



Product Information

The Bright Zinc Plated Throughbolt is a torque controlled through fixing suitable for use in concrete from C20/25 to C50/60. Zinc Plated and Yellow Passivated to a minimum of 5µm it is suitable for use in dry internal conditions together with excellent load bearing capacities.

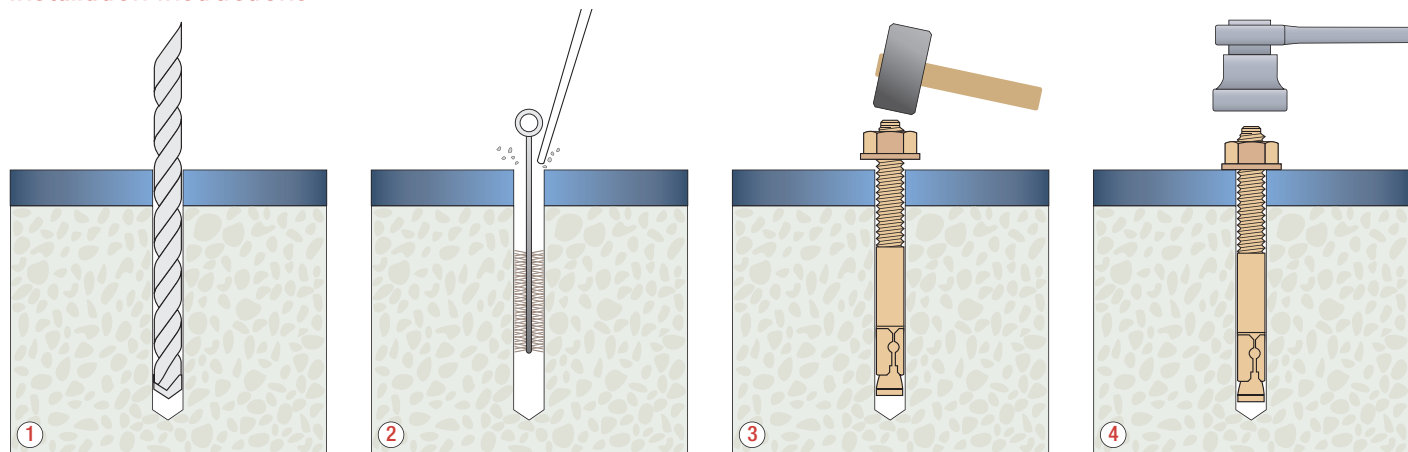
Features

- 1 Through Fixing
- 2 Suitable for dry internal use
- 3 Medium to Heavy Duty applications
- 4 Torque controlled expansion
- 5 Supplied pre-assembled for rapid installation

Range Data

Part Number	Thread Diameter mm	Anchor Length mm	Hole Diameter mm	Maximum Fixture Thickness mm	Fixture Clearance Hole mm	Thread Length mm	Embedment Depth mm	Minimum Hole Depth mm	Minimum Structure Thickness mm	Tightening Torque Nm
TB06045	6	45	6	5	7	20	30	35	100	6
TB06055		55		15		30				
TB06085		85		45		60				
TB08050	8	50	8	5	9	20	35	40	100	10
TB08065		65		20		35				
TB08080		80		35		50				
TB08100		100		55		70				
TB08130	10	130	10	85	12	85	45	50	100	28
TB10065		65		8		25				
TB10075		75		18		35				
TB10090		90		33		50				
TB10120		120		63		80				
TB12080	12	80	12	5	14	30	60	65	100	34
TB12100		100		25		50				
TB12120		120		45		70				
TB12140		140		65		90				
TB12180	16	180	16	105	18	90	75	85	110	85
TB16105		105		10		60				
TB16125		125		30		65				
TB16150		150		55		90				
TB16175		175		80		90				
TB20130	20	130	20	20	22	60	85	100	130	160
TB20160		160		50		60				
TB20215		215		105		60				
TB24180	24	180	24	45	26	65	105	120	160	280
TB24260		260		125		65				

Installation Instructions



Position fixture and drill correct diameter hole to correct depth

Clean hole by brushing and blowing to remove all dust and drilling debris

Insert assembled anchor through fixture into concrete

Tighten anchor to Recommended Torque

Performance Data (20/25 Concrete)									
Thread Diameter mm	Characteristic Resistance kN		Design Resistance kN		Recommended Load kN		Spacing mm	Edge Distance mm	
	Tensile	Shear	Tensile	Shear	Tensile	Shear	Tensile & Shear	Tensile	Shear
6	5.4	5.1	3.6	4.1	2.6	2.9	70	50	60
8	6.0	9.3	4.0	7.4	2.9	5.3	75	50	90
10	9.6	13.4	6.4	10.7	4.6	7.7	105	55	105
12	15.0	20.6	10.0	16.5	7.1	11.8	140	70	130
16	19.8	34.6	13.2	26.0	9.4	18.6	165	85	160
20	26.1	54.0	17.4	40.6	12.4	29.0	195	100	200
24	34.2	77.8	22.8	58.5	16.3	41.8	240	120	240

Shear Loads towards a free edge are for single anchors where Spacing $\geq 3 \times$ Edge Distance

Reduced Design Resistance (kN) • Divide Loads by 1.4 for Recommended Loads

Edge Distance (C20/25 Concrete) for single anchors														Spacing (C20/25Concrete)								
Edge mm	Tensile Resistance							Shear Resistance							Spacing mm	Tensile Resistance per Pair of Anchors						
	M6	M8	M10	M12	M16	M20	M24	M6	M8	M10	M12	M16	M20	M24		M6	M8	M10	M12	M16	M20	M24
40	3.1	3.4						2.7							50	6.2						
45	3.3	3.7	5.6					3.0							60	6.7	7.2					
50	3.6	4.0	6.0	8.0				3.4	4.1						65	6.9	7.5	10.4				
55			6.4	8.5	9.9			3.7	4.5						70	7.2	7.7	10.7				
60				9.0	10.5	12.5		4.1	4.9	6.1					75		8.0	11.0	15.4			
70				10.0	11.6	13.7			5.7	7.1					85			11.6	16.1			
85					13.2	15.6	18.1		7.0	8.6					100			12.5	17.1	21.2		
90						16.2	18.8		7.4	9.1	11.4				105			12.8	17.5	21.6		
100						17.4	20.1			10.2	12.7				115				18.2	22.4		
105							20.8			10.7	13.3	17.1			130				19.3	23.6	29.0	
120							22.8				15.2	19.5	24.4		140				20.0	24.4	29.9	
130											16.2	21.1	26.4		150					25.2	30.8	37.1
150												24.4	30.5	36.6	165					26.4	32.1	38.5
160												26.0	32.5	39.0	175						33.0	39.4
180													36.5	43.9	185						33.9	40.4
190														38.6	46.3	195					34.8	41.3
200														40.6	48.8	220						43.7
220															53.6	240						45.6
240														58.5								

Influence of Concrete Strength

Concrete Strength		C20/25	C25/30	C30/37	C40/50	C45/55	C50/60
Cylinder	N/mm ²	20	25	30	40	45	50
Cube	N/mm ²	25	30	37	50	55	60
Factor		1.0	1.1	1.22	1.41	1.48	1.55

When using concrete factors check all other information to ensure Steel Tensile and Shear Resistance is not exceeded

Steel Design Resistance for single anchor

		M6	M8	M10	M12	M16	M20	M24
Tension	kN	5.9	10.9	17.4	25.4	36.0	56.0	81.0
Shear	kN	4.3	7.9	12.5	18.3	26.0	40.6	58.5

Anchor Mechanical Properties

		M6	M8	M10	M12	M16	M20	M24
Tensile Strength	N/mm ²	500	500	500	500	400	400	400
Yield Strength	N/mm ²	400	400	400	400	240	240	240
Nut A/F	mm	10	13	17	19	24	30	36
Washer Diameter	mm	12	17	21	24	30	37	44