickness d_b (mm)	Effective Depth h_{ef} (mm)	Uncracked concrete Tension N_{Rd} (kN)	Uncracked Concrete Shear V_{Rd} (kN)
5	25	20.0	2.4	2.4
	30	22.0	2.8	2.8
	40	26.5	3.7	3.7
6	25	20.0	2.4	2.4
	30	22.0	2.8	2.8
	40	26.0	3.6	3.6

Information presented in the above table has been derived from the product ETA (ETA 20/0901) and in accordance with AS 5216:2021 for redundant non-structural systems. Redundant non-structural systems incorporate multiple fixings and fixing points please refer to product ETA and AS 5216:2021 for further details.



- d_f : Fixture clearance hole diameter
- d_b : Bottom flange thickness
- a_p : Distance between anchor position and prestressing steel ≥ 50 mm
- l_c : Core spacing distance ≥ 100 mm
- l_p : Steel reinforcement spacing distance ≥ 100 mm
- t_{fix} : Fixture thickness
- C : Edge distance



THUNDERBOLT® PRO SEISMIC C1 PERFORMANCE IN ACCORDANCE WITH AS 5216:2021

Design Resistance Capacities - 20 MPa ($a_{gap} = 1.0$)

SXTB Screw-Bolt size	Embed. Depth (mm)	Effective Depth (min.)	Tension $N_{Rd,seis}$ (kN)	Shear $V_{Rd,seis}$ (kN)
6	40	30.0	2.8	3.9
6	55	43.0	3.3	6.3
8	50	37.5	3.4	5.8
8	65	50.5	5.9	7.8
10	85	67.0	9.8	12.8
12	105	83.5	12.1	15.7
14	115	92.0	15.5	21.1
18	140	112.0	23.1	29.4

→ $a_{seis}=0.85$ for tension → $a_{seis}=0.85$ for shear concrete pryout

THUNDERBOLT® PRO SEISMIC C2 PERFORMANCE IN ACCORDANCE WITH AS 5216:2021

Design Resistance Capacities - 20 MPa ($a_{gap} = 1.0$)

SXTB Screw-Bolt size	Embed. Depth (mm)	Effective Depth (min.)	Tension $N_{Rd,seis}$ (kN)	Shear $V_{Rd,seis}$ (kN)
8	50	37.5	1.3	5.6
8	65	50.5	2.3	7.8
10	85	67.0	4.6	12.8
12	105	83.5	7.0	15.7
14	115	92.0	10.2	21.1
18	140	112.0	21.0	29.4

→ $a_{seis}=0.85$ for tension → $a_{seis}=0.85$ for shear concrete pryout

Information presented in the above tables has been derived from the product ETA (ETA 20/0902) and in accordance with AS 5216:2021. Data is based on single anchor with no edge or spacing influence. For detailed calculations incorporating multiple anchors please download the ICCONS® anchor software program for assistance, this download is available via the ICCONS® website www.iccons.com.au.

THUNDERBOLT® PRO STAINLESS STEEL (A4) PERFORMANCE IN ACCORDANCE WITH AS 5216

Parameters: Qualification based on AS 5216

Concrete: 20 MPa

Conditions: Single anchor, no edge distance, min recommended concrete thickness

Design Resistance Capacities

Diameter (mm)	Installation Depth l_{nom} (mm)	Effective Depth h_{ef} (mm)	Uncracked concrete Tension N_{Rd} (kN)	Cracked concrete Tension N_{Rd} (kN)	Uncracked Concrete Shear V_{Rd} (kN)	Cracked concrete Shear V_{Rd} (kN)
6	35	26.0	3.1	0.6	6.1	4.3
	40	30.0	4.5	1.4	7.0	6.3
	55	43.0	6.7	5.4	7.0	5.7
8	50	37.5	5.6	4.4	10.7	7.5
	65	50.5	9.8	6.9	11.7	9.5
10	55	41.5	7.3	5.1	13.4	9.4
	85	67.0	15.0	10.5	19.2	19.2
12	75	58.0	12.1	8.5	26.4	18.5
	105	83.5	25.0	17.5	27.9	27.9

Information presented in the above table has been derived from the product ETA (ETA 20/0902) and in accordance with AS 5216:2021. Data is based on single anchor with no edge or spacing influence. For detailed calculations incorporating multiple anchors please download the ICCONS anchor software program for assistance, this download is available via the ICCONS website www.iccons.com.au.



THUNDERBOLT® PRO STAINLESS STEEL (A4) C1 SEISMIC PERFORMANCE IN ACCORDANCE WITH AS 5216:2021

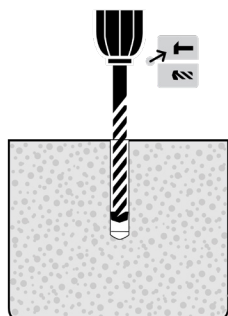
DESIGN RESISTANCE CAPACITIES - 20 MPA ($A_{GAP} = 1.0$)

SXTB Screw-Bolt size	Embed. Depth (mm)	Effective Depth (min.)	Tension $N_{Rd,seis}$ (kN)	Shear $V_{Rd,seis}$ (kN)
6	40	30.0	1.2	3.9
6	55	43.0	3.2	4.8
8	50	37.5	2.0	5.4
8	65	50.5	4.9	6.7
10	55	41.5	3.7	8.0
10	85	67.0	7.1	13.2
12	75	58.0	5.5	15.7
12	105	83.5	14.4	20.5

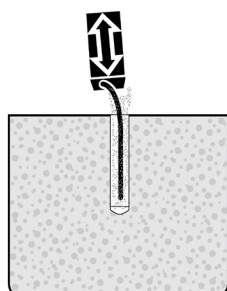
→ $a_{seis}=0.85$ for tension → $a_{seis}=0.85$ for shear concrete pryout

Information presented in the above tables has been derived from the product ETA (ETA 20/0902) and in accordance with AS 5216:2021. Data is based on single anchor with no edge or spacing influence. For detailed calculations incorporating multiple anchors please download the ICCONS® anchor software program for assistance, this download is available via the ICCONS® website www.iccons.com.au.

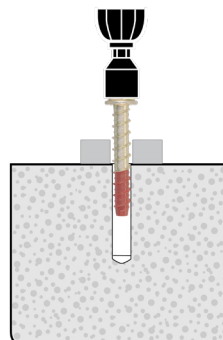
INSTALLATION (SOLID CONCRETE)



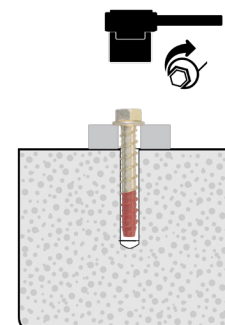
1. DRILL HOLE
With the correct diameter carbide drill bit, drill a hole into the base material to the correct depth using a hammer drill in rotary and hammer mode.



2. BLOW AND CLEAN
Using a hand pump, compressed air or a vacuum system, remove dust and debris from the drilled hole.



3. INSTALL
Use a correct powered impact driver or a torque wrench that does not exceed the maximum torque $T_{impact, max}$ or $T_{inst, max}$ respectively. Attach an appropriately sized hex socket or six lob bit to the impact driver. Mount the screw anchor head in the socket / bit.



4. APPLY TORQUE
Drive the screw anchor with an impact driver or a torque wrench through the fixture and into the drilled hole until the anchor head is seated against the fixture. The anchor must be snug tight after installation. Do not spin the socket off the anchor to disengage.



AS5216 COMPLIANT NCC ANCHOR DESIGN



Design of fastenings under seismic actions



Design of redundant non-structural systems



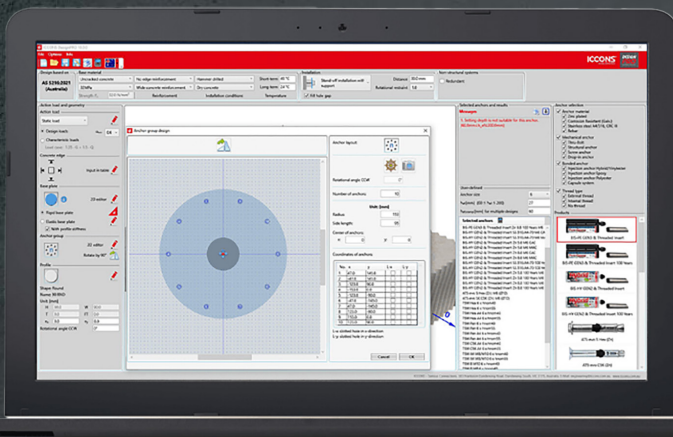
Combined loading and displacement calculations



Unique all-in-one screen interface with easy data input and results display

- ✓ Interactive 3D model display for clear anchor and baseplate layout including rotation functionality
- ✓ Integrated FEA (Finite Element Analysis) for quick base plate thickness calculations
- ✓ Offers design solutions for rigid and elastic baseplates
- ✓ Flexible custom anchor and base plate geometry design for complex shapes and applications

- ✓ Utilises Australian steel profiles and material grades
- ✓ All product and all failure modes individually checked for precise anchor analysis and selection
- ✓ Summary or detailed design report options available to save or print



Scan to download DesignPRO

ICCONS® PTY LTD

VICTORIA - Head Office

383 Frankston Dandenong Rd,
Dandenong South,
Victoria, 3175
P: 03 9706 4344

NSW Branch

Unit A, 17 Seddon Street,
Bankstown,
New South Wales, 2200
P: 02 9791 6869

QLD Branch

42-44 Nealdon Dr,
Meadowbrook,
Queensland, 4131
P: 07 3200 6455

FNQ Branch

41 Corporate Crescent,
Garbutt,
Queensland, 4814
P: 07 2111 3453

S.A Branch

29-31 Weaver Street,
Edwardstown,
South Australia, 5039
P: 08 8234 5535

W.A. Branch

90 Christable Way,
Landsdale,
Western Australia, 6065
P: 08 6305 0008

N.T Branch

Unit 1, 14 Menmuir Street,
Winnellie,
Northern Territory, 0820
P: 08 8947 2758

NEW ZEALAND

SESTO FASTENERS

5E Piermark Drive,
Rosedale, Auckland,
New Zealand, 0632
P: +64 9415 8564
E: sestofasteners@gmail.com

THAILAND

ICCONS® (Thailand) Co. Ltd.

55 Phetkasem 62/3,
Bangkhao, Bangkok
Thailand, 0160
P: + 66 2 801 0764
F: + 66 2 801 0764
M: + 66 8 1 710 8745
E: icconsthailand@iccons.com.au