

# ATB, ATG, ATC, ATD IKA THROUGH BOLT FOR CONCRETE



## Product Information



### DESCRIPTION

The IKA Throughbolt range has been developed to meet the changing demands of the market in terms of product approval levels, ease of fixing and product quality. The versatile through fixing for use in a wide range of applications in concrete of 20N/mm<sup>2</sup> and over.

Available in:

Zinc plated steel - ATB,

Hot dip galvanized - ATG,

Stainless steel grade A2 - ATC and grade A4 - ATD.

### SUITABLE FOR USE IN:

Concrete.

### FEATURES

1. Cold formed body ensures constant dimensional accuracy.
2. Optimum cone angle for controlled expansion.

### IKA Throughbolt -Zinc Plated (ATB, ATG, ATC, ATD)

BOLT SIZE	HOLE IN CONCRETE (mm) (d <sub>0</sub> )	BOLT LENGTH (mm)	NUT DIAMETER (mm)	WASHER DIAMETER (mm)	THREAD LENGTH (mm)	HOLE DIAMETER IN FIXTURE (mm)	STANDARD EMBEDMENT			MINIMUM SUBSTRATE THICKNESS (mm)	REC. TORQUE (mm)
							MINIMUM HOLE DEPTH (mm)	EFFECTIVE EMBEDMENT (mm)	MAXIMUM FIXTURE THICKNESS (mm) f <sub>x</sub>		
M6	6	40	10	12.5	15	6.5	—	—	—	100	5
		55			25		—	—			
		70			35		50	42	12		
		85			50		50	42	26		
		95			60		50	42	36		
M8	8	50	13	17	14	9	—	—	—	100	15
		65			25		—	—			
		80			40		55	48	15		
		95			55		55	48	30		
		115			75		55	48	50		
		150			70		55	48	85		
M10	10	65	17	21	21	11	—	—	—	100	25
		80			30		60	52	7		
		95			45		60	52	22		
		115			65		60	52	42		
		130			80		60	52	57		
		150			100		60	52	77		
M12	12	80	19	24	30	13	—	—	—	110	45
		100			40		80	69	4		
		120			60		80	69	24		
		135			75		80	69	39		
		150			90		80	69	54		
		180			100		80	69	84		
		220			120		80	69	124		
		235			140		80	69	139		
M16	16	90	24	30	32	18	—	—	—	130	110
		105			55		—	—			
		125			45		100	89	5		
		140			60		100	89	20		
		150			70		100	89	30		
		180			100		100	89	60		
		220			140		100	89	100		
		280			140		100	89	160		
M20	20	125	30	37	65	22	—	—	—	160	180
		160			65		120	105	20		
		200			100		120	105	60		
		300			100		120	105	160		
M24	24	180	36	44	65	26	135	112	20	200	320
		260			65		135	112	100		
		300			105		135	112	140		

## Specification Data

### IKA Throughbolt Zinc Plated & Hot Dipped Galvanised Performance Data - (ATB & ATG)

SIZE	CONCRETE, $f_{ck,cube} = 30N/mm^2$ (C20/25)						CHARACTERISTIC EDGE DISTANCE (mm)	CHARACTERISTIC SPACING (mm)
	STANDARD EMBEDMENT DEPTH			REDUCED EMBEDMENT DEPTH				
	CHARACTERISTIC LOAD (kN)	DESIGN RESISTANCE (Factored) (kN)	RECOMMENDED LOAD (Unfactored) (kN)	CHARACTERISTIC LOAD (kN)	DESIGN RESISTANCE (Factored) (kN)	RECOMMENDED LOAD (Unfactored) (kN)		
M6	<h1>PENDING</h1>						TENSION & SHEAR $C_{cr,N} / C_{cr,V}$	TENSION & SHEAR $S_{cr,N} / S_{cr,V}$
M8							60	80
M10							80	100
M12							100	120
M16							120	150
M20							160	180
M24							190	260
M24							250	300

For further explanations on calculations please see pages 4 and 5

### Edge Distance Zinc Plated (Concrete Only)

EDGE (mm)	TENSILE: EDGE REDUCTION FACTORS						SHEAR: EDGE REDUCTION FACTORS							
	M6	M8	M10	M12	M16	M20	M24	M6	M8	M10	M12	M16	M20	M24
30	0.60													
40	0.73	0.60						0.64						
50	0.87	0.73						0.82	0.62					
60	1.00	0.87	0.65					1.00	0.74	0.60				
80		1.00	0.83	0.65					1.00	0.80	0.67			
100			1.00	0.77	0.65					1.00	0.84	0.62		
120				0.88	0.77	0.65					1.00	0.74	0.58	
140				1.00	0.88	0.77	0.65					0.87	0.73	0.58
160					1.00	0.88	0.74					1.00	0.82	0.66
190						1.00	0.83						1.00	0.78
220							0.91							0.88
250							1.00							1.00

### Spacing (Concrete Only)

SPACING (mm)	TENSILE & SHEAR REDUCTION FACTORS						
	M6	M8	M10	M12	M16	M20	M24
30							
40	0.65						
50	0.77	0.65					
60	0.88	0.77	0.65				
80	1.00	0.88	0.77	0.65			
100		1.00	0.88	0.77	0.65		
120			1.00	0.88	0.77		
150				1.00	0.88	0.74	
180					1.00	0.83	0.74
190						0.91	0.83
220						1.00	0.91
260							0.91

### IKA Throughbolt Stainless Steel Performance Data - (ATC (A2) and ATD (A4))

SIZE	CONCRETE, $f_{ck,cube} = 30N/mm^2$ (C20/25)						CHARACTERISTIC EDGE DISTANCE (mm)	CHARACTERISTIC SPACING (mm)	
	STANDARD EMBEDMENT DEPTH			REDUCED EMBEDMENT DEPTH					
	CHARACTERISTIC LOAD (kN)	DESIGN LOAD (factored) (kN)	RECOMMENDED LOAD (unfactored) (kN)	CHARACTERISTIC LOAD (kN)	DESIGN LOAD (factored) (kN)	RECOMMENDED LOAD (unfactored) (kN)			
M6	<h1>PENDING</h1>						TENSION $C_{cr,N}$	SHEAR $C_{cr,V}$	
M8							60	80	120
M10							80	100	150
M12							100	110	170
M16							120	140	210
M20							160	180	270
M24							190	210	310
M24							230	230	350

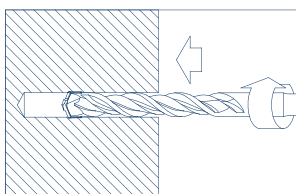
### Edge Distance Stainless Steel (Concrete Only)

EDGE (mm)	TENSILE: EDGE REDUCTION FACTORS						SHEAR: EDGE REDUCTION FACTORS							
	M6	M8	M10	M12	M16	M20	M24	M6	M8	M10	M12	M16	M20	M24
30	0.60													
40	0.73	0.60												
50	0.87	0.70						0.60						
60	1.00	0.81	0.65					0.74	0.50					
80		1.00	0.83	0.70				1.00	0.74	0.61				
100			1.00	0.85	0.65				1.00	0.87	0.60			
110				0.92	0.71					1.00	0.70			
120				1.00	0.77	0.65					0.81	0.60		
140					0.88	0.75	0.61					0.74	0.60	
160					1.00	0.85	0.70					0.86	0.71	0.62
180						0.95	0.79					1.00	0.83	0.72
190						1.00	0.83						0.88	0.78
210							0.91						1.0	0.89
230							1.0							1.0

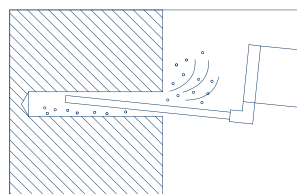
### Spacing (Concrete Only)

SPACING (mm)	TENSILE & SHEAR REDUCTION FACTORS						
	M6	M8	M10	M12	M16	M20	M24
30							
40							
50							
60	0.65						
80	0.77	0.67					
100	0.88	0.75	0.68				
120	1.00	0.85	0.76	0.70			
150		1.00	0.90	0.80	0.70		
170			1.00	0.86	0.75	0.70	
210				1.00	0.85	0.79	0.70
230					0.90	0.83	0.74
270					1.00	0.91	0.83
310						1.00	0.91
350							1.00

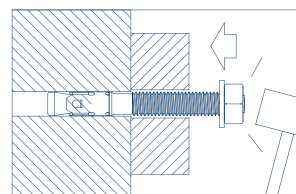
Step 1



Step 2



Step 3



Step 4

