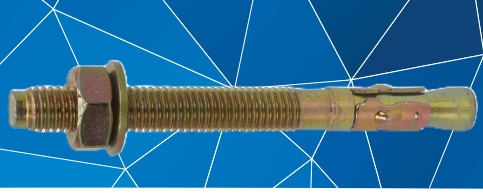
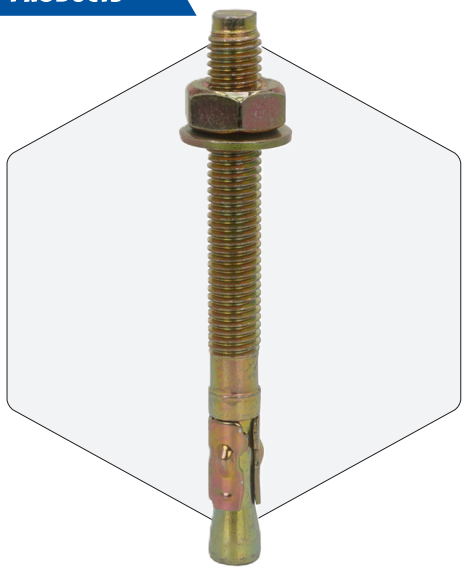
Throughbolt
Zinc and Yellow Plated





INFORMATION

The torque controlled ZYP Throughbolt is a zinc plated and yellow passivated anchor for use in non-cracked concrete for different types of applications such as:

- Barriers
- Guard rails
- Fences
- Hand rails
- Signs and posts

BASE MATERIAL

- Concrete C20/25 to C50/60
- Non-Cracked Concrete

FEATURES

- Medium To High Performance
- Wide Range Of Sizes
- Fast And Secure Installation
- Through Fixing
- Zinc Plated Min. 5µm
- Close Spacing And Edge Distance
- Three way Expansion Sleeve
- Reaction To Fire Class A1

SOFTWARE

Click here to download the software

RELATED PRODUCTS



SDS+ Drill Bits



Hole Cleaning Pump

BOP1



ETA Option 7
Throughbolt HDG



ETA Option 7
Throughbolt BZP



ETA Option 7
Throughbolt
A4 Stainless Steel



ETA Option 1
Throughbolt BZP



ETA Option 1
Throughbolt
A4 Stainless Steel

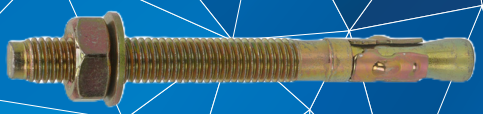
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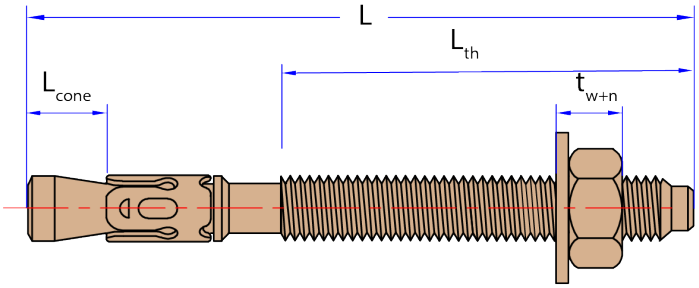
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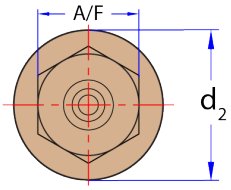
Technical Data Sheet

Throughbolt
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RANGE DATA





RANGE DATA							
Part Number	Size of Thread	Total Length	Thread Length	Cone Length	Washer and Nut Thickness	Width Across Flats	Washer Outer diameter
	mm	(L)	(L_{th})	(L_{cone})	(t_{w+n})	(A/F)	(d_2)
		mm	mm	mm	mm	mm	mm
TB06045	M6	45	18	7	8	10	12
TB06055		55	30				
TB06085		85	60				
TB08050	M8	50	20	7	10	13	16
TB08065		65	30				
TB08080		80	45				
TB08100		100	60				
TB08130		130	85				
TB10065	M10	65	30	8	13	17	20
TB10075		75	35				
TB10090		90	55				
TB10100		100	60				
TB10120		120	80				
TB10150		150	100				
TB10175		175	100				
TB12080	M12	80	35	10	16	19	24
TB12100		100	55				
TB12120		120	70				
TB12140		140	90				
TB12180		180	100				

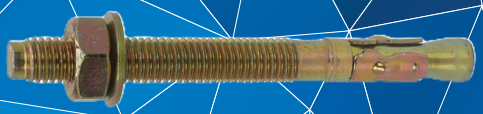
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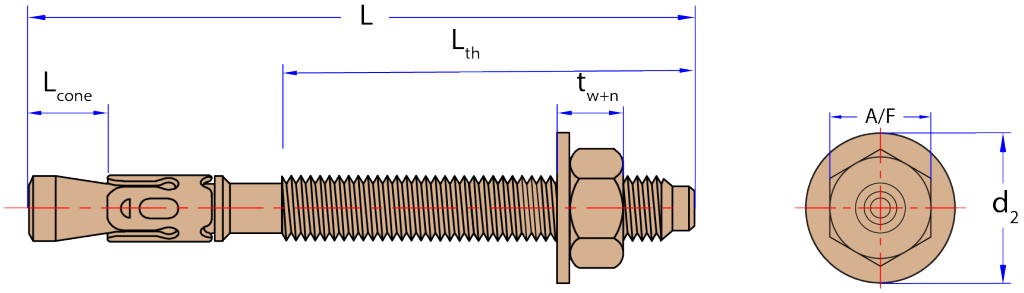
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RANGE DATA							
Part Number	Size of Thread	Total Length	Thread Length	Cone Length	Washer and Nut Thickness	Width Across Flats	Washer Outer diameter
	mm	(L)	(L_{th})	(L_{cone})	(t_{w+n})	(A/F)	(d_2)
		mm	mm	mm	mm	mm	mm
TB16105	M16	105	55	12	19	24	30
TB16125		125	72				
TB16150		150	90				
TB16175		175	110				
TB16220		220	125				
TB20130	M20	130	75	14	22	30	37
TB20160		160	95				
TB20215		215	115				
TB24180	M24	180	105	18	27	36	44
TB24260		260	150				

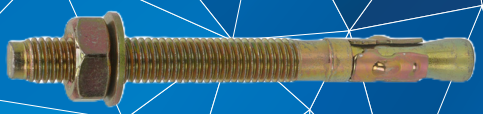
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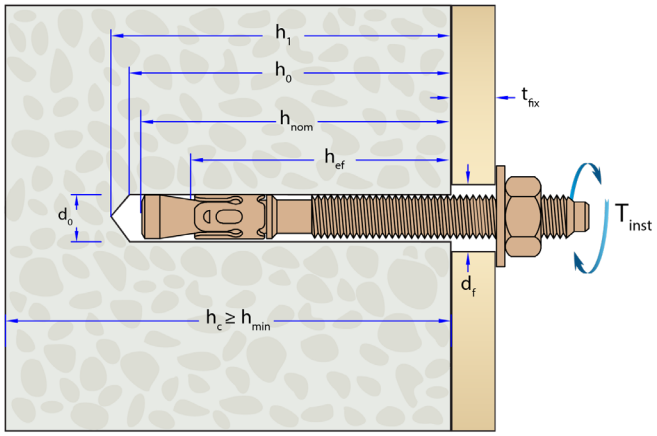
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Installation Into Concrete



Installation Parameters

Part Number	Drill Hole Diameter	Standard Embedment				Minimum spacing	Minimum Edge distance	Fixture Clearance Hole	Tightening Torque
		Min Hole Depth	Embedment Depth	Anchorage depth	Max Fixture Thickness				
	(d_0)	(h_1)	(h_{nom})	(h_{ef})	(t_{fix})	(s_{min})	(c_{min})	(d_f)	(T_{inst})
	mm	mm	mm	mm	mm	mm	mm	mm	Nm
TB06045	6	35	30	23	5	35	35	7	6
TB06055					15				
TB06085					45				
TB08050	8	40	35	28	5	45	45	9	10
TB08065					20				
TB08080					35				
TB08100					55				
TB08130					85				
TB10065	10	50	45	37	8	55	55	12	28
TB10075					18				
TB10090					33				
TB10100					43				
TB10120					63				
TB10150					93				
TB10175					118				
TB12080	12	65	60	50	5	75	75	14	34
TB12100					25				
TB12120					45				
TB12140					65				
TB12180					105				

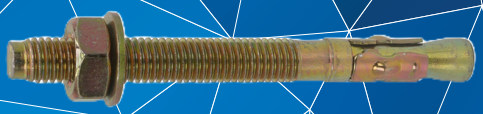
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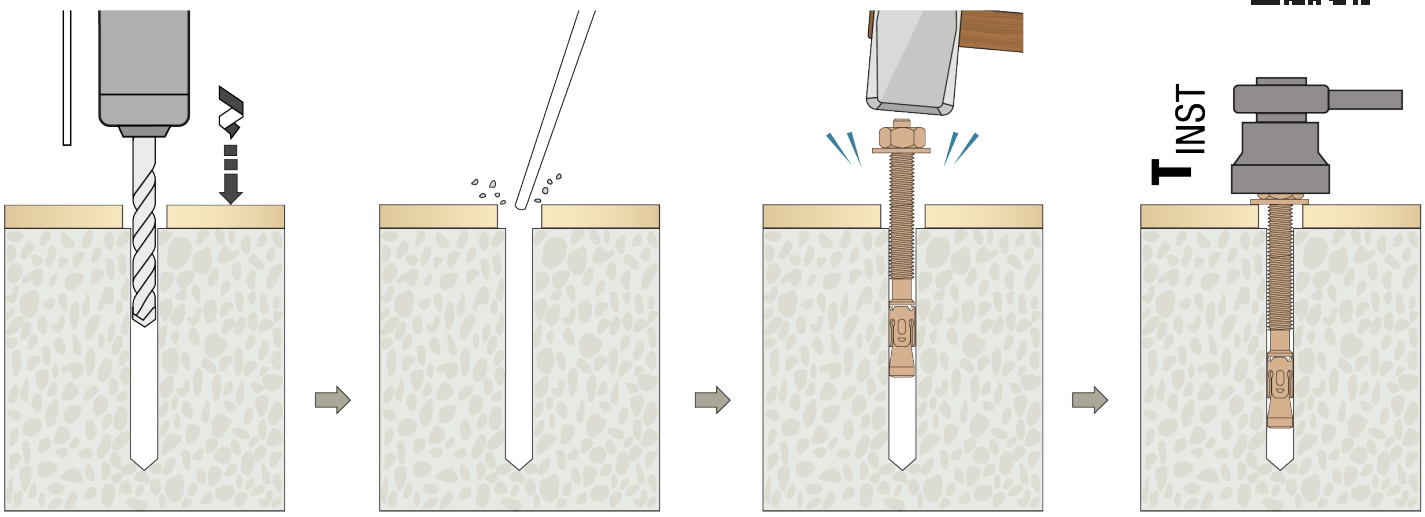


Technical Data Sheet

Installation Parameters									
Part Number	Drill Hole Diameter	Standard Embedment				Minimum spacing	Minimum Edge distance	Fixture Clearance Hole	Tightening Torque
		Min Hole Depth	Embedment Depth	Anchorage depth	Max Fixture Thick-ness				
	(d_0)	(h_1)	(h_{nom})	(h_{ef})	(t_{fix})	(s_{min})	(c_{min})	(d_f)	(T_{inst})
	mm	mm	mm	mm	mm	mm	mm	mm	Nm
TB16105	16	85	75	63	10	80	80	18	85
TB16125					30				
TB16150					55				
TB16175					80				
TB16220					125				
TB20130	20	100	85	71	20	110	110	22	160
TB20160					50				
TB20215					105				
TB24180	24	120	105	87	45	130	130	26	280
TB24260					125				

INSTALLATION INSTRUCTIONS

Click on the QR code or scan it to watch the video



-Position fixture and drill correct diameter hole to corresponding depth

-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through fixture into concrete and lightly hammer into concrete

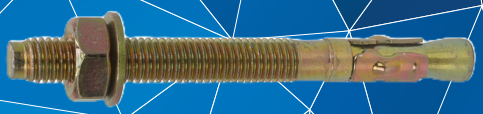
-Tighten with torque wrench to recommended torque

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PERFORMANCE DATA (NON-CRACKED CONCRETE)

Performance Data (C20/25 Non-Cracked Concrete) Standard Embedment								
Size Of Thread	Embedment Depth (h_{nom})	Minimum Concrete Thick-ness (h_{min})	Characteristic Resistance		Design Resistance		Recommended Resistance	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile(N_{Rrec})	Shear (V_{Rrec})
-	mm	mm	kN	kN	kN	kN	kN	kN
M6	30	100	5.7	3.2	2.9	1.9	2.1	1.4
M8	35	100	7.4	5.8	4.1	3.5	2.9	2.5
M10	45	125	11.3	9.1	6.2	5.6	4.4	4
M12	60	170	17.8	13.3	9.8	8.2	7	5.8
M16	75	200	23.8	24.7	13.2	15.2	9.4	10.8
M20	85	240	30.1	38.6	16.7	22.7	11.9	16.2
M24	105	300	40.9	55.6	22.7	32.7	16.2	23.3

* Important notes:

- Fasteners subject to static and quasi-static loads.
- Performance data stated for a single anchor, without the effect of spacing and edge distances. The influence of these parameters must be verified where applicable.
- Minimum concrete thickness, hole diameter, and embedment depth shall correspond to the dimensions stated in this document.
- Concrete strength class C20/25 is assumed.
- Drill holes produced using rotary hammer drilling, unless otherwise noted.
- Installation carried out strictly in accordance with the product's Installation Instructions and performed by a trained operator.
- Characteristic and design resistances derived from JCP internal technical data.
- Design resistances are calculated from characteristic values using the appropriate partial safety factors corresponding to the decisive failure mode.
- The Recommended Resistance is calculated using an additional safety factor (γ_{Add}) equal to 1.4.
- Performance data is valid for shear loading without a lever arm; installations involving a lever arm require additional verifications.
- Performance data is not valid for combined tensile and shear loading; where combined loading occurs, further checks shall be performed.
- When concrete-related strength factors are applied, ensure that the resulting resistance value does not exceed the steel design resistance.
- For project-specific assessments or conditions not explicitly covered, download the JCP Anchor Calculation Program.

JCP PRO Suite
Click here to download the software

For variations in structure thickness, reduced spacing and edge calculations download the free **A**nchor **C**alculation **P**rogram from www.jcpfixings.co.uk

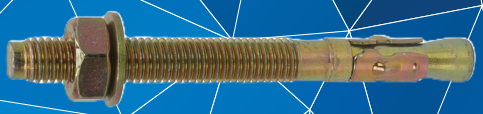
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SUPPLEMENTARY DATA

Influence Of Concrete Strength (Non-cracked Concrete)					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm^2	20	30	40	50
Cube	N/mm^2	25	37	50	60
Factor		1.0	1.08	1.15	1.19

Important Note:
When using concrete factors ensure that loads do not exceed Steel Design Resistance.

Steel Failure						
Size Of Thread	Tensile Resistance			Shear Resistance		
	Characteristic Resistance ($N_{Rk,s}$)	Design Resistance ($N_{Rd,s}$)	Recommended Resistance($N_{Rrec,s}$)	Characteristic Resistance ($V_{Rk,s}$)	Design Resistance ($V_{Rd,s}$)	Recommended Resistance($V_{Rrec,s}$)
-	kN	kN	kN	kN	kN	kN
M6	5.7	2.94	2.1	3.2	1.9	1.4
M8	10.5	5.41	3.8	5.8	3.5	2.5
M10	16.6	8.5	6.1	9.1	5.6	4
M12	24.2	12.4	8.91	13.3	8.2	5.8
M16	45.8	23.6	16.8	24.7	15.2	10.8
M20	70.7	34.6	24.7	38.6	22.7	16.2
M24	102	50	35.7	55.6	32.7	23.3

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