

# THUNDERBOLT® PRO



**ICCONS®**  
Serious Connections®

SCREWBOLT ANCHOR

TDS | 1032.2



NO EXPANSION FORCES

5 | 6 | 8 | 10 | 12 | 14 | 18MM

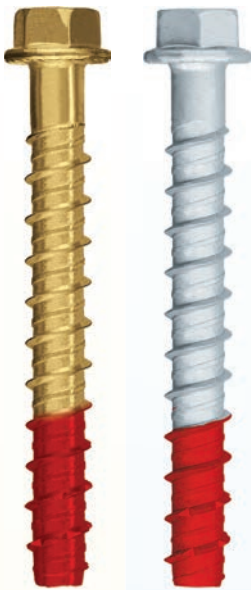


NEW GENERATION





### THUNDERBOLT® PRO HEX HEAD



#### FEATURES & BENEFITS

- Optimum high-performance concrete and masonry screwbolt anchor
- AS 5216 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 and Internal thread head designs
- Stamped head markings for easy identification and traceability
- Zinc and corrosion resistant Nautilus® C coating options
- Fast installation at reduced torque
- No expansion, ideal for close to edge applications
- Suitable for installation with impact drivers
- Removable
- Available on ICCONS Designfix software

#### APPLICATIONS

- Structural fixings in cracked and uncracked concrete.
- Glazing, windows and storefronts
- Racking and shelving
- Attaching railings, handrails and balustrades
- Fixings wood structures in concrete.

ETA 20/0902-Option 1

ETA 20/0901 (RNSS)

RNSS = Redundant Non-Structural Systems

ZINC YELLOW Part No.	NAUTILUS® C Part No.	Description	Drill Diameter (mm)	Min. Anchor Embedment (mm)	Drill Depth (mm)	Clearance Hole in Fixture (mm)	Max. Fixture Thickness (mm)	Head / Socket Size (mm)	*Max. Impact Tool Torque T <sub>max</sub> (Nm)	ETA Option	qty	qty
SXTB05050	SXTB05050G	5 x 50mm	5	35	45	8	15	8	250	RNSS	100	1600
SXTB06040	SXTB06040G	6 x 40mm	6	35	45	9	5	10	250	Option 1 & RNSS	100	1200
SXTB06050	SXTB06050G	6 x 50mm					15				100	1200
SXTB06075	SXTB06075G	6 x 75mm		20	100		600					
SXTB06100	SXTB06100G	6 x 100mm		45	100		600					
SXTB08055	SXTB08055G	8 x 55mm	8	50	60	12	5	13	250	Option 1	100	600
SXTB08060	SXTB08060G	8 x 60mm			10		100				600	
SXTB08075	SXTB08075G	8 x 75mm		25	100		400					
SXTB08100	SXTB08100G	8 x 100mm		35	100		400					
SXTB10060	SXTB10060G	10 x 60mm	10	55	65	14	5	17	250	Option 1	50	300
SXTB10075	SXTB10075G	10 x 75mm					20				50	300
SXTB10100	SXTB10100G	10 x 100mm		25	50		200					
SXTB10120	SXTB10120G	10 x 120mm		45	50		200					
SXTB12080	SXTB12080G	12 x 80mm	12	75	90	16	5	19	600	Option 1	50	200
SXTB12100	SXTB12100G	12 x 100mm			25		50				100	
SXTB12120	SXTB12120G	12 x 120mm		45	25		150					
SXTB12150	SXTB12150G	12 x 150mm		45	25		100					
SXTB14080	SXTB14080G	14 x 80mm	14	75	90	18	5	21	600	Option 1	25	150
SXTB14100	SXTB14100G	14 x 100mm			25		25				150	
SXTB14130	SXTB14130G	14 x 130mm		55	25		100					
SXTB14150	SXTB14150G	14 x 150mm		75	25		100					
SXTB16100	SXTB16100G	16 x 100mm	16	90	110	19	10	24	600	Pending	15	90
SXTB16150	SXTB16150G	16 x 150mm					60				15	60
SXTB18100	SXTB18100G	18 x 100mm	18	90	110	22	10	26	600	Option 1	20	80
SXTB18150	SXTB18150G	18 x 150mm					60				15	60
SXTB18170	SXTB18170G	18 x 170mm		30	15		60					
SXTB18200	SXTB18200G	18 x 200mm		60	10		40					

\* Max. power output of impact screw gun | RNSS = ETA Redundant Non Structural System | Option 1 = ETA Option 1 = AS 5216 Compliant

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

ETA assessment pending



### THUNDERBOLT® PRO COUNTERSUNK HEAD



NAUTILUS® C Part No.	Description	Drill Diameter (mm)	Min. Anchor Embedment (mm)	Max Fixture Thickness (mm)	Dia. of CSK Drill Size (mm)	CSK Head Height (mm)	Drive Type (Torx)	*Max. Impact Tool Torque T <sub>max</sub> (Nm)	ETA Option	qty	qty
<b>SXTBCS06050G</b>	6 x 50mm	6	35	15	15	4.5	T30	250	Option 1 & RNSS	100	1200
<b>SXTBCS06075G</b>	6 x 75mm		55	20						100	600
<b>SXTBCS08060G</b>	8 x 60mm	8	50	10	21	6.5	T45	250	Option 1	100	600
<b>SXTBCS08075G</b>	8 x 75mm			25						100	400
<b>SXTBCS08100G</b>	8 x 100mm			50						100	400
<b>SXTBCS10065G</b>	10 x 65mm	10	55	10	24.5	7.3	T50	250	Option 1	50	200
<b>SXTBCS10075G</b>	10 x 75mm			20						50	200
<b>SXTBCS10100G</b>	10 x 100mm			45						50	200
<b>SXTBCS12085G</b>	12 x 85mm	12	75	10	28	8	T55	600	Option 1	50	200
<b>SXTBCS12100G</b>	12 x 100mm			25						50	200
<b>SXTBCS12150G</b>	12 x 150mm			75						20	120

RNSS = ETA Redundant non-structural systems | Option 1 = ETA Option 1 = AS 5216 Compliant

\* Max. power output of impact screw gun

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

### THUNDERBOLT® PRO ROD HANGERZ™



ZINC CLEAR Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Head Socket Size (mm)	Internal Thread (metric)	*Max. Impact Tool Torque T <sub>max</sub> (Nm)	ETA Option	qty	qty
<b>SXTB-IM0635</b>	6 X 35 ETA Rod Hanger (M8/M10)	6	45	13	M8/M10	250	Option 1 & RNSS	50	200
<b>SXTB-IM0655</b>	6 X 55 ETA Rod Hanger (M8/M10)		65					50	200
<b>SXTB-IM0635-BK</b>	6 X 35 ETA Rod Hanger (M8/M10) Bucket		45				500	n/a	
<b>SXTB-IM0655-BK</b>	6 X 55 ETA Rod Hanger (M8/M10) Bucket		65				500	n/a	

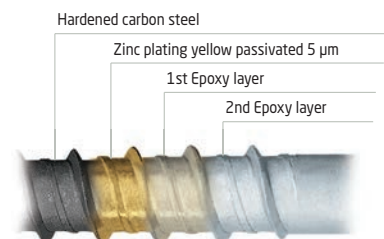
RNSS = ETA Redundant non-structural systems | Option 1 = ETA Option 1 = AS 5216 Compliant

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

### RANGE IDENTIFICATION

Code	Size	Description	Material
<b>SXTB</b> _____	<b>Ø5 - Ø18</b>	Hexagonal head with flange screw anchor	Carbon Steel Zinc Yellow Coating ≥ 5 µm plus Red Tip
<b>SXTB</b> _____ <b>G</b>	<b>Ø5 - Ø18</b>	Hexagonal head with flange screw anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip
<b>SXTBCS</b> _____ <b>G</b>	<b>Ø6 - Ø12</b>	Countersunk screw anchor	Carbon Steel NAUTILUS®C Coating plus Red Tip
<b>SXTB-IM</b> _____	<b>Ø6</b>	Rod hanger internal thread screw anchor	Carbon steel, zinc plated coating ≥ 5 µm

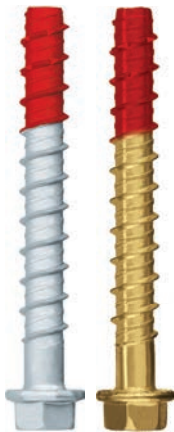
### ICCONS Nautilus® C corrosion resistant coating



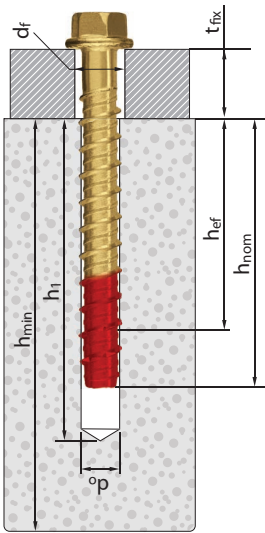
Nautilus® C corrosion resistant coating is a multi layered corrosion resistant coating designed for indoor applications as well as outdoor applications based on urban and industrial atmospheres, moderate sulfur dioxide pollution and coastal areas with low salinity. This is typically covered in EN ISO 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.



## INSTALLATION DATA FOR THUNDERBOLT® PRO



$d_0$ : 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

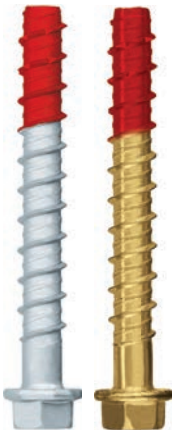


Thunderbolt® PRO Part No	General Installation parameters										Standard Installation depth ( $h_{ef, std}$ )										Reduced Installation depth ( $h_{ef, red}$ )									
	Size [L]	ETA Assessed	Drill bit diameter $d_0$ (mm)	Fixture clearance hole $d_f$ (mm)	Spanner SW/Tx [L]	Impact tool torque $T_{max}$ [Nm]	Minimum allowable spacing $S_{min}$ (mm)	Minimum allowable edge distance $C_{min}$ (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) $S_{crN}$ (mm)	Critical edge distance (cone) $C_{crN}$ (mm)	Critical spacing (splitting) $S_{crsp}$ (mm)	Critical edge distance (splitting) $C_{crsp}$ (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) $S_{crN}$ (mm)	Critical edge distance (cone) $C_{crN}$ (mm)	Critical spacing (splitting) $S_{crsp}$ (mm)	Critical edge distance (splitting) $C_{crsp}$ (mm)					
<b>SXTB05050/G</b>	Ø5 x 50	RNSS ✓	5	8	SW 8	250	35	35	50	45	350	5	105	53	53	80	45	35	26.5	15	80	40	80	40						
<b>SXTB06040/G</b>	Ø6 x 40	✓			SW 10															5										
<b>SXTB06050/G</b>	Ø6 x 50	✓	6	9	SW 10	250	35												26.0	15	78	39	90	45						
<b>SXTB06075/G</b>	Ø6 x 75	✓			SW 10						430	20	129	65	170	100	45	35	26.0	40	85	57	130	65						
<b>SXTB06100/G</b>	Ø6 x 100	✓			SW 10			100	65	55	430	45	129	65	170	100	45	35	26.0	65	85	113	140	70						
<b>SXTB08055/G</b>	Ø8 x 55	✓			SW 13															5										
<b>SXTB08060/G</b>	Ø8 x 60	✓			SW 13															10										
<b>SXTB08075/G</b>	Ø8 x 75	✓	8	12	SW 13	250	35					10	152	76	200	100	60	50	37.5	25	113	57	130	65						
<b>SXTB08100/G</b>	Ø8 x 100	✓			SW 13			100	75	65	50.5	35	152	76	200	100	60	50	37.5	50	125	63	140	70						
<b>SXTB10060/G</b>	Ø10 x 60	✓			SW 17															5										
<b>SXTB10070/G</b>	Ø10 x 70	✓			SW 17															15										
<b>SXTB10075/G</b>	Ø10 x 75	✓	10	14	SW 17	250	40													20										
<b>SXTB10100/G</b>	Ø10 x 100	✓			SW 17			135	95	85	670	15	201	101	210	105	100	65	41.5	65	125	63	140	70						
<b>SXTB10120/G</b>	Ø10 x 120	✓			SW 17			135	95	85	670	35	201	101	210	105	100	65	41.5	85	125	63	140	70						

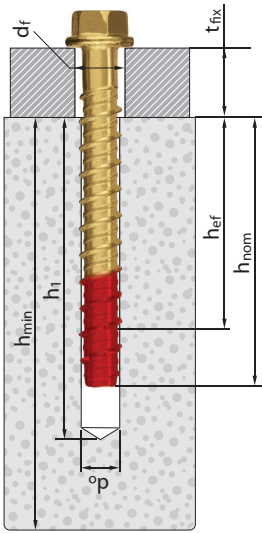
Note: Add "G" to the part no for Nautilus® C option. e.g. **SXTB05050G**. RNSS = Redundant Non-Structural Systems.



### INSTALLATION DATA FOR THUNDERBOLT® PRO



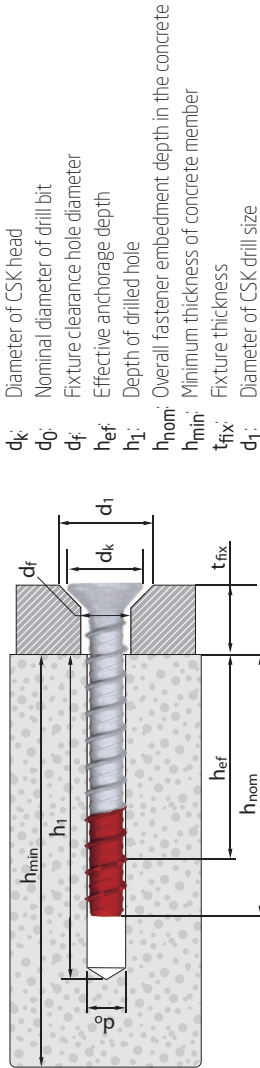
$d_0$ : Nominal diameter of drill bit  
 $d_f$ : Fixture clearance hole diameter  
 $h_{ef}$ : Effective anchorage depth  
 $h_1$ : Depth of drilled hole  
 $h_{nom}$ : Overall fastener embedment depth in the concrete  
 $h_{min}$ : Minimum thickness of concrete member  
 $t_{fix}$ : Fixture thickness



Thunderbolt® PRO Part No	Size [L]	Assessed ETA	Drill bit diameter $d_0$ (mm)	Fixture clearance hole $d_f$ (mm)	Spanner SW/Tx [L]	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 ( $h_{ef, red}$ )																			
									$P_{min}$ (mm)	$h_1$ (mm)	Installation depth $h_{nom}$ (mm)	Effective anchorage depth $h_{ef}$ (mm)	$t_{fix}$ (mm)	$S_{crN}$ (mm)	Critical spacing (cone) $C_{crN}$ (mm)	$S_{crsp}$ (mm)	Critical edge distance (cone) $C_{crN}$ (mm)	$S_{crsp}$ (mm)	Critical spacing (splitting) $S_{crsp}$ (mm)	Critical edge distance (splitting) $C_{crsp}$ (mm)	$P_{min}$ (mm)	$h_1$ (mm)	Installation depth $h_{nom}$ (mm)	Effective anchorage depth $h_{ef}$ (mm)	$t_{fix}$ (mm)	$S_{crN}$ (mm)	Critical spacing (cone) $C_{crN}$ (mm)	$S_{crsp}$ (mm)	Critical spacing (splitting) $S_{crsp}$ (mm)	Critical edge distance (splitting) $C_{crsp}$ (mm)						
SXTB12080/G	Ø12 x 80	✓			SW19				-	-	-	-	-	-	-	-	120	90	75	580	5	174	87	190	95											
SXTB12100/G	Ø12 x 100	✓	12	16	SW19	600	75	45	-	-	-	-	-	-	-	-	120	90	75	580	25	174	87	190	95											
SXTB12120/G	Ø12 x 120	✓			SW19				-	-	15	83.5	251	126	220	110	120	90	75	580	45	174	87	190	95											
SXTB12150/G	Ø12 x 150	✓			SW19				-	-	45						120	90	75	580	75	174	87	190	95											
SXTB14080/G	Ø14 x 80	✓			SW21				-	-	-	-	-	-	-	-	120	90	75	580	5	174	87	190	95											
SXTB14100/G	Ø14 x 100	✓	14	18	SW21	600	80	50	-	-	-	-	-	-	-	-	120	90	75	580	25	174	87	190	95											
SXTB14130/G	Ø14 x 130	✓			SW21				-	-	15	92.0	276	138	230	115	120	90	75	580	55	174	87	190	95											
SXTB14150/G	Ø14 x 150	✓			SW21				-	-	25						120	90	75	580	75	174	87	190	95											
SXTB18100/G	Ø18 x 100	✓			SW26				-	-	-	-	-	-	-	-	140	110	90	69.5	10	209	105	230	115											
SXTB18150/G	Ø18 x 150	✓	18	22	SW26	600	90	55	-	-	-	-	-	-	-	-	140	110	90	69.5	60	209	105	230	115											
SXTB18170/G	Ø18 x 170	✓			SW26				-	-	30	112.0	336	168	350	175	140	110	90	69.5	80	209	105	230	115											
SXTB18200/G	Ø18 x 200	✓			SW26				-	-	60						140	110	90	69.5	110	209	105	230	115											

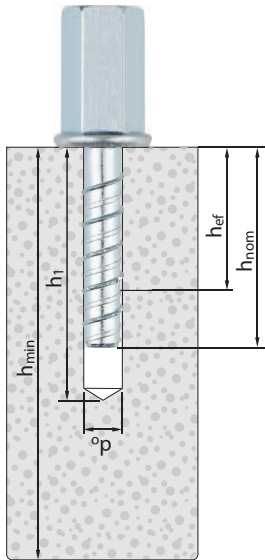
Note: Add "G" to the part no for Nautilus® C option, e.g. **SXTB12080G**

## INSTALLATION DATA FOR THUNDERBOLT® PRO NAUTILUS® C



Thunderbolt® PRO	General Installation parameters										Standard Installation depth (h <sub>ef, std</sub> )										Reduced Installation depth (h <sub>ef, red</sub> )									
	Part No	Size	ETA Assessed	Drill bit diameter d <sub>0</sub> (mm)	Fixture clearance hole diameter 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)	
SXTBCS06050G	Ø6 x 50	✓	6	9	12.4	15	TX30	250	35	35	100	65	55	43.0	20	-	129	65	170	85	100	45	35	26.0	15	78	90	45		
SXTBCS06075G	Ø6 x 75	✓	6	9	12.4	15	TX30	250	35	35	100	65	55	43.0	20	-	129	65	170	85	100	45	35	26.0	40	78	90	45		
SXTBCS08060G	Ø8 x 60	✓	8	12	18	21	TX45	250	35	35	100	75	65	50.5	10	152	76	200	100	100	60	50	37.5	10	113	130	65			
SXTBCS08075G	Ø8 x 75	✓	8	12	18	21	TX45	250	35	35	100	75	65	50.5	10	152	76	200	100	100	60	50	37.5	25	113	130	65			
SXTBCS08100G	Ø8 x 100	✓	8	12	18	21	TX45	250	35	35	100	75	65	50.5	35	152	76	200	100	100	60	50	37.5	50	113	130	65			
SXTBCS10065G	Ø10 x 65	✓	10	14	21	24.5	TX50	250	40	40	-	-	-	-	-	-	-	-	-	100	65	55	41.5	10	125	140	70			
SXTBCS10075G	Ø10 x 75	✓	10	14	21	24.5	TX50	250	40	40	-	-	-	-	-	-	-	-	-	100	65	55	41.5	20	125	140	70			
SXTBCS10100G	Ø10 x 100	✓	10	14	21	24.5	TX50	250	40	40	135	95	85	67.0	15	201	101	210	105	100	65	55	41.5	45	125	140	70			
SXTBCS12085G	Ø12 x 85	✓	12	16	24	28	TX55	600	75	45	-	-	-	-	-	-	-	-	-	120	90	75	58	10	174	190	95			
SXTBCS12100G	Ø12 x 100	✓	12	16	24	28	TX55	600	75	45	-	-	-	-	-	-	-	-	-	120	90	75	58	25	174	190	95			
SXTBCS12150G	Ø12 x 150	✓	12	16	24	28	TX55	600	75	45	170	120	105	83.5	45	251	126	220	110	120	90	75	58	75	174	190	95			

### INSTALLATION DATA FOR THUNDERBOLT® PRO ZINC PLATED



$d_0$ : 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

Thunderbolt® PRO		General Installation parameters						Standard Installation depth ( $h_{ef, std}$ )						Reduced Installation depth ( $h_{ef, red}$ )																
		Part No	Size	ETA Assessed	$d_0$ (mm)	Spanner	$T_{max}$ (Nm)	$S_{min}$ (mm)	$C_{min}$ (mm)	Depth of drill hole	Installation depth	$h_{ef}$ (mm)	$S_{cr,N}$ (mm)	$C_{cr,N}$ (mm)	$S_{cr,sp}$ (mm)	$C_{cr,sp}$ (mm)	Minimum concrete thickness	Depth of drill hole	Installation depth	$h_{ef}$ (mm)	$S_{cr,N}$ (mm)	$C_{cr,N}$ (mm)	$S_{cr,sp}$ (mm)	$C_{cr,sp}$ (mm)	Minimum concrete thickness					
<b>SXTB-IM0635</b>	Ø6 x 35 (M8-M10)	✓	6	SW 13	250	35	65	55	43.0	-	-	65	100	45	35	260	78	39	90	45	-	-	100	45	35	260	78	39	90	45
<b>SXTB-IM0655</b>	Ø6 x 55 (M8-M10)	✓	6	SW 13	250	35	65	55	43.0	-	-	65	100	65	55	430	129	65	170	85	-	-	100	65	55	430	129	65	170	85



### THUNDERBOLT® PRO 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

### Thunderbolt® PRO

#### Design Resistance Capacities - 20 MPa

Diameter	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	35	26.0	2.78	2.54	7.43	5.20
	55	43.0	9.25	6.47	8.35	7.44
8	50	37.5	6.28	4.39	11.30	7.91
	65	50.5	11.77	8.24	13.05	10.46
10	55	41.5	8.77	6.14	17.10	11.97
	75	58.5	14.67	10.27	18.27	13.56
	85	67.0	17.99	12.59	18.27	18.27
12	75	58.0	14.49	10.14	24.83	23.63
	105	83.5	25.02	17.52	24.83	24.83
14	75	58.0	14.49	10.14	35.15	25.86
	115	92.0	28.94	20.26	35.15	35.15
18	90	69.5	19.00	13.30	50.54	35.38
	140	112.0	38.87	27.21	53.85	53.85

### THUNDERBOLT® PRO Performance for use in redundant non-structural systems

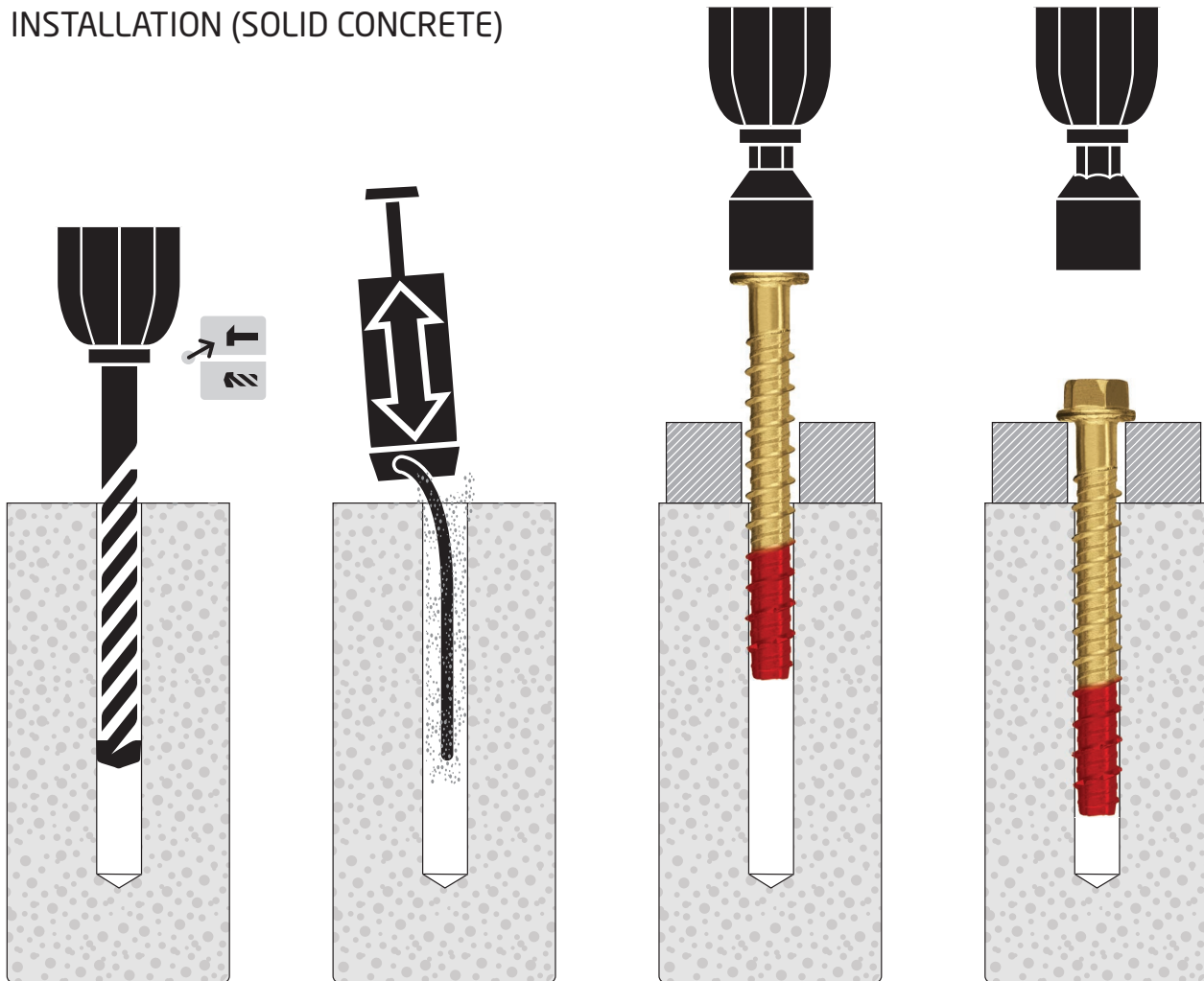
#### Design Resistance Capacities - 20 MPa

Diameter	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	4.47	3.13	4.47	3.13
	45	35.0	6.79	4.75	5.46	4.75
6	35	26.0	3.62	2.54	3.62	2.54
	55	43.0	9.25	6.47	8.35	6.47





## INSTALLATION (SOLID CONCRETE)



### 1. Drilling

Check the concrete is well compacted and without significant porosity.  
Suitable for dry, wet and flooded holes.  
Use drill in hammer mode.  
Drill according to specified depths in previous tables.

### 2. Blow and clean

Clean the hole from dust and concrete remains.  
Use blow pump and brush.

### 3. Install

Select a powered impact wrench or a torque wrench that does not exceed the maximum torque indicated in previous tables.  
Attach an appropriate size hex socket to the wrench.  
Mount the screw anchor head in the socket.

### 4. Apply torque

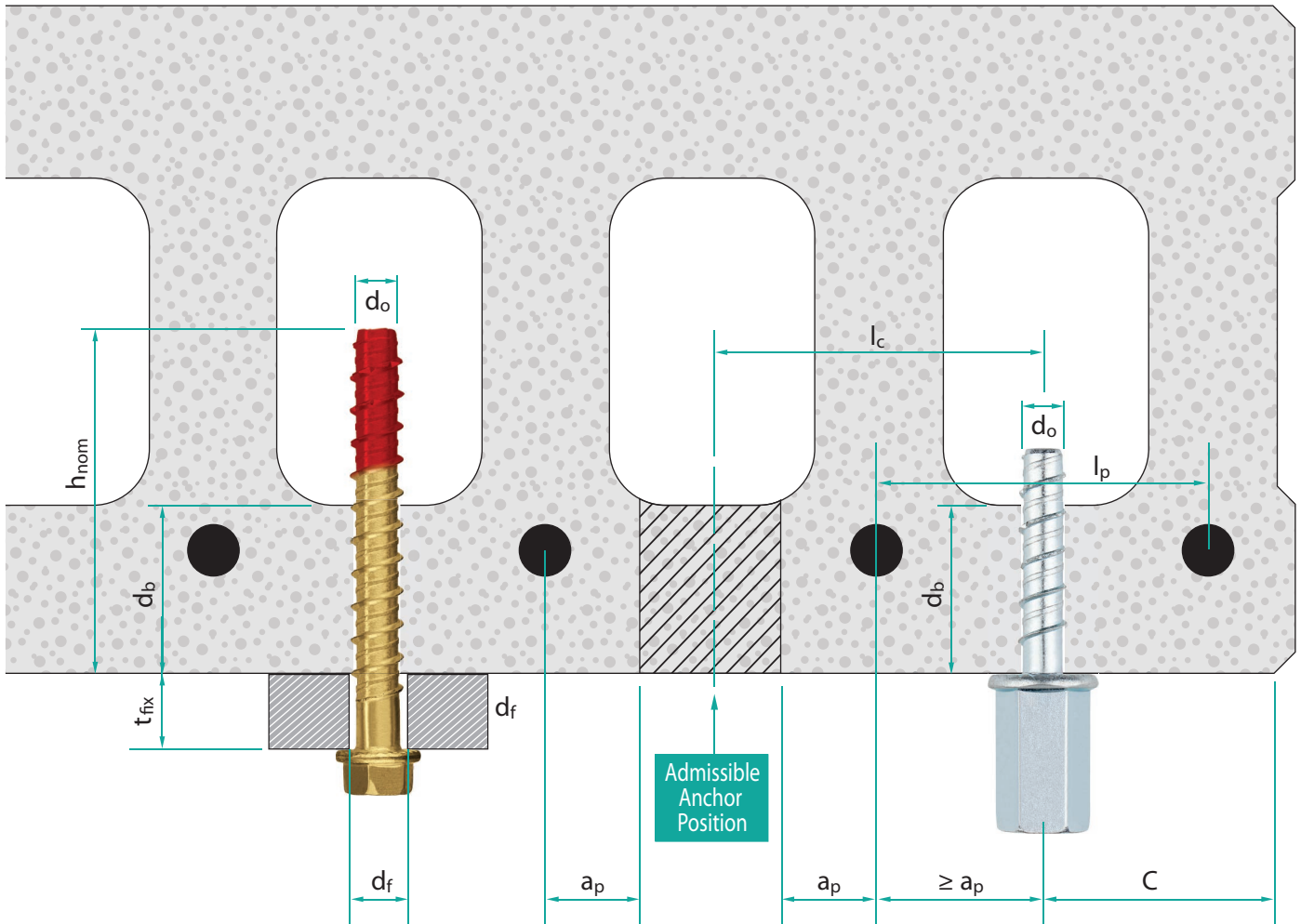
Drive the anchor with an impact driver or a torque wrench through the fixture and into the hole until the anchor head washer comes in contact with the fixture. The anchor must be snug after installation. Do not spin the hex socket off the anchor to disengage.



## THUNDERBOLT® PRO Performance for use in redundant non-structural systems - prestressed hollow core slabs (C30/37 to C50/60)

### Design Resistance Capacities

Diameter $d_0$	Min. Bottom Flange Thickness $d_b$ (mm)	Effective Depth $h_{ef}$ (mm)	Tension $N_{Rd}$ (kN)	Shear $V_{Rd}$ (kN)
5	25	20.0	2.44	2.44
	30	22.0	2.82	2.82
	40	26.5	3.73	3.73
6	25	20.0	2.44	2.44
	30	22.0	2.82	2.82
	40	26.0	3.62	3.62



- $d_0$ : Nominal diameter of drill bit
- $d_f$ : 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





Anchoring

PURE  
EPOXY  
GEN<sup>3</sup>

Adhesive

ICCONS®



# DESIGN FiX<sup>®</sup>

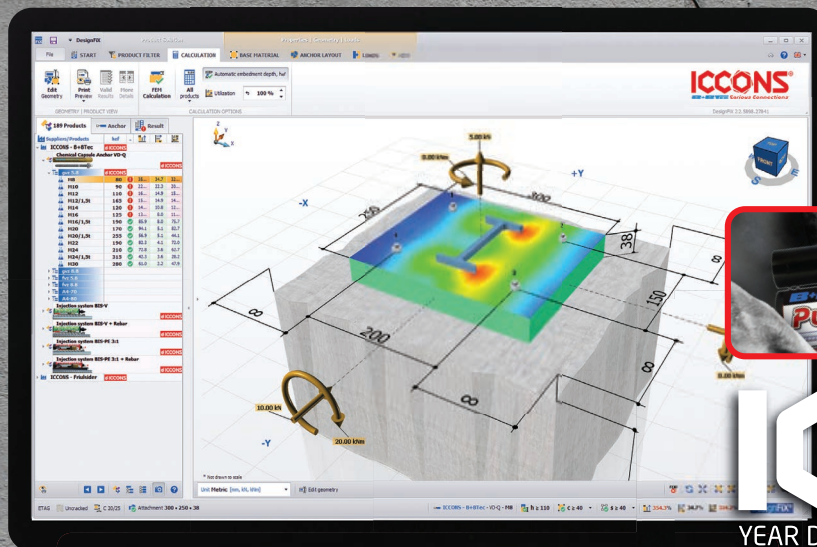
## anchor design made easy

INCLUDES THE NEW BIS PE GEN3 PURE EPOXY WITH 100 year design service life assessed in accordance with EAD 330499-01-0601

Optimum BIS Injection System anchorage depth

- An innovative 3D visual user interface, utilizing EN 1992-4 design methodology and suitable for design in accordance with AS 5216.
  - Seismic design under earthquake loads according to EN 1992-4, TR 045, TR 049
  - Finite element analysis steel baseplate design
- ICCONS DesignFiX<sup>®</sup> is a simple, intuitive and free to download (registration required) anchor design program for design engineers, project managers, site engineers and end users. Complex mechanical or chemical heavy duty anchor arrangements can be calculated in minutes.

When selecting a BIS Adhesive Injection System, ICCONS DesignFiX allows for the automatic calculation of the most effective anchorage depth, taking into consideration the minimal and maximum values of the ETA.



100+  
YEAR DESIGN LIFE

FREE DOWNLOAD [www.iccons.com.au/software/anchor-design-software](http://www.iccons.com.au/software/anchor-design-software)

### Input freedom & 3D user interface

ICCONS DesignFiX offers complete freedom to select an anchor pattern and base plate configuration, as well as the position and direction of load combinations. Changes are made directly into the 3D user interface.

### Anchor type comparison

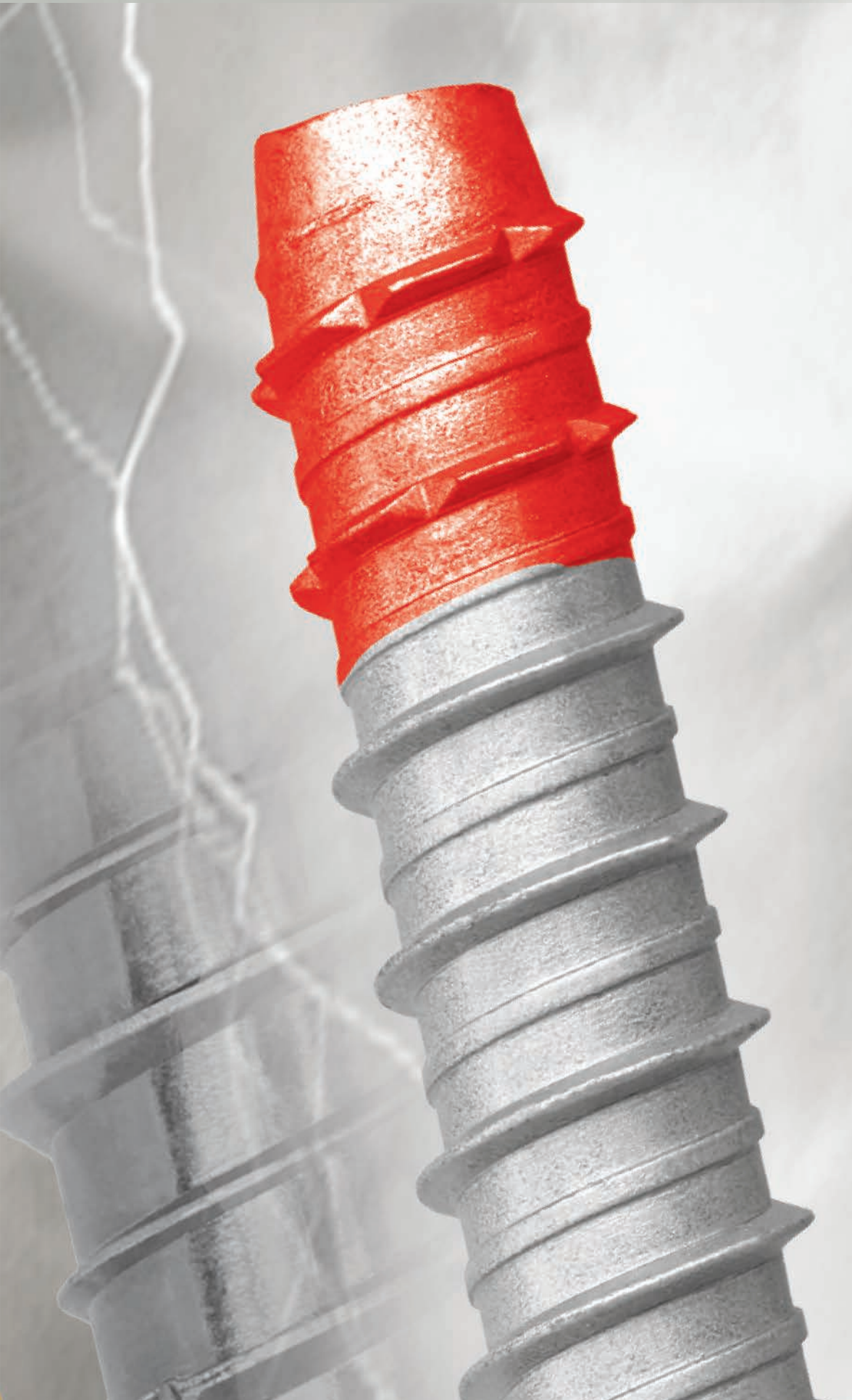
ICCONS DesignFiX displays the usability of the various anchor types (according to EN 1992-4) including the values for each load type. This allows you to compare the calculation results of the different anchor types in a single easy to read panel. Design results suitable for use in accordance with AS 5216:2018.

### Calculate base plate thickness

The integrated FEM-Calculation Method (Finite Element Method) in ICCONS DesignFiX allows you to calculate the base plate thickness based upon the stresses in the base plate in combination with the base plate configuration.







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