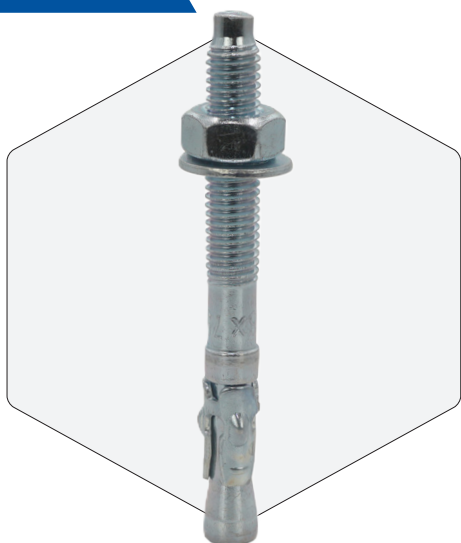




INFORMATION

The torque controlled AWA Throughbolt is a zinc plated high performance anchor for use in non-cracked concrete and structural applications such as:

- Columns
- Guard rails
- Façades
- Staircases
- Silo installation
- Machines
- Cantilever beam

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
- Three way Expansion Sleeve
- Zinc Plated Min. 5µm
- Close Spacing And Edge Distance
- Performance data for different embedment depth
- Reaction To Fire Class A1

APPROVALS

European Technical Assessment



Option 7 Non-Cracked Concrete
ETA-19/0786

SOFTWARE



[Click here to download the software](#)

RELATED PRODUCTS



SDS+ Drill Bits



Hole Cleaning Pump

BOP1



Option 7 Throughbolt
HDG



Option 7 Throughbolt
A4 Stainless Steel



Option 1 Throughbolt
A4 Stainless Steel

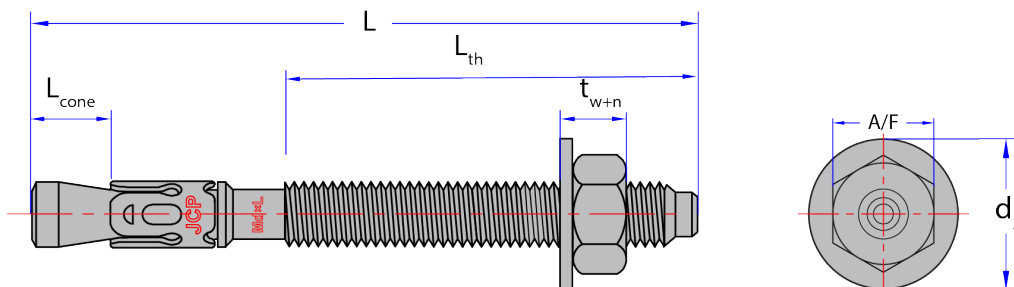


Option 1 Throughbolt
BZP





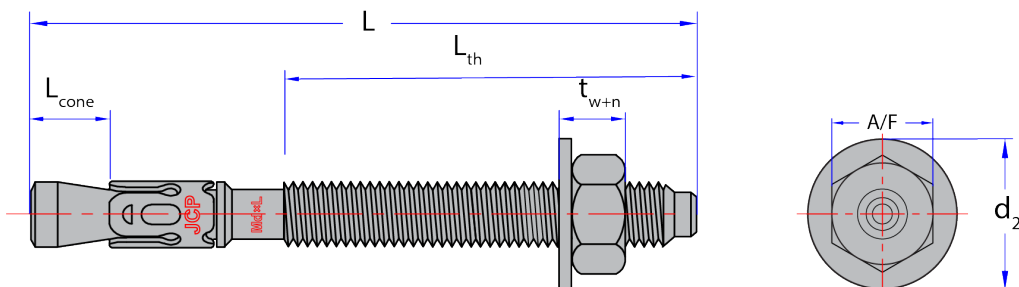
RANGE DATA



RANGE DATA

Part Number	Size of Thread	Total Length	Thread Length	Cone Length	Washer and Nut Thickness	Width Across Flats	Washer Outer diameter	Retail Bag Part Number	Trade Bag Part Number
	mm	(L) mm	(L _{th}) mm	(L _{cone}) mm	(t _{w+n}) mm	(A/F) mm	(d ₂) mm		
AWA06060	M6	60	25	8	8	10	12	-	-
AWA06080		80	45					-	-
AWA08050	M8	50	17	10	10	13	16	-	JP3042
AWA08065		65	22					JB8100	-
AWA08075		75	32					-	JP3043
AWA08090		90	46					JB8109	-
AWA08100		100	50					JB08100	JP3044
AWA08115		115	65					-	-
AWA08130		130	80					-	-
AWA10065	M10	65	22	12	13	17	20	-	-
AWA10075		75	27					JB8106	-
AWA10090		90	43					JB8109	-
AWA10100		100	53					JB8115	JP3045
AWA10120		120	71					JB8112	JP3046
AWA10150		150	95					-	-
AWA12080	M12	80	32	12	16	19	24	-	JP3047
AWA12090		90	35					-	-
AWA12100		100	44					JB8115	JP3048
AWA12110		110	53					-	-
AWA12120		120	63					-	-
AWA12140		140	83					-	JP3051
AWA12160		160	95					-	-
AWA12180		180	95					-	JP3054
AWA12200		200	95					-	-





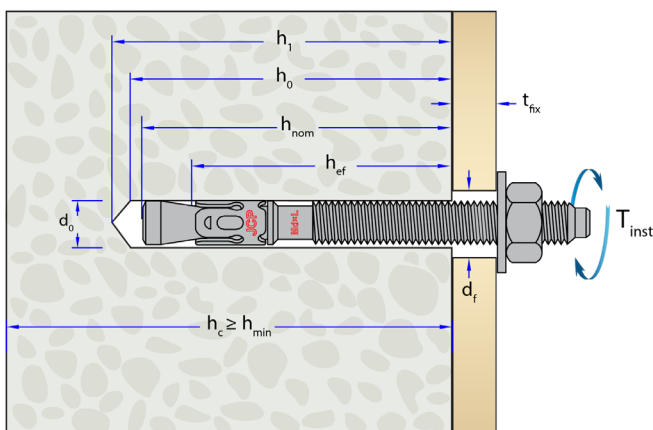
RANGE DATA

Part Number	Size of Thread	Total Length	Thread Length	Cone Length	Washer and Nut Thickness	Width Across Flats	Washer Outer diameter	Retail Bag Part Number	Trade Bag Part Number
	mm	(L) mm	(L _{th}) mm	(L _{cone}) mm	(t _{w+n}) mm	(A/F) mm	(d ₂) mm		
AWA16105	M16	105	40	20	19	24	30	-	JP3055
AWA16125		125	60					JB8118	JP3056
AWA16145		145	80					-	-
AWA16170		170	105					-	-
AWA16220		220	115					-	--
AWA20130	M20	130	60	20	22	30	37	-	-
AWA20170		170	100						
AWA20215		215	115						
AWA24180	M24	180	100	23	27	36	44	-	-
AWA24260		260	150						





Installation Into Concrete



* Not included in the product's ETA .

Installation Parameters

Part Number	Drill Hole Diameter	Reduced Embedment				Standard Embedment				Minimum spacing	Minimum Edge distance	Fixture Clearance Hole	Tightening Torque	
		Min Hole Depth	Embedment Depth	Anchorage depth	Max Fixture Thickness	Min Hole Depth	Embedment Depth	Anchorage depth	Max Fixture Thickness					
	(d ₀)	(h ₁)	(h _{nom})	(h _{ef})	(t _{fix})	(h ₁)	(h _{nom})	(h _{ef})	(t _{fix})	(s _{min})	(c _{min})	(d _f)	(T _{inst})	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm	
AWA06060	6	50*	43	35*	8*	55	48	40	3	50	50	7	7	
AWA06080					28*				23					
AWA08050*	8	45*	40*	30*	3*	N/A				65	65	9	20	
AWA08065		50**	45	35	8	65 60 50								
AWA08075					18									
AWA08090					33									3
AWA08100					43									18
AWA08115					58									28
AWA08130					73									43
														58
AWA10065*	10	55*	47*	35*	3*	N/A				70	70	12	35	
AWA10075		60	52	40	8	75 67 55								
AWA10090					23									8
AWA10100					33									18
AWA10120					53									38
AWA10150					83									68
AWA12080*	12	60*	52*	40*	10*	N/A				85	85	14	55	
AWA12090		70	62	50	10	85 77 65								
AWA12100					20									5
AWA12110					30									15
AWA12120					40									25
AWA12140					60									45
AWA12160					80									65
AWA12180					100									85
AWA12200					120									105



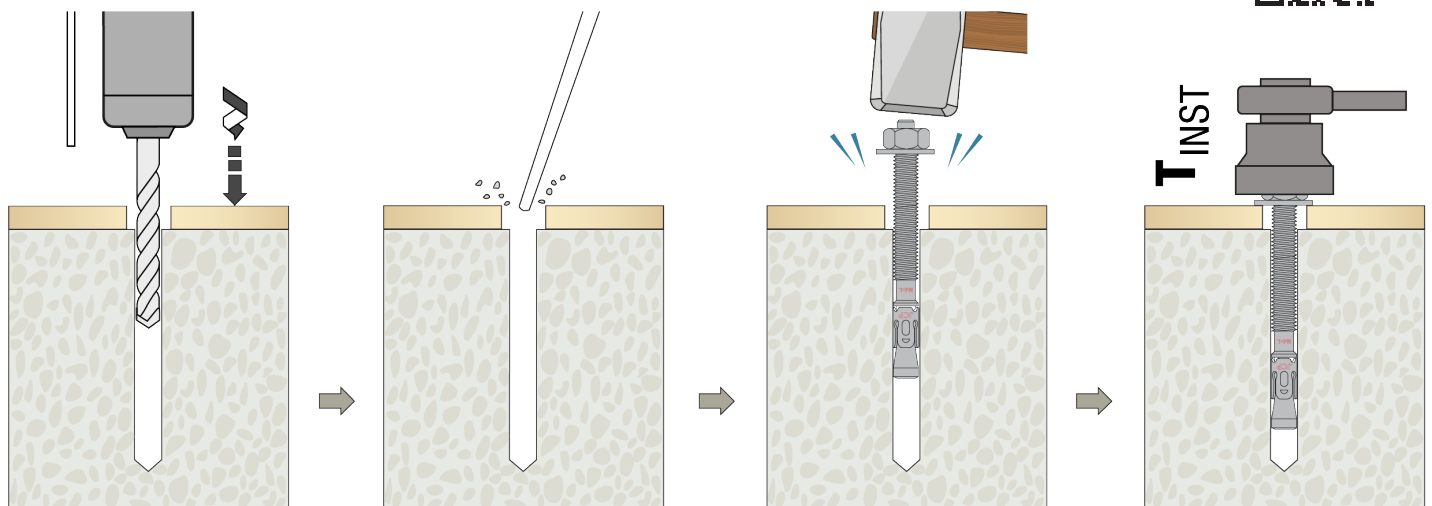


Installation Parameters																
Part Number	Drill Hole Diameter	Reduced Embedment				Standard Embedment				Minimum spacing	Minimum Edge distance	Fixture Clearance Hole	Tightening Torque			
		Min Hole Depth	Embedment Depth	Anchorage depth	Max Fixture Thickness	Min Hole Depth	Embedment Depth	Anchorage depth	Max Fixture Thickness							
		(d ₀)	(h ₁)	(h _{nom})	(h _{ef})	(t _{fix})	(h ₁)	(h _{nom})	(h _{ef})					(t _{fix})		
		mm	mm	mm	mm	mm	mm	mm	mm					mm	mm	mm
AWA16105*	16	85*	75*	55*	6*	N/A				110	110	18	100			
AWA16125					11											
AWA16145					31	115	105	85	16							
AWA16170					56				41							
AWA16220					106				91							
AWA20130	20	110	100	80	5	N/A				135	135	22	150			
AWA20170								45	135					125	105	20
AWA20215								90								65
AWA24180	24	125	115	92	33	155	143	120	5	155	155	26	280			
AWA24260															113	85

* Not included in the product's ETA .

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 FOR STRUCTURAL APPLICATIONS (NON-CRACKED CONCRETE)

Performance Data (C20/25 Non-Cracked Concrete) Reduced Embedment

Size Of Thread	Embedment Depth (h_{nom})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Recommended Resistance	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile (N_{Rec})	Shear (V_{Rec})
-	mm	mm	kN	kN	kN	kN	kN	kN
M8*	45	100	10.5	5.8	5.4	3.5	3.8	2.5
M10	52	100	12.0	9.1	8.0	5.6	5.7	4.0
M12	62	100	17.3	13.3	11.6	8.2	8.2	5.8
M16	90	140	28.8	24.7	19.2	15.2	13.7	10.8
M20	100	160	35.2	38.6	23.4	22.7	16.7	16.2
M24	115	185	43.4	55.6	28.9	32.7	20.6	23.3

* Use is restricted to anchorage of indeterminate structural components.

Performance Data (C20/25 Non-Cracked Concrete) Standard Embedment

Size Of Thread	Embedment Depth (h_{nom})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Recommended Resistance	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile (N_{Rec})	Shear (V_{Rec})
-	mm	mm	kN	kN	kN	kN	kN	kN
M6	48	100	5.7	3.2	2.9	1.9	2.0	1.3
M8	60	100	10.5	5.8	5.4	3.5	3.8	2.5
M10	67	110	16.6	9.1	8.5	5.6	6.0	4.0
M12	77	130	24.2	13.3	12.4	8.2	8.8	5.8
M16	105	170	45.8	24.7	23.6	15.2	16.8	10.8
M20	125	210	42.0	38.6	28.0	22.7	20.0	16.2
M24	143	240	55.0	55.6	36.6	32.7	26.1	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.





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	M6, M8 , M10 and M12	1.0	1.08	1.15	1.19
	M16, M20 and M24	1.0	1.12	1.23	1.3

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	2.9	2.0	3.2	1.9	1.3
M8	10.5	5.4	3.8	5.8	3.5	2.5
M10	16.6	8.5	6.0	9.1	5.6	4.0
M12	24.2	12.4	8.8	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	102.0	50.0	35.7	55.6	32.7	23.3

