



Product Information

The AWA Throughbolt is a torque controlled through fixing suitable for use in concrete over C20/25. Zinc Plated and Clear Passivated to a minimum of 5µm it is suitable for use in dry internal conditions and has a European Technical Approval.

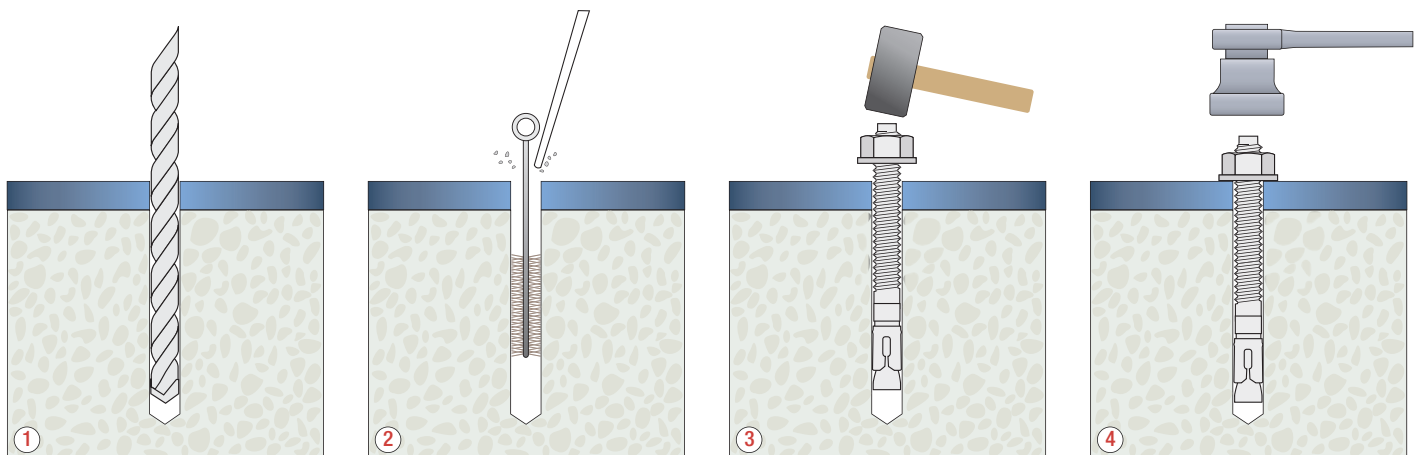
Features

- 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
- 6 Embedment mark for correct installation

Range Data

Part Number	Thread Diameter mm	Anchor Length mm	Hole Diameter 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
AWA06060	6	60	6	2	7	26	50	55	100	7
AWA06080		80		22		46				
AWA08075	8	75	8	5	9	38	60	65	100	20
AWA08090		90		19		53				
AWA08115		115		45		78				
AWA08130		130		60		93				
AWA10090	10	90	10	10	12	49	67	70	110	35
AWA10120		120		40		79				
AWA10150		150		70		109				
AWA12110	12	110	12	18	14	58	77	85	130	60
AWA12140		140		48		88				
AWA12160		160		68		108				
AWA12180		180		88		128				
AWA16125	16	125	16	5	18	60	104	110	168	120
AWA16145		145		23		80				
AWA16170		170		48		105				
AWA20170	20	170	20	23	22	102	125	135	206	240

Installation Instructions



The concrete to be well compacted, e.g. without significant voids. Drill to the minimum depth and diameter specified

Thoroughly clean the hole by brushing and blowing to remove all dust and drilling fragments

With the nut and washer in place hammer the anchor through the fixture into the hole to the depth mark

Tighten anchor to Recommended Torque

Performance Data (20/25 Concrete)									
Thread Diameter mm	Characteristic Resistance kN		Design Resistance kN		Approved Load kN		Spacing mm	Edge Distance mm	
	Tensile	Shear	Tensile	Shear	Tensile	Shear		Tensile & Shear	Tensile
6	7.7	5.1	5.5	4.1	3.9	2.9	120	60	60
8	12.0	9.3	8.0	7.4	5.7	5.3	144	72	72
10	16.0	14.7	8.9	11.8	6.4	8.4	165	83	83
12	25.0	20.6	13.9	16.5	9.9	11.8	195	98	98
16	35.0	38.4	19.4	30.7	13.9	21.9	252	126	126
20	50.0	56.3	27.8	45.0	19.8	32.2	309	155	155

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 Loads

Edge Distance (C20/25 Concrete) for single anchors												
Edge mm	Tensile Resistance						Shear Resistance					
	M6	M8	M10	M12	M16	M20	M6	M8	M10	M12	M16	M20
50	5.1											
55	5.3						3.4					
60	5.5						4.1					
65		7.6						6.1				
70		7.9	8.3					7.0				
75		8.0	8.5					7.4	9.7			
80			8.7						11.0			
85			8.9	12.9					11.8	12.4		
90				13.3						13.9		
95				13.6						15.5		
100				13.9						16.5		
110					18.2						23.3	
113					18.6						25.5	
120					19.0						27.9	
126					19.4						30.7	
135						26.1						34.2
140						26.4						36.9
145						27.0						39.6
150						27.2						42.3
155						27.8						45.0

Spacing (C20/25 Concrete)						
Spacing mm	Tensile Resistance per Pair of Anchors					
	M6	M8	M10	M12	M16	M20
60	8.3					
65	8.5	11.6				
70	8.7	11.9	12.6			
80	9.2	12.4	13.2			
85	9.4	12.7	13.5	20.0		
100	10.1	13.6	14.3	21.0		
110	10.5	14.1	14.8	21.7	27.9	
120	11.0	14.7	15.4	22.5	28.6	
135		15.5	16.2	23.5	29.8	
140		15.8	16.5	23.9	30.2	40.6
144		16.0	16.7	24.2	30.5	41.1
165			17.8	25.7	32.1	42.8
180				26.7	33.3	43.9
195				27.8	34.4	45.6
200					34.8	47.8
220					36.3	47.8
252					38.8	49.5
260						51.2
280						51.1
300						55.0
309						55.5

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	N/A	N/A	N/A	N/A	N/A

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
Tension	kN	7.7	16.4	25.6	35.4	65.0	104.0
Shear	kN	5.1	9.3	14.7	20.6	38.4	56.2

Anchor Mechanical Properties

		M6	M8	M10	M12	M16	M20
Tensile Strength	N/mm ²	510	510	510	490	490	490
Yield Strength	N/mm ²	440	440	440	410	410	375
Nut A/F	mm	10	13	17	19	24	30
Washer Diameter	mm	12	16	20	24	30	37