ATA
IKA THROUGHBOLT FOR CONCRETE

IKA - ANCHORS -

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/mm2 and over.
Available in:
Zinc plated steel - ATA

SUITABLE FOR USE IN:

Concrete.

FEATURES

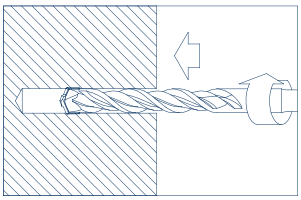
1. Cold formed body ensures constant dimensional accuracy.
2. Optimum cone angle for controlled expansion.

CE ETA

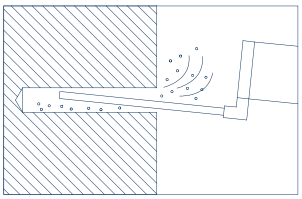
IKA Throughbolt -Zinc Plated (ATA)

BOLT SIZE/HOLE IN CONCRETE (mm) $(d)/(d_o)$	BOLT LENGTH (mm) (l)	NUT DIAMETER (mm) (AF) (S_W)	WASHER DIAMETER (mm) (D_W)	THREAD LENGTH (mm) (l_G)	HOLE DIAMETER IN FIXTURE (mm) (l_G)	STANDARD EMBEDMENT			REDUCED EMBEDMENT			MINIMUM SUBSTRATES THICKNESS (mm) (h_{min})	RECOMMENDED TORQUE (mm) (T_{inst})
						MIN. HOLE DEPTH (mm) (h_o)	EFFECTIVE ENBEDMENT (mm) (h_{ef})	MAX. FIXTURE THICKNESS (mm) (T_{fix})	MIN. HOLE DEPTH (mm) (h_o)	EFFECTIVE ENBEDMENT (mm) (h_{ef})	MAX. FIXTURE THICKNESS (mm) (T_{fix})		
M8 8 mm	60	13	17	20	9	—	—	—	40	33	15	100	15
	80			40		55	48	15		33	30		
	115			75		55	48	50		33	65		
M10 10 mm	90	17	21	40	11	60	53	22	50	40	32	100	25
	115			65		60	53	42		40	52		
M12 12 mm	80	19	24	30	13	-	-	-	60	48	5	105	45
	100			40		80	74	4		48	24		
	120			60		80	74	24		48	44		
	135			75		80	74	39		48	58		
	180			100		80	74	84		48	103		
M16 16 mm	105	24	30	55	18	-	-	-	80	65	105	130	100
	140			60		100	89	20		67	140		
	180			100		100	89	60		67	180		

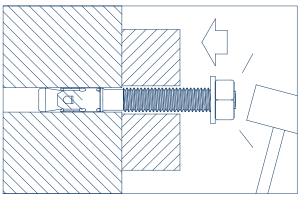
Step 1



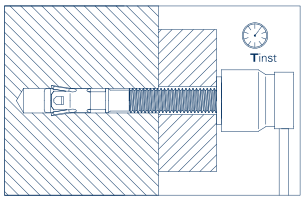
Step 2



Step 3



Step 4



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Specification Data

Installation parameters

Anchor size	M8	M10	M12	M16
Nominal drill hole diameter d_o [mm]	8	10	12	16
Depth of drill hole $h_1 \geq$ [mm]	65	70	90	110
Embedment depth in concrete h_{nom} [mm]	53	60	77	97
Effective anchorage depth h_{ef} [mm]	45	51	66	80
Diameter of clearance hole in the fixture $d_f \leq$ [mm]	9	12	14	18
Installation torque moment T_{inst} [Nm]	15	25	45	100
Minimum thickness of base material h_{min} [mm]	100	105	135	160
Minimum spacing s_{min} [mm]	67,5	76,5	99	120
Minimum edge distance c_{min} [mm]	67,5	76,5	99	120

Design method A, characteristic values for tension loads

Anchor size		M8	M10	M12	M16
Steel failure					
Characteristic resistance $N_{Rk,s}$ [kN]		14,1	21,5	33,2	62,3
Partial safety factor γ_{Ms} [1)]		1,5			
Pullout failure					
Characteristic resistance in non-cracked concrete C20/25 $N_{Rk,p}$ [kN]		9	12	16	30
Increasing factors for $N_{Rk,p}$ Ψ_c	C30/37	1,08			
	C40/50	1,15			
	C50/60	1,19			
Partial safety factor γ_{Mp} [1)]		1,5 [2)]		1,8 [2)]	
Concrete cone failure					
Effective anchorage depth h_{ef} [mm]		45	51	66	80
Spacing $s_{cr,N}$ [mm]		135	155	200	240
Edge distance $c_{cr,N}$ [mm]		70	80	100	120
Splitting failure					
Spacing $s_{cr,sp}$ [mm]		225	306	330	480
Edge distance $c_{cr,sp}$ [mm]		113	153	165	240
Partial safety factor γ_{Msc} [1)]		1,5 [2)]		1,8 [2)]	

[1)] in the absence of other national regulations

[2)] the partial safety factor $\gamma_2 = 1,0$ for M6 to M10 and $\gamma_2 = 1,2$ for M12 to M16

Displacements under tension loads

Anchor size		M8	M10	M12	M16
Tension load N [kN]		6,5	8,0	8,1	15,8
Displacement	δ_{NO} [mm]	0,5	0,7	0,4	0,6
	$\delta_{N\infty}$ [mm]	0,9	0,9	0,9	0,9

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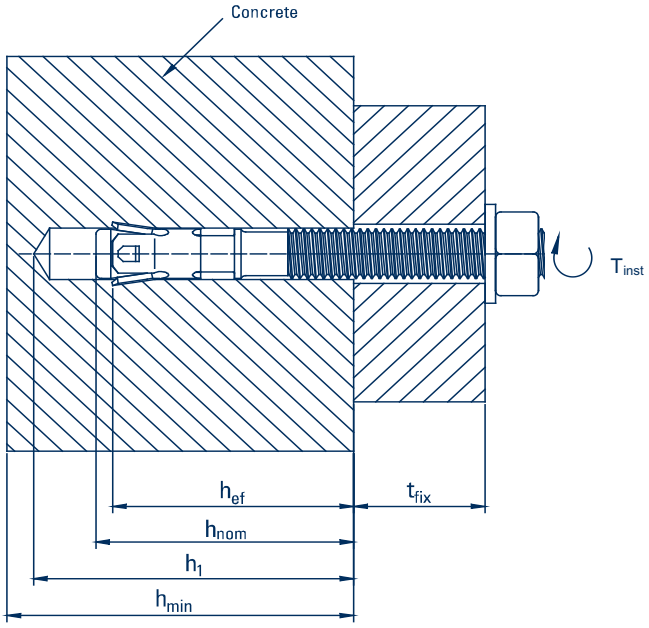

Design method A, characteristic values for shear loads

Anchor size		M8	M10	M12	M16
Steel failure without lever arm					
Characteristic resistance	$V_{Rk,s}$ [kN]	7,3	11,6	16,9	31,4
Partial safety factor	γ_{Ms} [1)]	1,25			
Steel failure with lever arm					
Characteristic bending resistance	$M^0_{Rk,s}$ [Nm]	15,0	29,9	52,4	133,2
Partial safety factor	γ_{Ms} [(1)]	1,25			
Concrete pullout failure					
Factor in equation (5.6) of ETAG 001 Annex C, 5.2.3.3	k	1,0		2,0	
Partial safety factor	γ_{Mcp} [1)]	1,5 [2)]		1,8 [2)]	
Concrete edge failure					
Effective length of anchor under shear loading	l_f [mm]	45	51	66	80
Effective diameter of anchor	d_{nom} [mm]	8	10	12	16
Partial safety factor	γ_{Mc} [1)]	1,5 [2)]		1,8 [2)]	

[1)] in the absence of other national regulations

[2)] the partial safety factor γ_2= 1,0 for M6 to M10 and γ_2 = 1,2 for M12 to M16

Displacements under shear loads

Anchor size		M8	M10	M12	M16
Shear load V [kN]		6,0	7,3	8,0	15,0
Displacement	δ_{VO} [mm]	1,8	1,8	2,0	2,0
	$\delta_{V\infty}$ [mm]	2,7	2,7	3,0	3,0

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