



# TB1-Plus and TB1-A4-Plus Thru-Bolt



X ANCHORS



**SYMPAFIX**<sup>®</sup>  
serious fixings

by

**ICCONS**<sup>®</sup>  
Serious Connections<sup>®</sup>

# TB1-Plus and TB1-A4-Plus Thru-Bolt

FREE Software Download - go to [www.iccons.com.au](http://www.iccons.com.au)



- SA TS 101:2015 Compliant
- ETA option 1 approval for use in cracked and non-cracked concrete
- Approved carbon steel range: M8, M10, M12 and M16
- Seismic approved carbon steel range: M12 and M16
- Approved stainless steel range: M8, M10 and M12
- Continuous thread enables **optimal flexibility** in fixture thicknesses and applications
- Guaranteed **safe installation** because of a colour-marking of the required approved embedment depth
- Hardened stainless clip: THE part of the anchor responsible for achieving the actual load values is **not subject to corrosion**
- **Heightened thread-free anchor head** ensures the thread is not damaged when installing the anchor
- **Rounded cone**: anchor easily slides into the drilled hole
- Steep angle of the anchor cone results in **quick tension resistance** when installing the anchor
- F120 fire approval

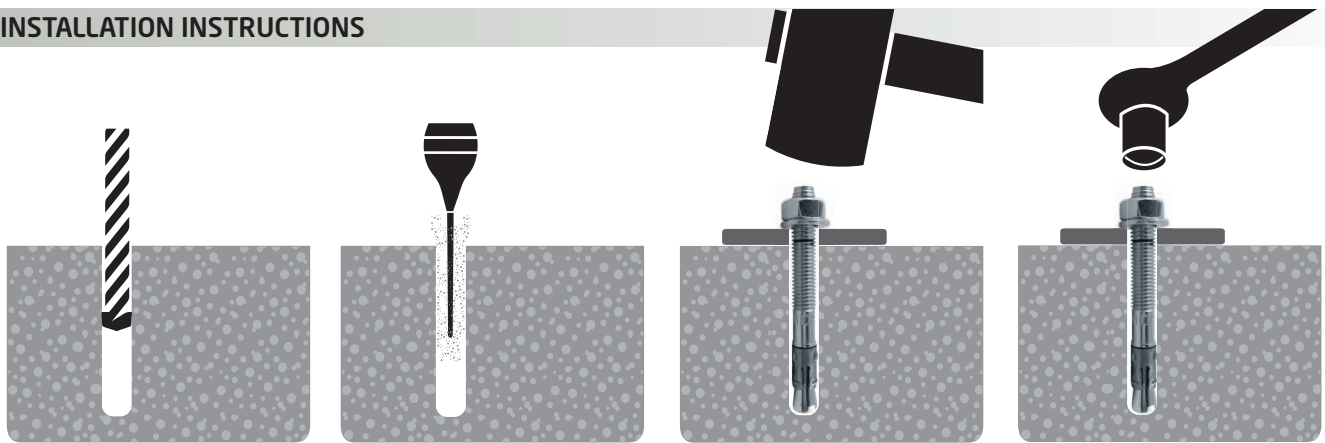
## APPROVALS AND TEST REPORTS TB1-PLUS THRU-BOLT



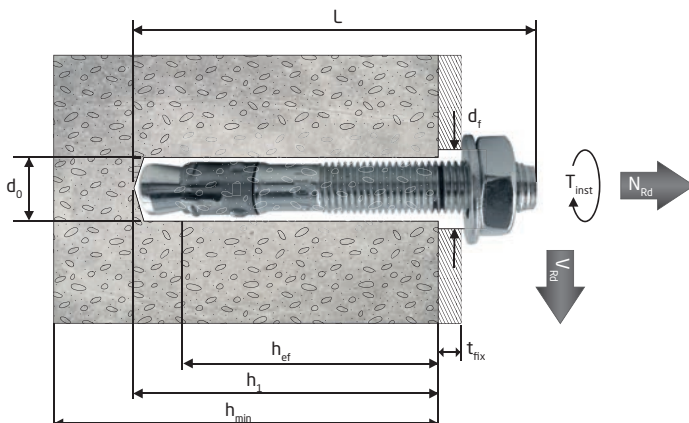
## APPROVALS AND TEST REPORTS TB1-A4-PLUS THRU-BOLT



## INSTALLATION INSTRUCTIONS



## TECHNICAL DATA



- L: anchor length
- $t_{fix}$ : maximum fixture thickness
- $d_f$ : diameter through hole fixture
- $T_{inst}$ : installation torque
- $d_o$ : drill hole diameter
- $h_{ef}$ : embedment depth
- $h_1$ : minimum drill hole depth
- $h_{min}$ : minimum member thickness
- $c_{min}$ : minimum edge distance
- $s_{min}$ : minimum spacing
- $N_{Rd}$ : Design load in tension
- $V_{Rd}$ : Design load in shear

# TB1-Plus and TB1-A4-Plus Thru-Bolt

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## ETA APPROVED RANGE



### TB1-PLUS THRU-BOLT CARBON STEEL CLASS 5.8 ZINC CLEAR

Part No.	Description	mm	mm	mm	qty	qty
<b>S-TB1+08060</b>	8 x 60mm (70550)	8	55	5	100	400
<b>S-TB1+08075</b>	8 x 75mm (70552)			20	100	400
<b>S-TB1+08105</b>	8 x 105mm (70558)			50	100	400
<b>S-TB1+10085</b>	10 x 85mm (70562)	10	75	5	50	200
<b>S-TB1+10090</b>	10 x 90mm (70564)			10	50	200
<b>S-TB1+10120</b>	10 x 120mm (70570)			40	50	200
<b>S-TB1+12090*</b>	12 x 90mm (70576)	12	75	5	50	200
<b>S-TB1+12100*</b>	12 x 100mm (70578)			15	50	200
<b>S-TB1+12135*</b>	12 x 135mm (70582)			50	25	100
<b>S-TB1+12185*</b>	12 x 185mm (70588)			100	25	100
<b>S-TB1+16125*</b>	16 x 125mm (70594)	16	100	15	20	80
<b>S-TB1+16150*</b>	16 x 150mm (70596)			40	20	80
<b>S-TB1+16210*</b>	16 x 210mm (70600)			100	10	40

\* C1 Seismic approval applies

## ETA APPROVED RANGE



### TB1-A4-PLUS THRU-BOLT STAINLESS STEEL 316 A4

Part No.	Description	mm	mm	mm	qty	qty
<b>TB08075SS</b>	8 x 75mm (71296)	8	60	15	100	400
<b>TB08100SS</b>	8 x 100mm (71298)			40	100	400
<b>TB10090SS</b>	10 x 90mm (71302)	10	75	10	50	200
<b>TB10120SS</b>	10 x 120mm			40	50	200
<b>TB12100SS</b>	12 x 100mm (71308)	12	85	15	50	200
<b>TB12140SS</b>	12 x 140mm (71310)			55	25	100
<b>TB12180SS</b>	12 x 180mm			95	25	100

## TB1-A4 RANGE NOT COVERED UNDER ETA ASSESSMENT



### TB1-A4-PLUS THRU-BOLT STAINLESS STEEL 316 A4

Part No.	Description	mm	mm	mm	qty	qty
<b>TB10065SS</b>	10 x 65mm	10	55	5	100	400
<b>TB12080SS</b>	12 x 80mm	12	70	10	50	200
<b>TB16105SS</b>	16 x 105mm	16	80	10	25	100
<b>TB16125SS</b>	16 x 125mm			15	20	80
<b>TB16140SS</b>	16 x 140mm			30	20	80
<b>TB20125SS</b>	20 x 125mm	20	100	10	10	40
<b>TB20160SS</b>	20 x 160mm			25	10	40

## ETA APPROVED RANGE



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### TB1-PLUS THRU-BOLT PERFORMANCE DATA - DESIGN RESISTANCE

Part No.	Description	Anchor length L (mm)	Max. fixture thickness t <sub>fix</sub> (mm)	Diameter through hole fixture d <sub>f</sub> (mm)	Install. torque T <sub>inst</sub> (Nm)	Drill hole diameter (mm)	Embedment depth h <sub>ef</sub> (mm)	With torque wrench SW (mm)	Min. drill hole depth h <sub>1</sub> (mm)	Min. member thickness h <sub>min</sub> (mm)	Min. edge distance C <sub>min</sub> (mm)	Min. spacing S <sub>min</sub> (mm)	Non cracked concrete tension load N <sub>Rd</sub> (kN)	Cracked concrete tension load N <sub>Rd</sub> (kN)	Non cracked concrete shear load V <sub>Rd</sub> (kN)	Cracked concrete shear load V <sub>Rd</sub> (kN)
S-TB1+08060	8/5x60 (70550)	60	5	9	30	8	40	13	55	100	65	65	3.3	1.7	6.4	6.1
S-TB1+08075	8/20x75 (70552)	75	20													
S-TB1+08105	8/50x105 (70558)	105	50													
S-TB1+10085	10/5x85 (70562)	85	5	12	50	10	60	17	75	120	60	150	6.7	5.0	14.1	14.1
S-TB1+10090	10/10x90 (70564)	90	10													
S-TB1+10120	10/40x120 (70570)	120	40													
S-TB1+12090	12/5x90 (70576)	90	5	14	70	12	60	19	75	120	80	80	5.7	5.7	19.8	19.8
S-TB1+12100	12/15x100 (70578)	100	15													
S-TB1+12135	12/50x135 (70582)	135	50													
S-TB1+12185	12/100x185 (70588)	185	100	18	130	16	80	24	100	160	85	85	16.7	5.7	36.7	34.4
S-TB1+16125	16/15x125 (70594)	125	15													
S-TB1+16150	16/40x150 (70596)	150	40													
S-TB1+16210	16/100x210 (70600)	210	100													

Note: Loads in kN for a single anchor in concrete C20/25, no influence of edge or spacing distances. Refer to Design Fix Software for further design information.

## ETA APPROVED RANGE



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### TB1-A4-PLUS THRU-BOLT PERFORMANCE DATA - DESIGN RESISTANCE

Part No.	Description	Anchor length L (mm)	Max. fixture thickness t <sub>fix</sub> (mm)	Diameter through hole fixture d <sub>f</sub> (mm)	Install. torque T <sub>inst</sub> (Nm)	Drill hole diameter (mm)	Embedment depth h <sub>ef</sub> (mm)	With torque wrench SW (mm)	Min. drill hole depth h <sub>1</sub> (mm)	Min. member thickness h <sub>min</sub> (mm)	Min. edge distance C <sub>min</sub> (mm)	Min. spacing S <sub>min</sub> (mm)	Non cracked concrete tension load N <sub>Rd</sub> (kN)	Cracked concrete tension load N <sub>Rd</sub> (kN)	Non cracked concrete shear load V <sub>Rd</sub> (kN)	Cracked concrete shear load V <sub>Rd</sub> (kN)
TB08075SS	A4-8/15X75 (71296)	75	15	9	20	8	45	13	60	100	70	70	3.3	1.1	8.6	7.2
TB08100SS	A4-8/40X100 (71298)	100	40													
TB10090SS	A4-10/10X90 (71302)	90	10	12	45	10	60	17	75	120	80	80	6.7	3.3	13.7	13.7
TB10120SS	A4-10/40X120	120	40													
TB12100SS	A4-12/15X100 (71308)	100	15	14	60	12	70	19	85	140	90	90	8.9	6.7	19.9	19.9
TB12140SS	A4-12/55X140 (71310)	140	55													
TB12180SS	A4-12/95X180	180	95													

Note: Loads in kN for a single anchor in concrete C20/25, no influence of edge or spacing distances. Refer to Design Fix Software for further design information.

## TB1-A4 RANGE NOT COVERED UNDER ETA ASSESSMENT



### TB1-A4-PLUS THRU-BOLT PERFORMANCE DATA - DESIGN RESISTANCE

Part No.	Description	Anchor length L (mm)	Max. fixture thickness t <sub>fix</sub> (mm)	Diameter through hole fixture d <sub>f</sub> (mm)	Install. torque T <sub>inst</sub> (Nm)	Drill hole diameter (mm)	Embedment depth h <sub>ef</sub> (mm)	With torque wrench SW (mm)	Min. drill hole depth h <sub>1</sub> (mm)	Min. member thickness h <sub>min</sub> (mm)	Min. edge distance C <sub>min</sub> (mm)	Min. spacing S <sub>min</sub> (mm)	Non cracked concrete tension load N <sub>Rd</sub> (kN)	Non cracked concrete shear load V <sub>Rd</sub> (kN)
TB10065SS	10 x 65mm	65	5	12	45	10	40	17	55	120	80	80	3.3	8.6
TB12080SS	12 x 80mm	80	10	14	60	12	55	19	70	140	90	90	6.7	13.7
TB16105SS	16 x 105mm	105	10	18	130	16	60	24	80	160	100	100	7.9	19.9
TB16125SS	16 x 125mm	125	15	18	130	16	80	24	100	160	100	100	8.9	19.9
TB16140SS	16 x 140mm	140	30											
TB20125SS	20 x 125mm	125	10	22	200	20	80	30	100	200	120	120	15.0	34.4
TB20160SS	20 x 160mm	160	25				100	120					16.0	34.4

Note: Loads in kN for single anchor in concrete C20/25, no influence of edge or spacing distance. Performance data is based on laboratory testing conducted by the manufacturer.