



# TDS | 1032.15

## 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

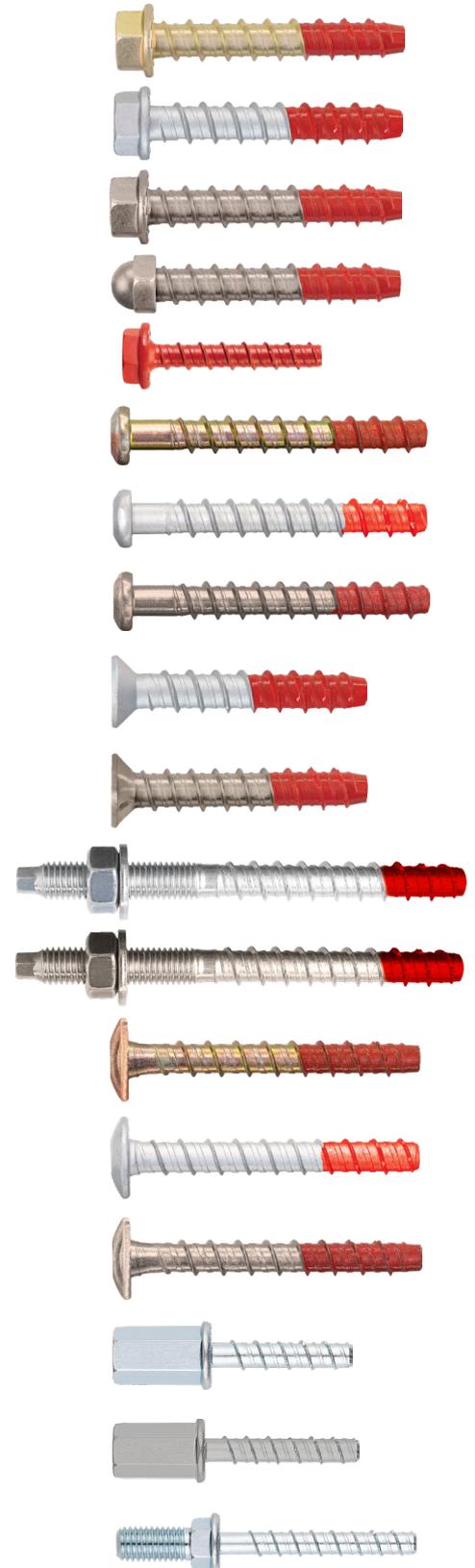
### APPLICATIONS

- 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

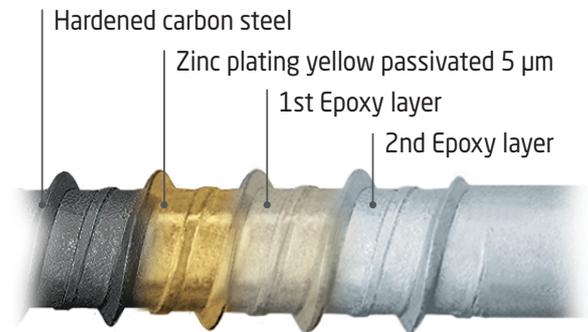
Code	Size		Description	Material
SXTB _____	Ø5 - Ø18		Hexagonal head with flange Screw-Bolt anchor	Carbon Steel Zinc Yellow Coating ≥ 5 µm plus Red Tip
SXTB _____ G	Ø5 - Ø18		Hexagonal head with flange Screw-Bolt anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip Transitioning to Mechanical Galvanised 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		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	n/a	50	300
SXTB10075	10 x 75mm		20	50	300																		
SXTB10090	10 x 90mm		5	50	200																		
SXTB10100	10 x 100mm		15	C1 & C2	50					200													
SXTB10120	10 x 120mm		95		85					35		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	n/a	50	200										
SXTB12100	12 x 100mm											25	50	100									
SXTB12120	12 x 120mm											15	C1 & C2	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	n/a	25
SXTB14100	14 x 100mm												25										25
SXTB14130	14 x 130mm	15	C1 & C2	25	100																		
SXTB14150	14 x 150mm	35		25	100																		
SXTB16100	16 x 100mm	20		15	90																		
SXTB16150	16 x 150mm	16	100	80	70	20	24	BTISS2440	600	Option 1	Pending		15										60
SXTB16200	16 x 200mm												140										120
SXTB18100	18 x 100mm											110	90	10	20	80							
SXTB18150	18 x 150mm	18	160	140	30	22	26	BTISS2643	600	Option 1	n/a	15	60										
SXTB18170	18 x 170mm											60	15	60									
SXTB18200	18 x 200mm											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 - 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



# 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	C1	100	1200
SXTB06050G	6 x 50mm	10			100							1200	
SXTB06060G	6 x 60mm	6	65	55	5	10	BTISS1038			Option 1 & RNSS		100	600
SXTB06075G	6 x 75mm	20			100							600	
SXTB06100G	6 x 100mm	45			100							600	
SXTB06150G*	6 x 150mm	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	20			100							400	
SXTB08075G	8 x 75mm	25			100							400	
SXTB08100G	8 x 100mm	35	75	65	75							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		95	85	5	14	17	BTISS1738	600	Option 1	C1 & C2	50	200
SXTB10100G	10 x 100mm	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		120	105	5	16	19	BTISS1938	600	Option 1	C1 & C2	25	150
SXTB12120G	12 x 120mm	15			25							150	
SXTB12150G	12 x 150mm	45			25							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			25							150	
SXTB14130G	14 x 130mm		130	115	15						C1 & C2	25	100
SXTB14150G	14 x 150mm	35			25							100	
SXTB16100G	16 x 100mm		100	80	20	20	24	BTISS2440	600	Option 1	Pending	15	90
SXTB16150G	16 x 150mm	70			15							60	
SXTB16200G	16 x 200mm	80			10							40	
SXTB18100G	18 x 100mm		110	90	10	22	26	BTISS2643	600	Option 1	n/a	20	80
SXTB18150G	18 x 150mm												
SXTB18170G	18 x 170mm		160	140	30						C1 & C2	15	60
SXTB18200G	18 x 200mm	60			10							40	
SXTB18300G	18 x 300mm	160			5							20	

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
SXTB08120SS*	8 x 120mm	55	25	150									
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								
SXTB10160SS*	10 x 160mm		75	25	100								
SXTB12080SS	12 x 80mm		12	90	75							5	16
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	16	BTISS1638	600	Option 1	C1	50	200
SXTBD12100SS	12 x 100mm	12	90	75	25	16	18	BTISS1838	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



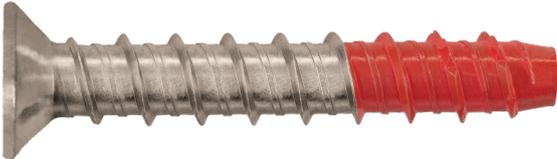
Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Max. Fixture Thickness (mm)	Clearance Hole in Fixture (mm)	Dia. of CSK Drill Size (mm)	CSK Head Height (mm)	Drive Type Driver (Torx)	Torx Impact Tool Torque Part No.	Max. Impact T <sub>max</sub> (Nm)	ETA Option	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 Tmax (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				500					n/a	
SXTB-IM06040-M10	6 x 40 Rod Hanger (M10)		50		M10			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			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

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

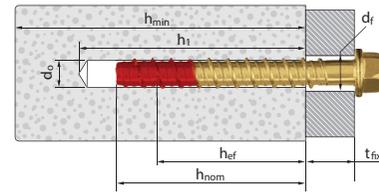
## THUNDERBOLT® PRO HEX HEAD

■ ZINC YELLOW

■ NAUTILUS® C



SXTBTH06043G^



$d_f$ : 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	Size	Assessed	Drill bit diameter	Fixture clearance hole	Spanner	Impact tool torque	Minimum allowable spacing	Minimum allowable edge distance	Minimum concrete thickness	Depth of drill hole	Installation depth	Effective anchorage depth	Thickness of fixture	Critical spacing (concrete cone)	Critical edge distance (cone)	Critical spacing (splitting)	Critical edge distance (splitting)	Minimum concrete thickness	Depth of drill hole	Installation depth	Effective anchorage depth	Thickness of fixture	Critical spacing (concrete cone)	Critical edge distance (cone)	Critical spacing (splitting)	Critical edge distance (splitting)					
Part No.	[-]	ETA	$d_0$ (mm)	$d_f$ (mm)	SW/Tx [-]	$T_{max}$ [Nm]	$S_{min}$ (mm)	$C_{min}$ (mm)	$h_{min}$ (mm)	$h_1$ (mm)	$h_{nom}$ (mm)	$h_{ef}$ (mm)	$t_{fix}$ (mm)	$S_{cr,N}$ (mm)	$C_{cr,N}$ (mm)	$S_{cr,sp}$ (mm)	$C_{cr,sp}$ (mm)	$h_{min}$ (mm)	$h_1$ (mm)	$h_{nom}$ (mm)	$h_{ef}$ (mm)	$t_{fix}$ (mm)	$S_{cr,N}$ (mm)	$C_{cr,N}$ (mm)	$S_{cr,sp}$ (mm)	$C_{cr,sp}$ (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				60																						
SXTB06100/G	Ø6 x 100	✓	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																					
SXTB08130/G	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.

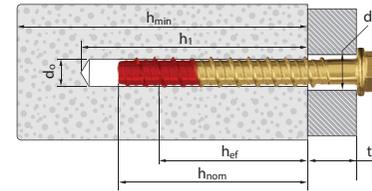


### INSTALLATION DATA

## THUNDERBOLT® PRO HEX HEAD

■ ZINC YELLOW

■ NAUTILUS® C



$d_0$ : Nominal diameter of drill bit  
 $d_F$ : 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)	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

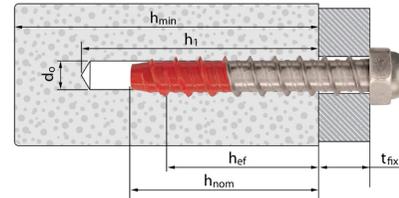




### INSTALLATION DATA

## THUNDERBOLT® PRO DOME HEX HEAD

■ STAINLESS STEEL 316 (A4)



$d_b$ : 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  
 $h_{max}$ : Minimum thickness of concrete member  
 $t_{fix}$ : Fixture thickness



#### General Installation parameters

#### Standard Installation depth (hef, std)

#### Reduced Installation depth (hef, red)

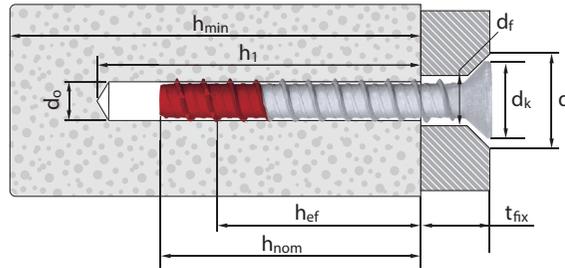
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter $d_b$ (mm)	Fixture clearance hole $d_f$ (mm)	Spanner SW/Tx [-]	Impact tool torque $T_{max}$ [Nm]	Minimum allowable spacing $S_{min}$ (mm)	Minimum allowable edge distance $C_{min}$ (mm)	Standard Installation depth (hef, std)								Reduced 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 16	600	50	40	-	-	-	-	-	-	-	-	-	80	65	55	41.5	20	125	63	140	70
SXTBD12100SS	Ø12 x 100	✓	12	16	SW 18	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
- $d_0$ : Nominal diameter of drill bit
- $d_f$ : Fixture clearance hole diameter
- $d_k$ : 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
- $d_i$ : Diameter of CSK drill size



#### General Installation parameters

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

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

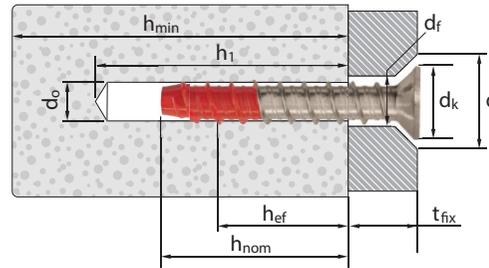
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter $d_0$ (mm)	Fixture clearance hole $d_f$ (mm)	Diameter of CSK Head $d_k$ (mm)	Diameter of CSK drill hole $d_1$ (mm)	Spanner Sl/Tx [-]	Impact tool torque $T_{max}$ [Nm]	Minimum allowable spacing $S_{min}$ (mm)	Minimum allowable edge distance $C_{min}$ (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	✓									65	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	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	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



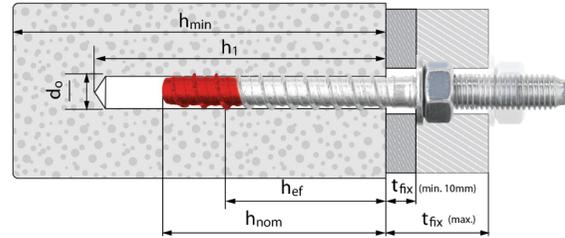
General Installation parameters		Standard Installation depth ( $h_{ef, std}$ )																		Reduced Installation depth ( $h_{ef, red}$ )								
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter d <sub>0</sub> (mm)	Fixture clearance hole d <sub>f</sub> (mm)	Diameter of CSK Head d <sub>k</sub> (mm)	Diameter of CSK drill hole d <sub>1</sub> (mm)	Spanner Sw/Tx [-]	Impact tool torque T <sub>max</sub> [Nm]	Minimum allowable spacing S <sub>min</sub> (mm)	Minimum allowable edge distance C <sub>min</sub> (mm)	Minimum concrete thickness h <sub>min</sub> (mm)	Depth of drill hole h <sub>1</sub> (mm)	Installation depth h <sub>nom</sub> (mm)	Effective anchorage depth h <sub>ef</sub> (mm)	Thickness of fixture t <sub>fix</sub> (mm)	Critical spacing (concrete cone) S <sub>cr,N</sub> (mm)	Critical edge distance (cone) C <sub>cr,N</sub> (mm)	Critical spacing (splitting) S <sub>cr,sp</sub> (mm)	Critical edge distance (splitting) C <sub>cr,sp</sub> (mm)	Minimum concrete thickness h <sub>min</sub> (mm)	Depth of drill hole h <sub>1</sub> (mm)	Installation depth h <sub>nom</sub> (mm)	Effective anchorage depth h <sub>ef</sub> (mm)	Thickness of fixture t <sub>fix</sub> (mm)	Critical spacing (concrete cone) S <sub>cr,N</sub> (mm)	Critical edge distance (cone) C <sub>cr,N</sub> (mm)	Critical spacing (splitting) S <sub>cr,sp</sub> (mm)	Critical edge distance (splitting) C <sub>cr,sp</sub> (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																	
SXTBCS06080SS	Ø6 x 80	✓									25																	
SXTBCS06100SS	Ø6 x 100	✓									45																	
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													
SXTBCS08095SS	Ø8 x 95	✓													30													
SXTBCS08100SS	Ø8 x 100	✓													35													
SXTBCS10075SS	Ø10 x 75	✓	10	14	21	24.5	TX50	600	50	40	-	-	-	-	-	-	-	-	-	80	65	55	41.5	20	125	63	140	70
SXTBCS10100SS	Ø10 x 100	✓									15																	
SXTBCS10120SS	Ø10 x 120	✓									35																	
SXTBCS10150SS	Ø10 x 150	✓									65																	
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																	



### INSTALLATION DATA

## THUNDERBOLT® PRO THRU-SCREW

MECHANICAL GALVANISED



- $d_0$ : Diameter of CSK head
- $d_0$ : 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
- $d_1$ : Diameter of CSK drill size



#### General Installation parameters

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

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

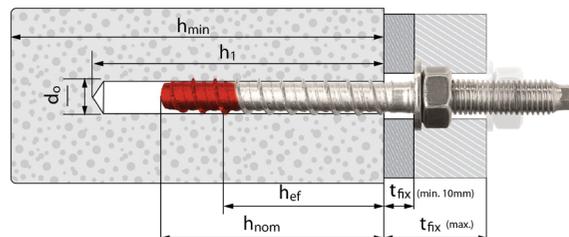
Thunderbolt® PRO Part No.	Size [-]	Assessed ETA	Drill bit diameter $d_0$ (mm)	Fixture clearance hole $d_f$ (mm)	Spanner SW/Tx [-]	Impact tool torque $T_{max}$ [Nm]	Minimum allowable spacing $S_{min}$ (mm)	Minimum allowable edge distance $C_{min}$ (mm)	Standard Installation depth ( $h_{ef, std}$ )								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)



- $d_c$ : 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									25	64				
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									40	66				

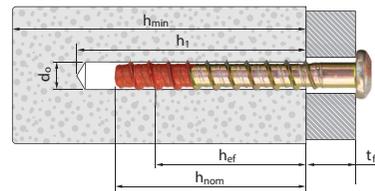


### INSTALLATION DATA

## 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												

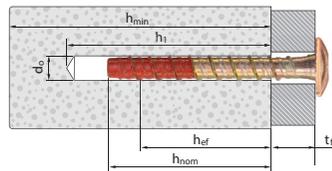


### INSTALLATION DATA

# 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																	

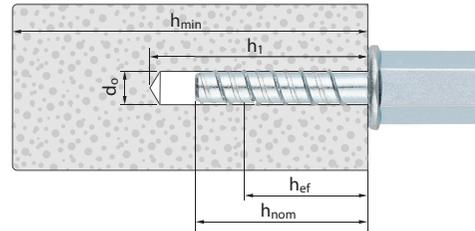


### INSTALLATION DATA

## 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											

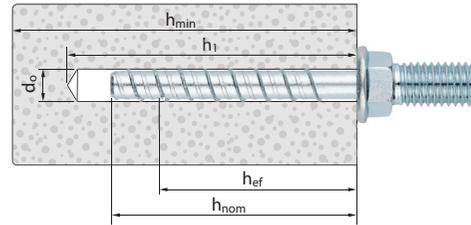
Note: Add 'G' to the part no. for the Mechanically Galvanised option..e.g. SXTB-IM06040G-M10



### 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)	$C_{cr,N}$ (mm)	$Scr,sp$ (mm)	$C_{cr,sp}$ (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](http://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.

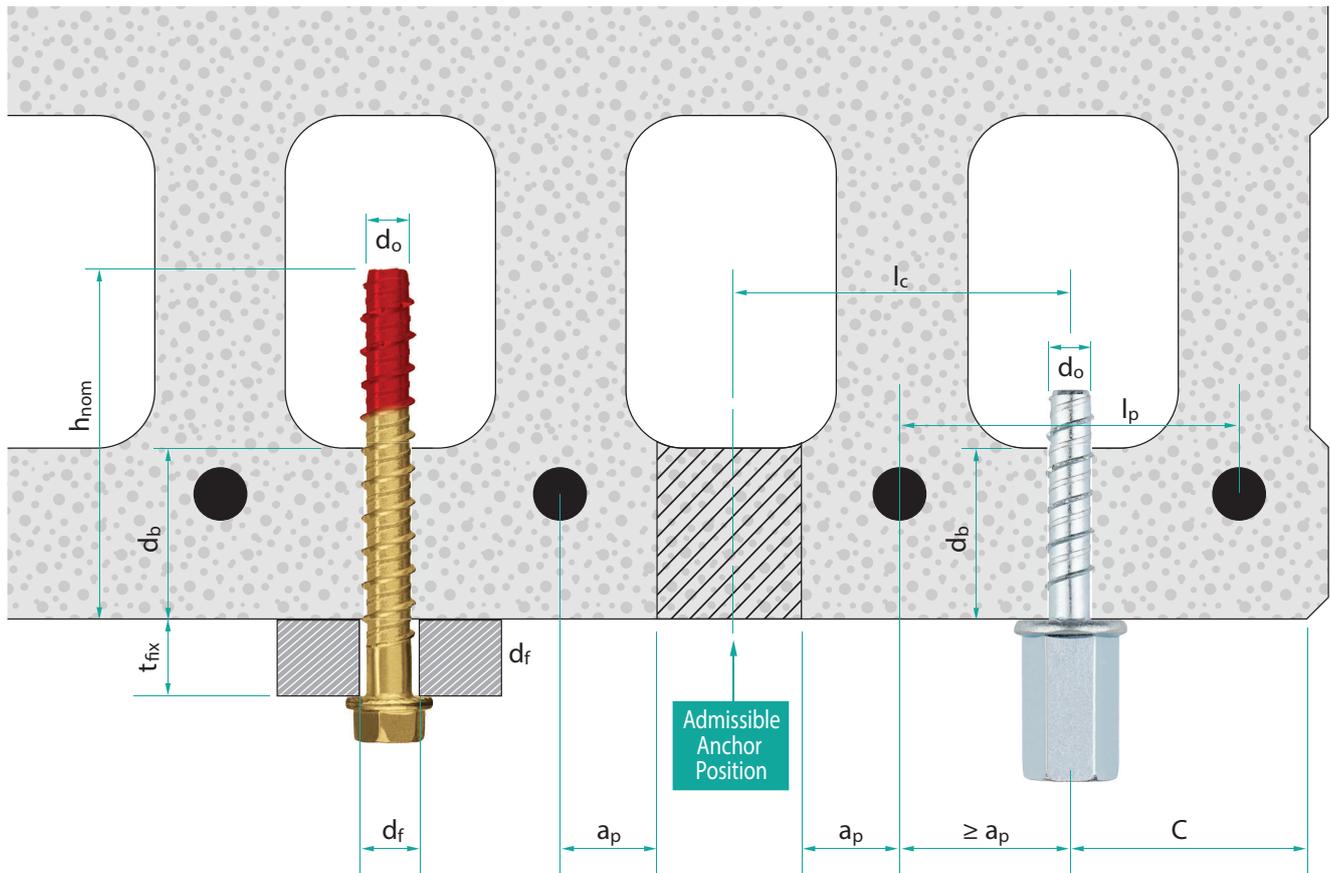


## THUNDERBOLT® PRO PERFORMANCE FOR USE IN REDUNDANT NON-STRUCTURAL SYSTEMS PRESTRESSED HOLLOW CORE SLABS (C30/37 TO C50/60)

### 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  $\geq 50$  mm
- $l_c$ : Core spacing distance  $\geq 100$  mm
- $l_p$ : Steel reinforcement spacing distance  $\geq 100$  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](http://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](http://www.iccons.com.au).



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

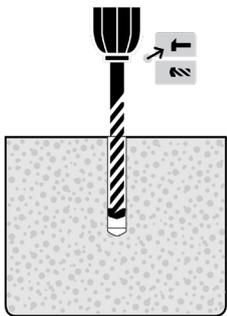
DESIGN RESISTANCE CAPACITIES - 20 MPA ( $A_{GAP} = 1.0$ )

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

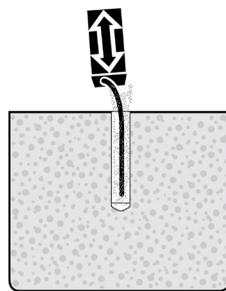
→  $a_{seis}=0.85$  for tension →  $a_{seis}=0.85$  for shear concrete pryout

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](http://www.iccons.com.au).

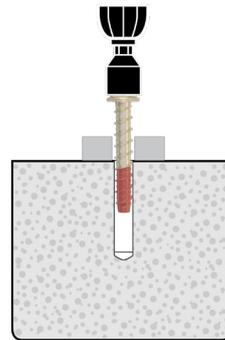
## INSTALLATION (SOLID CONCRETE)



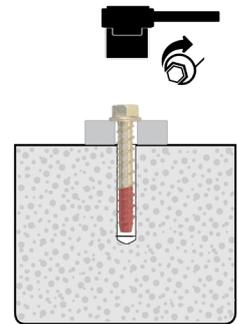
- 1. DRILL HOLE**  
With the correct diameter carbide drill bit, drill a hole into the base material to the correct depth using a hammer drill in rotary and hammer mode.



- 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.



# AS 5216 COMPLIANT NCC ANCHOR DESIGN



Design of fastenings under seismic actions



Design of redundant non-structural systems



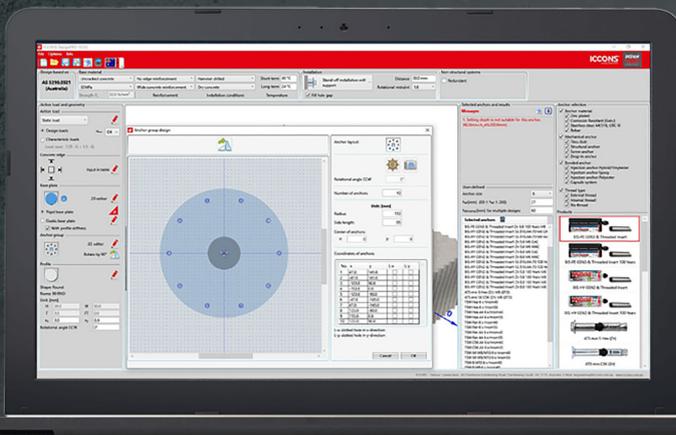
Combined loading and displacement calculations



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



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