



THRU-BOLT™ PRO

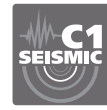
M8 | M10 | M12
M16 | M20



COMPLIES WITH
AS 5216
FOR POST-INSTALLED
FASTENINGS



THRU-BOLT™ PRO STUD ANCHOR



NATIONAL CODE COMPLIANT

ICCONS® THRU-BOLT™ PRO is a pre-assembled torque controlled mechanical stud anchor, which when tightened draws the tapered end of the bolt into the expander clip expanding it to create expansion forces against the wall of the hole.

- Torque controlled high performance anchor
- Through fixing for fast installation
- Engineered clip for optimum expansion and anti-rotation
- Red ETA embedment depth mark providing ease of installation on site
- Available in zinc and sherardised corrosion resistant finish
- ETA assessed – ETA 20/0900
- Uncracked and cracked concrete assessed
- AS 5216 compliant
- Seismic C1 and C2 assessed Zinc and Sherardised
- Fire assessed (zinc and sherardised finish)
- Identification code on bolt head for easy traceability.

ZINC CLEAR	SHERARDISED	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Clearance Hole in Fixture (mm)	Max. Fixture Thickness (mm)	Head / Socket Size (mm)	Installation Torque (Nm)	ETA Option 20/0900	SEISMIC Assessment	qty	qty
Part No.	Part No.												
TB06085		6 x 85mm - no ETA	6	55	50	7	26	10	5	n/a	n/a	100	1000
TB06120		6 x 120mm - no ETA					61					50	500
TB08080	TB08080G	8 x 80mm	8	60	55	9	14	13	15	Option 1	C1	50	500
TB08100	TB08100G	8 x 100mm					34					50	500
TB10065	TB10065G	10 x 65mm - no ETA	10	50	45	12	10	17	40	n/a	n/a	25	250
TB10090		10 x 90mm										10	75
	TB10090G										C1	25	250
TB10120		10 x 120mm	10	75	68	12	40	17	40	Option 1	C2	25	250
	TB10120G											C1	25
TB12080	TB12080G	12 x 80mm - no ETA	12	65	60	14	5	19	60	Option 1	C2	25	250
TB12100	TB12100G	12 x 100mm		85	80	14	4					25	200
TB12140	TB12140G	12 x 140mm		44	25	150							
TB12180	TB12180G	12 x 180mm		84	25	100							
TB16105	TB16105G	16 x 105mm - no ETA	16	85	80	18	5	24	100	n/a	n/a	25	100
TB16125		16 x 125mm		105	97	18	8					24	100
	TB16125G										C2	25	100
TB16140		16 x 140mm	16	105	97	18	23	24	100	Option 1	C1	25	50
	TB16140G											C2	25
TB16190		16 x 190mm	16	105	97	18	73	24	100	Option 1	C1	25	50
	TB16190G											C2	25
TB20125	TB20125G	20 x 125mm - no ETA	20	110	100	22	5	30	200	Option 1	C2	10	60
TB20160	TB20160G	20 x 160mm		125	114	22	22					10	40
TB20200	TB20200G	20 x 200mm		62	10	200							



Seismic
C1 & C2
Pending



THRU-BOLT™ PRO STUD ANCHOR - STAINLESS STEEL



NATIONAL CODE COMPLIANT

ICCONS® THRU-BOLT™ PRO is a pre-assembled torque controlled mechanical stud anchor, which when tightened draws the tapered end of the bolt into the expander clip expanding it to create expansion forces against the wall of the hole.

- Torque controlled high performance anchor
- Through fixing for fast installation
- Engineered clip for optimum expansion and anti-rotation
- Red ETA embedment depth mark providing ease of installation on site
- Available corrosion resistant Stainless Steel 316
- ETA assessed – ETA 20/0900
- Uncracked and cracked concrete assessed
- AS 5216 compliant
- Seismic C1 and C2 assessed (Stainless Steel pending)
- Fire assessed (Stainless Steel)
- Identification code on bolt head for easy traceability

STAINLESS STEEL Part No.	Description	Drill Diameter (mm)	Min. Drill Depth (mm)	Min. Anchor Embedment (mm)	Clearance Hole in Fixture (mm)	Max. Fixture Thickness (mm)	Head / Socket Size (mm)	Installation Torque (Nm)	ETA Option 1 AS 5216	qty	qty
TB08075SS	8 x 75mm	8	60	55	9	8	13	15	Option 1	50	500
TB08100SS	8 x 100mm					33					
TB10065SS	10 x 65mm - no ETA	10	60	50	12	5	17	30	n/a	25	250
TB10090SS	10 x 90mm		75	68		9			Option 1	25	250
TB10120SS	10 x 120mm		75	68		39			Option 1	25	250
TB12080SS	12 x 80mm - no ETA	12	65	60	14	3	19	60	n/a	25	250
TB12100SS	12 x 100mm					3			Option 1	25	200
TB12140SS	12 x 140mm					43			Option 1	25	150
TB12180SS	12 x 180mm					83			Option 1	25	100
TB16105SS	16 x 105mm - no ETA	16	85	75	18	10	24	100	n/a	25	100
TB16125SS	16 x 125mm		105	97		7			Option 1	25	100
TB16140SS	16 x 140mm		105	97		22			Option 1	25	50
TB20125SS	20 x 125mm - no ETA	20	100	90	22	10	30	200	n/a	10	60
TB20160SS	20 x 160mm		125	114		21			Option 1	10	40



ETA ASSESSED RANGE

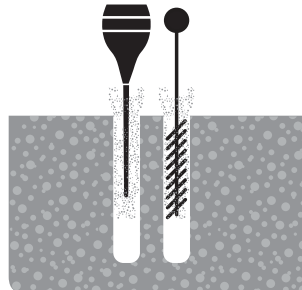
Code	Size	Components	Material
Thru-Bolt™ PRO-G	M8 - M20 	Wedgebolt Clip Nut Washer	Carbon steel, sherardized $\geq 40 \mu\text{m}$ Stainless steel DIN 934, sherardized $\geq 40 \mu\text{m}$ DIN 125, DIN 9021, sherardized* $\geq 40 \mu\text{m}$
Thru-Bolt™ PRO	M8 - M20 	Wedgebolt Clip Nut Washer	Carbon steel, galvanized $\geq 5 \mu\text{m}$ Carbon steel, sherardized $\geq 15 \mu\text{m}$ DIN 934, galvanized $\geq 5 \mu\text{m}$ DIN 125, DIN 9021, galvanized $\geq 5 \mu\text{m}$
Thru-Bolt™ PRO-SS	M8 - M20 	Wedgebolt Clip Nut Washer	Stainless steel, grade A4 Stainless steel, grade A4 galvanised $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/TO Stainless steel, grade A4 with antifriction coating DIN 125, DIN 9021, DIN 440 stainless steel, grade A4
DOMTA available on request	M8 - M20 	Tool for anchor installation using percussion hammer drilling machine	

* Sherardising is a process of galvanisation of ferrous metal surfaces, also called dry galvanising. The process involves heating the steel up to 500°C in a closed rotating drum that contains metallic zinc dust.

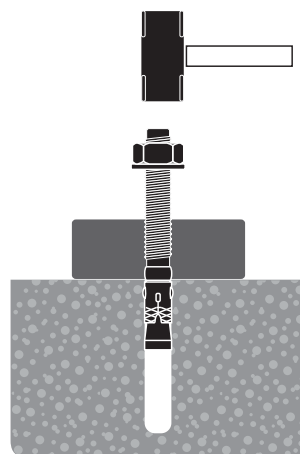
INSTALLATION



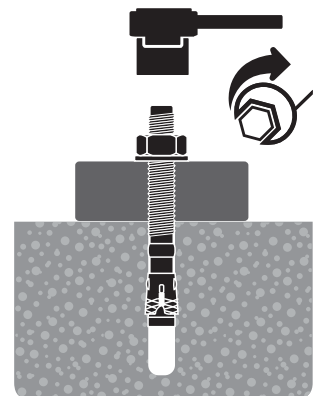
1. Drilling
Use drill in hammer mode.
Drill to specified diameter and depth for the required size.



2. Blow and clean
Clean the drill hole completely of dust and debris.
Use blow pump and brush



3. Install
Insert the anchor in the hole until the red ring mark is flat with the concrete surface.
Use hammer if required; DOMTA tool can be used alternatively.
The installation may be done through the fixture baseplate.



4. Apply torque
Apply nominal installation torque using a torque wrench.
Once installed verification of the total length of the anchor can be made through the letter on the head.



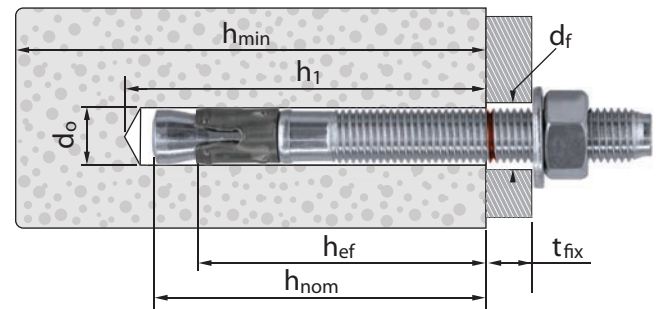
INSTALLATION DATA

FOR THRU-BOLT™ PRO - ZINC CLEAR



INSTALLATION DATA

FOR THRU-BOLT™ PRO - SHERARDISED

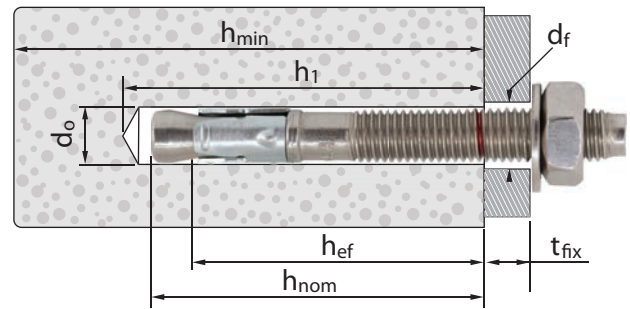


Thru-Bolt™ PRO ZINC CLEAR Part No	Thru-Bolt™ PRO-G SHERARDISED Part No	Size	Nominal diameter of drill bit d_o (mm)	Fixture Clearance d_f (mm)	Installation Torque T_{inst} (Nm)	Minimum concrete thickness h_{min} (mm)	Drill hole depth h_1 (mm)	Embedment depth h_{nom} (mm)	Effective depth h_{ef} (mm)	Max. Fixture thickness t_{fix} (mm)	Critical spacing S_{cr} (mm)	Critical edge distance C_{cr} (mm)	Spacing min. S_{min} (mm)	Edge distance min. C_{min} (mm)
TB06085		6 X 85	6	7	5	100	55	50	42	26	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB06120		6 X 120	6	7	5	100	55	50	42	61	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB08080	TB08080G	8 X 80	8	9	15	100	60	55	48	14	144	72	50	50
TB08100	TB08100G	8 X 100	8	9	15	100	60	55	48	34	144	72	50	50
TB10065	TB10065G	10 X 65	10	12	40	100	50	45	37	10	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB10090	TB10090G	10 X 90	10	12	40	120	75	68	60	10	180	90	60	60
TB10120	TB10120G	10 X 120	10	12	40	120	75	68	60	40	180	90	60	60
TB12080	TB12080G	12 X 80	12	14	60	120	65	60	50	5	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB12100	TB12100G	12 X 100	12	14	60	140	85	80	70	4	210	105	70	70
TB12140	TB12140G	12 X 140	12	14	60	140	85	80	70	44	210	105	70	70
TB12180	TB12180G	12 X 180	12	14	60	140	85	80	70	84	210	105	70	70
TB16105	TB16105G	16 X 105	16	18	100	140	85	80	68	5	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB16125	TB16125G	16 X 125	16	18	100	170	105	97	85	8	255	128	128	128
TB16140	TB16140G	16 X 140	16	18	100	170	105	97	85	23	255	128	128	128
TB16190	TB16190G	16 X 190	16	18	100	170	105	97	85	73	255	128	128	128
TB20125	TB20125G	20 X 125	20	22	200	160	110	100	86	5	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB20160	TB20160G	20 X 160	20	22	200	200	125	114	100	22	300	150	150	150
TB20200	TB20200G	20 X 200	20	22	200	200	125	114	100	62	300	150	150	150

* Sherardising is a process of galvanisation of ferrous metal surfaces, also called dry galvanising. The process involves heating the steel up to 500°C in a closed rotating drum that contains metallic zinc dust.



INSTALLATION DATA FOR THRU-BOLT™ PRO - 316 S/S



Thru-Bolt™ PRO-SS STAINLESS STEEL Part No	Size	Nominal diameter of drill bit d_o (mm)	Fixture Clearance Hole d_f (mm)	Installation Torque T_{inst} (Nm)	Minimum concrete thickness h_{min} (mm)	Drill hole depth h_1 (mm)	Embedment depth h_{nom} (mm)	Effective Depth h_{ef} (mm)	Max. Fixture thickness t_{fix} (mm)	Critical spacing S_{cr} (mm)	Critical edge distance C_{cr} (mm)	Spacing min. S_{min} (mm)	Edge distance min. C_{min} (mm)
TB08075SS	8 x 75mm	8	9	15	100	60	55	48	8	144	72	42	47
TB08100SS	8 x 100mm		9	15		60	55	48	33	144	72	42	47
TB10065SS	10 x 65mm	10	12	30	120	60	50	42	5	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB10090SS	10 x 90mm		12	30		75	68	60	9	180	90	47	52
TB10120SS	10 x 120mm		12	30		75	68	60	39	180	90	47	52
TB12080SS	12 x 80mm	12	14	60	140	65	60	50	3	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB12100SS	12 x 100mm		14	60		85	80	70	3	210	105	57	62
TB12140SS	12 x 140mm		14	60		85	80	70	43	210	105	57	62
TB12180SS	12 x 180mm		14	60		85	80	70	83	210	105	57	62
TB16105SS	16 x 105mm	16	18	100	170	85	75	63	10	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB16125SS	16 x 125mm		18	100		105	97	85	7	255	128	75	75
TB16140SS	16 x 140mm		18	100		105	97	85	22	255	128	75	75
TB20125SS	20 x 125mm	20	22	200	200	100	90	76	10	Size is not part of ETA assessment and not compliant with AS 5216, for design in accordance with simplified design method please refer to TDS 1007.			
TB20160SS	20 x 160mm		22	200		125	114	100	21	300	150	100	90



Thru-Bolt™ PRO Design Resistance Capacities

Parameters: Qualification based on AS 5216

Concrete: 20 MPa

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



Thru-Bolt™ PRO
Design Resistance
Capacities - 20 MPa

Diameter	Embedment Depth (mm)	Effective Depth (min.)	Uncracked concrete Tension N_{Rd} (kN)	Cracked concrete Tension N_{Rd} (kN)	Uncracked concrete Shear V_{Rd} (kN)	Cracked concrete Shear V_{Rd} (kN)
M8	55	48	5.0	3.3	8.8	7.6
M10	68	60	10.7	6.0	13.9	13.9
M12	80	70	16.7	10.7	20.2	20.2
M16	97	85	23.3	16.7	37.7	36.0
M20	114	100	32.8	20.0	58.5	45.9



Thru-Bolt™ PRO-G
Design Resistance
Capacities - 20 MPa

Diameter	Embedment Depth (mm)	Effective Depth (min.)	Uncracked concrete Tension N_{Rd} (kN)	Cracked concrete Tension N_{Rd} (kN)	Uncracked concrete Shear V_{Rd} (kN)	Cracked concrete Shear V_{Rd} (kN)
M8	55	48	5.0	3.3	8.8	7.6
M10	68	60	10.7	6.0	13.9	13.9
M12	80	70	19.2	10.7	20.2	20.2
M16	97	85	23.3	16.7	37.7	36.0
M20	114	100	32.8	20.0	58.5	45.9



Thru-Bolt™ PRO-SS
Design Resistance
Capacities - 20 MPa

Diameter	Embedment Depth (mm)	Effective Depth (min.)	Uncracked concrete Tension N_{Rd} (kN)	Cracked concrete Tension N_{Rd} (kN)	Uncracked concrete Shear V_{Rd} (kN)	Cracked concrete Shear V_{Rd} (kN)
M8	55	48	8.0	5.7	9.5	7.6
M10	68	60	10.7	9.3	15.1	15.1
M12	80	70	16.0	10.6	21.9	21.9
M16	97	85	21.4	15.0	42.8	30.0
M20	114	100	27.3	19.1	54.7	38.3

Thru-Bolt™ PRO Seismic Design Resistance Capacities

Parameters: Qualification based on AS 5216 / EN 1992:4

Concrete: 20 MPa

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



Thru-Bolt™ PRO
C1 Seismic
Design Resistance
Capacities - ($a_{gap} = 1.0$)

Diameter	Embed. Depth (mm)	Effective Depth (min.)	Tension N_{Rd} (kN)	Shear V_{Rd} (kN)
M8	55	48	3.3	6.2
M10	68	60	5.9	9.8
M12	80	70	10.7	14.2
M16	97	85	15.3	26.4
M20	114	100	19.5	39.0



Thru-Bolt™ PRO
C2 Seismic
Design Resistance
Capacities - ($a_{gap} = 1.0$)

Diameter	Embed. Depth (mm)	Effective Depth (min.)	Tension N_{Rd} (kN)	Shear V_{Rd} (kN)
M10	68	60	2.6	9.8
M12	80	70	6.1	14.2
M20	114	100	14.0	39.0



THRU BOLT PRO-G
C1 Seismic
Design Resistance
Capacities - ($a_{gap} = 1.0$)

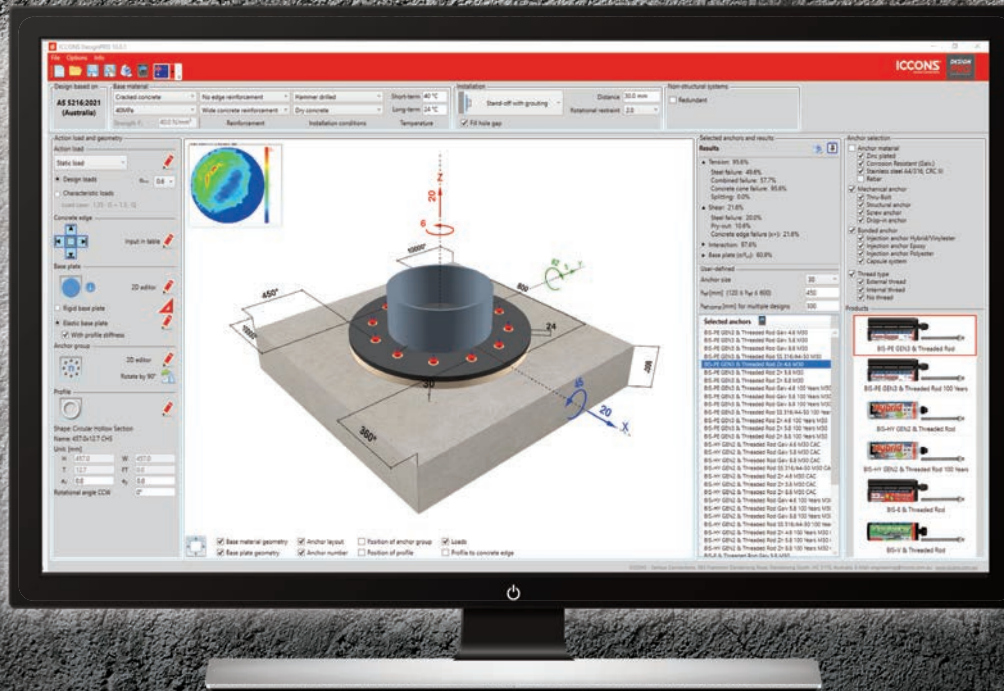
Diameter	Embed. Depth (mm)	Effective Depth (min.)	Tension N_{Rd} (kN)	Shear V_{Rd} (kN)
M8	55	48	3.3	5.3
M10	68	60	6.0	10.0
M12	80	70	10.7	15.1
M16	97	85	15.3	28.3
M20	114	100	19.5	39.0



Thru-Bolt™ PRO
C2 Seismic
Design Resistance
Capacities - ($a_{gap} = 1.0$)

Diameter	Embed. Depth (mm)	Effective Depth (min.)	Tension N_{Rd} (kN)	Shear V_{Rd} (kN)
M12	80	70	3.9	14.2
M16	97	85	10.9	26.4
M20	114	100	11.5	39.0

NOTE: Performance data in the above tables has been derived using the relevant published ETA (ETA 20/0900). For detailed calculations please download the ICCONS Software - DesignPRO @ www.iccons.com.au/software/anchor-design-software



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AS5216:2021 COMPLIANT NCC ANCHOR DESIGN

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