

## INFORMATION

The torque controlled Throughbolt is a zinc plated and yellow passivated through fixing for use in non-cracked concrete and normal applications such as:

- Temporary Barriers
- Temporary site equipments' anchoring
- Temporary Fencing
- Warehouse Shelving
- Temporary Signs and posts

## BASE MATERIAL

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

## FEATURES

- Medium Duty
- Zinc Plated Minimum 5µm
- Wide Range Of Sizes
- Fast And Secure Installation
- Through Fixing
- Three way Expansion Sleeve
- Reaction To Fire Class A1

## RELATED PRODUCTS

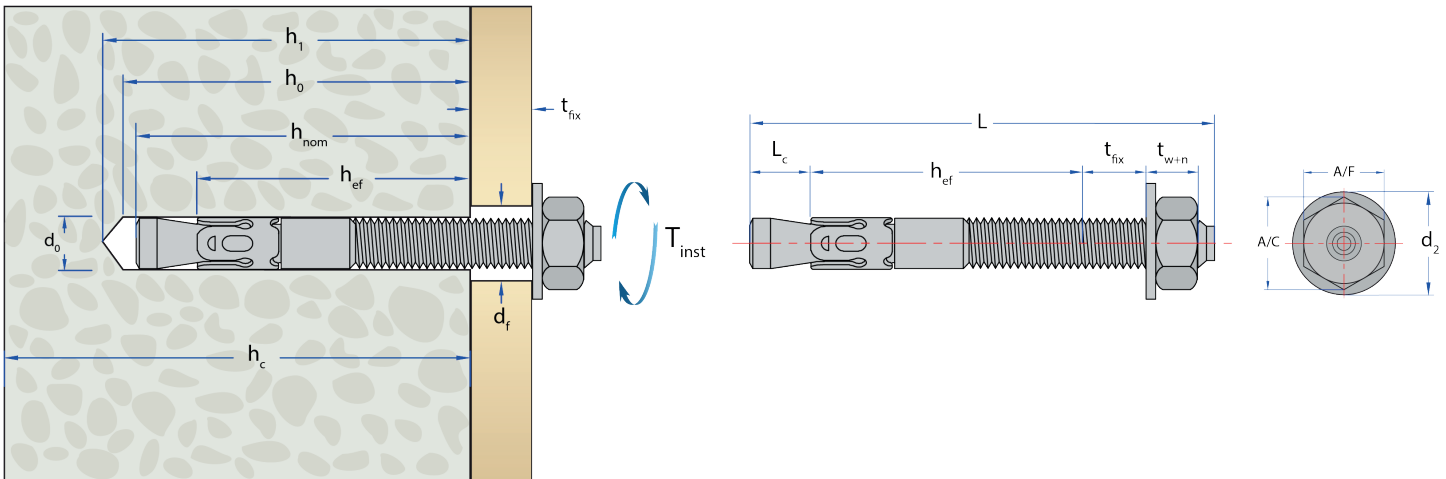


SDS+ Drill Bits



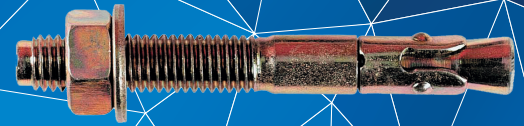
Hole Cleaning Pump

## RANGE AND LOAD DATA



For combined loads, variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from [www.jcpfixings.co.uk](http://www.jcpfixings.co.uk)



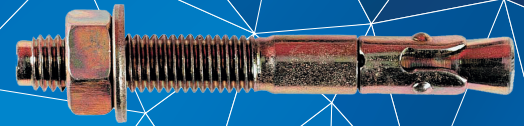


### RANGE AND LOAD DATA

RANGE DATA														
Part Number	Size of Thread	Min. Structure Thickness	Drill Hole Diameter	Min Hole Depth	Fixture Clearance Hole	Cone Length	Effective Embedment Depth	Max Fixture Thickness	Washer and Nut Thickness	Total Length	Thread Length	Width Across Flats	Washer Outer diameter	Tightening Torque
		(h <sub>c</sub> ) mm	(d <sub>0</sub> ) mm	(h <sub>1</sub> ) mm	(d <sub>f</sub> ) mm	(L <sub>c</sub> ) mm	(h <sub>ef</sub> ) mm	(t <sub>fx</sub> ) mm	(t <sub>w+n</sub> ) mm	(L) mm	(L <sub>th</sub> ) mm	(A/F) mm	(d <sub>2</sub> ) mm	(T <sub>inst</sub> ) Nm
STANDARD EMBEDMENT DEPTH														
TB06045	M6	100	6	35	7	7	23	5	5	45	20	10	12.5	6
TB06055								15		55	30			
TB06085								45		85	60			
TB08050	M8	100	8	45	9	8	28	5	8	50	20	13	17	10
TB08065								20		65	35			
TB08080								35		80	50			
TB08100								55		100	70			
TB08130								85		130	85			
TB10065	M10	125	10	50	12	9	37	8	10	65	25	17	21	28
TB10075								18		75	35			
TB10090								33		90	50			
TB10100								43		100	50			
TB10120								63		120	80			
TB10150								93		150	80			
TB10175	118	175	80											
TB12080	M12	170	12	65	14	13	50	5	13	80	30	19	24	34
TB12100								25		100	50			
TB12120								45		120	70			
TB12140								65		140	90			
TB12180	105	180	90											
TB16105	M16	200	16	85	18	15	63	10	16	105	60	24	30	85
TB16125								30		125	65			
TB16150								55		150	90			
TB16175								80		175	90			
TB16220								125		220	90			
TB20130	M20	240	20	100	22	16	71	20	19	130	60	30	37	160
TB20160								50		160	60			
TB20215								105		215	60			
TB24180	M24	300	24	120	26	20	87	45	23	180	65	36	44	280
TB24260								125		260	65			

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### NON-CRACKED CONCRETE

#### STANDARD EMBEDMENT

Performance Data (C20/25 non-cracked concrete)												
Size Of Thread	Effective Embedment Depth ( $h_{ef}$ )	Minimum Concrete Thickness ( $h_{min}$ )	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (S)		Design Edge Distance (C)	
			Tensile ( $N_{Rk}$ )	Shear ( $V_{Rk}$ )	Tensile ( $N_{Rd}$ )	Shear ( $V_{Rd}$ )	Tensile ( $N_{Ap}$ )	Shear ( $V_{Ap}$ )	Tensile	Shear	Tensile	Shear
-	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
M6	23	100										
M8	28	100										
M10	37	125										
M12	50	170										
M16	63	200										
M20	71	240										
M24	87	300										

#### SUPPLEMENTARY DATA

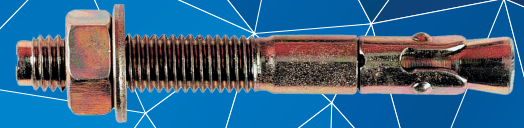
Influence Of Concrete Strength (Non-cracked Concrete)					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm <sup>2</sup>	20	30	40	50
Cube	N/mm <sup>2</sup>	25	37	50	60
Factor	-	1.0	1.22	1.41	1.55

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

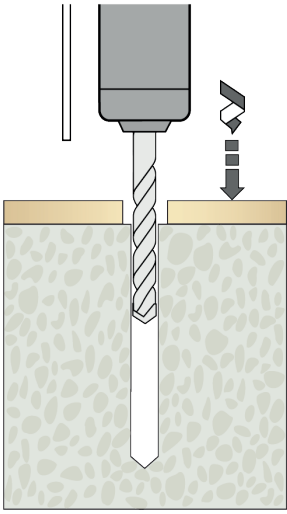
Steel Failure						
Size Of Thread	Tensile Resistance			Shear Resistance		
	Characteristic Resistance ( $N_{Rk,s}$ )	Design Resistance ( $N_{Rd,s}$ )*	Approved Resistance ( $N_{Ra,s}$ )	Characteristic Resistance ( $V_{Rk,s}$ )	Design Resistance ( $V_{Rd,s}$ **)	Approved Resistance ( $V_{Ra,s}$ )
-	kN	kN	kN	kN	kN	kN
M6	11.8	7.8	5.5	5.9	4.7	3.3
M8	21.5	14.3	10.2	10.7	8.5	6.0
M10	34.0	22.6	16.1	17.0	13.5	9.6
M12	49.4	32.9	23.5	24.7	19.7	14.0
M16	91.8	61.2	43.7	45.9	36.7	26.2
M20	143.4	95.6	68.2	71.7	57.3	40.9

\* A partial safety factor ( $\gamma_{MS}$ ) equal to 1.5 is included.  
\*\* A partial safety factor ( $\gamma_{MS}$ ) equal to 1.25 is included.

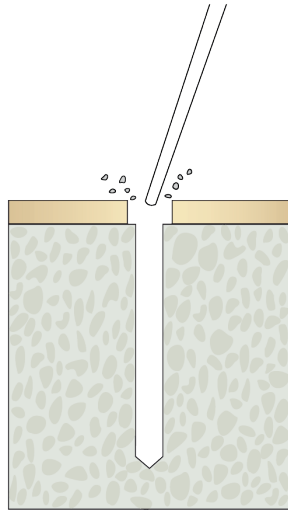




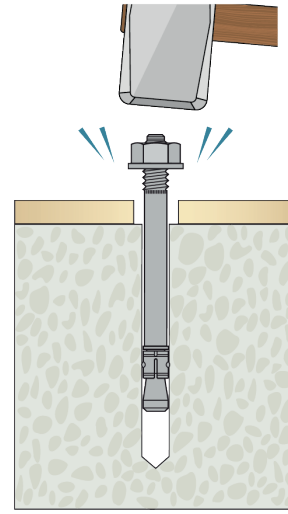
## INSTALLATION INSTRUCTIONS



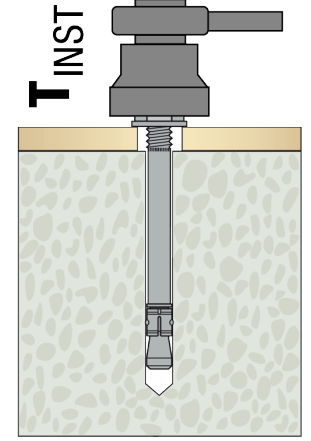
-Position fixture and drill correct diameter hole to corresponding depth



-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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