



Throughbolt B.Z.P.



Product Information

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

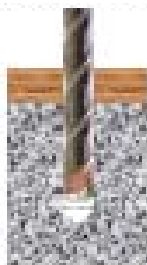
Features

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

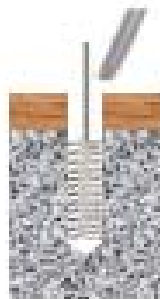
Range Data

Part No.	Thread Diam mm	Anchor Length mm	Hole Diam 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		130		85		85				
TB10065	10	65	10	8	12	25	45	50	100	28
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		180		105		90				
TB16105	16	105	16	10	18	60	75	85	110	85
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				

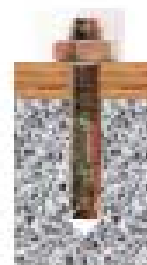
Installation Instructions



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

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Performance Data (C20/25 Concrete)

Thread Diam 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 (Factored) Loads

Edge mm	Edge Distance (C20/25 Concrete) for single anchors														Spacing (C20/25 Concrete)										
	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	3.44						2.4							50	6.2									
45	3.35	3.72	5.6					2.7							60	6.7	7.2								
50	3.6	4.0	6.0	8.0				3.0	2.22						65	6.9	7.5	10.4							
55			6.4	8.5	9.9			3.3	2.44						70	7.2	7.7	10.7							
60				9.0	10.5	12.5		3.6	2.67	3.66					75		8.0	11.0	15.4						
70				10.0	11.6	13.7			3.11	4.27					85			11.6	16.1						
85					13.2	15.6	18.1		3.78	5.18					100			12.5	17.1	21.2					
90						16.2	18.8		4.0	5.49	6.92				105			12.8	17.5	21.6					
100						17.4	20.1			6.1	7.69				115				18.2	22.4					
105							20.8			6.4	8.08	8.66			130				19.3	23.6	29.0				
120							22.8				9.23	9.9	10.4		140				20.0	24.4	29.9				
130												10.0	10.7	11.3	150					25.2	30.8	37.1			
150													12.4	13.1	14.3	165					26.4	32.1	38.5		
160													13.2	13.9	15.2	175						33.0	39.4		
180														15.7	17.1	185						33.9	40.4		
190														16.5	18.1	195						34.8	41.3		
200														17.4	19.0	220							43.7		
220															20.9	240							45.6		
240														22.8											

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	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	56.3	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 Diam.	mm	12	17	21	24	30	37	44