



INFORMATION

The torque controlled Throughbolt is a stainless steel grade A2/304 through fixing for use in non-cracked concrete and normal 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 Duty
- Corrosion Resistance
- Wide Range Of Sizes
- Fast And Secure Installation
- Through Fixing
- Three way Expansion Sleeve
- Stainless Steel A2/304
- Reaction To Fire Class A1

SOFTWARE

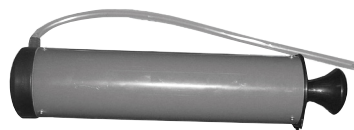


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RELATED PRODUCTS



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

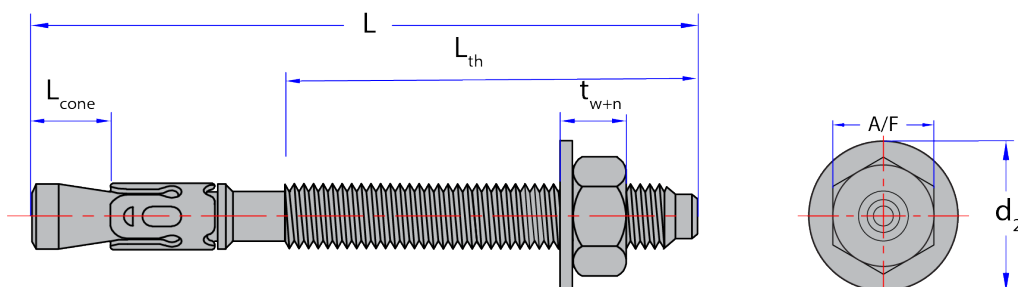


ETA Option 1
Throughbolt
A4 Stainless Steel





RANGE DATA



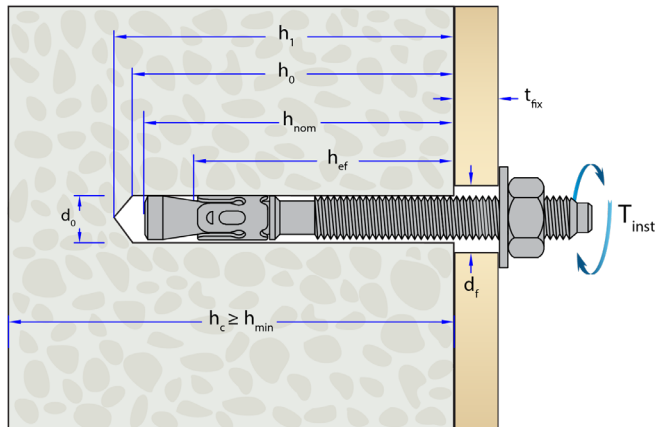
RANGE DATA

Part Number	Size of Thread	Total Length	Thread Length	Cone Length	Washer and Nut Thickness	Width Across Flats	Washer Outer diameter
	mm	(L) mm	(L _{th}) mm	(L _{cone}) mm	(t _{w+n}) mm	(A/F) mm	(d ₂) mm
TSSA206045	M6	45	18	7	6	10	12.5
TSSA206065		65	28				
TSSA208050	M8	50	14	9	8	13	17
TSSA208075		75	39				
TSSA208095		95	59				
TSSA208120		120	62				
TSSA210060	M10	60	18	12	10	17	21
TSSA210080		80	38				
TSSA210100		100	57				
TSSA210125		125	82				
TSSA210150		150	76				
TSSA210175	M12	175	86	15	13	19	24
TSSA212085		85	38				
TSSA212100		100	58				
TSSA212115		115	57				
TSSA212145		145	78				
TSSA212200	M16	200	84	17	16	24	30
TSSA216110		110	47				
TSSA216125		125	60				
TSSA216150		150	87				
TSSA216175	M20	175	80	19	19	30	37
TSSA220170		170	80				
TSSA220220		220	113				





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
TSSA206045	6	35	30	23	5	35	35	7	5
TSSA206065					25				
TSSA208050	8	40*	35	26	5	50	50	9	15
TSSA208075		45	40	31	22				
TSSA208095					42				
TSSA208120					67				
TSSA210060	10	45*	40	28	5	60	60	12	25
TSSA210080		55	50	38	15				
TSSA210100					35				
TSSA210125					60				
TSSA210150					85				
TSSA210175					110				
TSSA212085	12	65	60	45	5	70	70	14	45
TSSA212100					20				
TSSA212115					35				
TSSA212145					65				
TSSA212200					120				
TSSA216110	16	85	75	58	12	90	90	18	90
TSSA216125					27				
TSSA216150					52				
TSSA216175					77				
TSSA220170	20	100	85	66	58	100	100	22	160
TSSA220220					108				

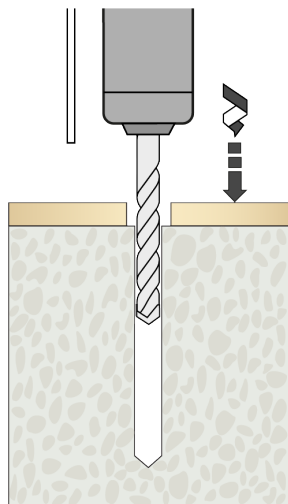
* No Performance Assessed.



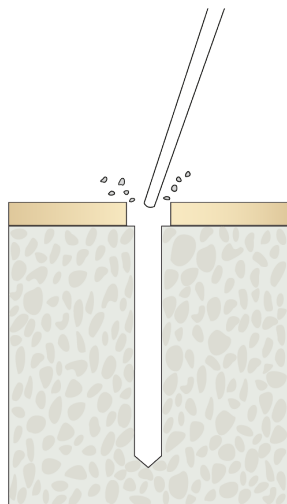


INSTALLATION INSTRUCTIONS

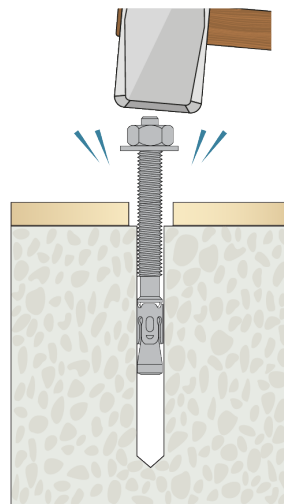
Click on the QR code
or scan it to watch the
video



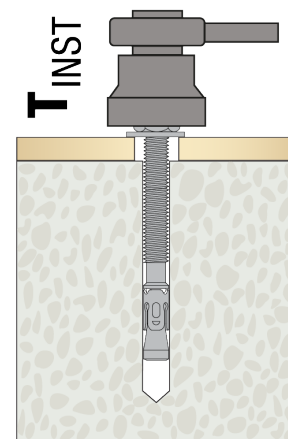
-Position fixture and drill
correct diameter hole to
corresponding depth



-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





PERFORMANCE DATA (NON-CRACKED CONCRETE)

Performance Data (C20/25 Non-Cracked Concrete) Standard Embedment								
Size Of Thread	Embedment Depth	Minimum Concrete Thickness	Characteristic Resistance		Design Resistance		Recommended Resistance	
	(h_{nom})	(h_{min})	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	2.5	5.5	1.3	3.7	0.9	2.6
M8	40	100	5.1	8.7	2.8	5.8	2	4.1
M10	50	125	9.5	11.8	5.2	7.8	3.7	5.6
M12	60	170	11.7	30	6.5	24	4.6	17.1
M16	75	200	22.3	22.3	12.3	14.8	8.8	10.6
M20	85	240	27	54.1	15	36.1	10.7	25.7

* 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.



Click here to
download the software.

For variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from www.jcpfixings.co.uk





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	Design Resistance *	Recommended Resistance ***	Characteristic Resistance	Design Resistance **	Recommended Resistance ***
	(N _{Rk,s})	(N _{Rd,s})	(N _{Rrec,s})	(V _{Rk,s})	(V _{Rd,s})	(V _{Rrec,s})
-	kN	kN	kN	kN	kN	kN
M6	10	6.67	4.7	7	5.6	4
M8	16	10.67	7.6	13	10.4	7.4
M10	27	18	12.8	20	16	11.4
M12	40	26.67	19	15.2	10.1	7.2
M16	64	42.67	30.4	55	44	31.4
M20	108	64.29	45.9	86	61.4	43.8

