

Wedge Anchor BZ-IG A4

Stainless Steel A4/316



Description

The fastening system BZ-IG A4 is the first approved (ETA-02/0002) wedge anchor for cracked concrete with internal thread. It combines the benefits of a mechanical anchor with an easy installation and the flexibility of an internal thread. For the first time it is possible to fasten balcony and stair railings or stadium seats using a countersunk head screw at favourable costs. Since this anchor system is also approved for use with hexagon head screws and standard threaded rods a wide range of applications is possible. Compared to a drop in anchor the fastening system BZ-IG A4 can carry significant higher loads, even in cracked concrete. The versatility of the MKT Fastening System BZ-IG breaks new ground in design and application.

Applications

Medium to heavy duty fastenings in cracked and non-cracked concrete: Railings, chairs in sports arenas, facade substructures, suspended ceilings, ladders, doors, sprinkler systems, pipe hangers and all kinds of temporary fastenings.

Range of Loading: 2,0 kN - 18,5 kN

Range of concrete quality: C20/25 - C50/60

Pre-Installation

Wedge Anchor BZ-IG A4¹⁾



→ Stainless steel A4/316; Pre-Installation

→ Approved for cracked and non-cracked concrete

Description	Ref. No.	Drill Hole Øxdepth	Anchor- length	Thread Ø x length	Weight per pkg.	pkg. content
		mm	mm	mm	kg	pcs.
BZ-IG M 6-0 A4	03600501	8 x 60	50	M6x20	1,42	100
BZ-IG M 8-0 A4	03610501	10 x 75	62	M8x22	1,31	50
BZ-IG M 10-0 A4	03620501	12 x 90	70	M10x23	1,08	25
BZ-IG M 12-0 A4	03630501	16 x 105	86	M12x27	2,03	20

Coated Countersunk Screw DIN 7991 with Countersunk Washer¹⁾

Description	Ref. No.	Fixture- thickn. t _s mm	Wght. per pkg. kg	Pkg. content pcs.
SK-IG 6x25 A4	55013501	6-14	0,53	100
SK-IG 8x30 A4	55112501	9-15	0,59	50
SK-IG 10x30 A4	55211501	8-11	0,48	25
SK-IG 12x35 A4	55311501	9-14	0,64	20

Coated Screw DIN 933 with Washer DIN EN ISO 7089 (DIN 125)¹⁾

Description	Ref. No.	Fixture- thickn. t _s mm	Wght. per pkg. kg	Pkg. content pcs.
S-IG 6x25 A4	54010501	4-12	0,80	100
S-IG 8x25 A4	54110501	2-8	0,79	50
S-IG 10x40 A4	54210501	15-19	0,90	25
S-IG 12x45 A4	54310501	16-21	1,13	20

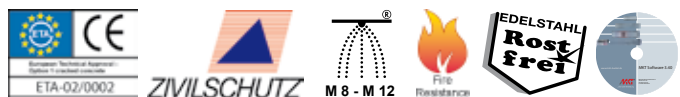
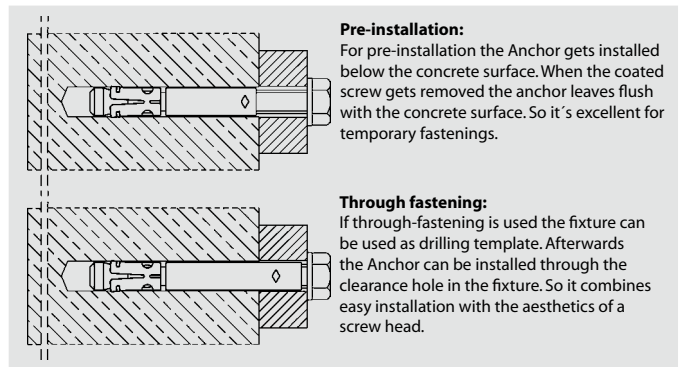
Setting Tool BZ-IG for Pre-Installation

Description	Ref. No.	Wght. per pkg. kg
BZ-IGS M 6V	43005150	0,43
BZ-IGS M 8V	43100150	0,44
BZ-IGS M 10V	43200150	0,46
BZ-IGS M 12V	43300150	0,56

Coated Hex Nut DIN 933 with Washer DIN EN ISO 7089 (DIN 125)¹⁾

Description	Ref. No.	Wght. per pkg. kg	Pkg. content pcs
MU-IG 6 A4	56005501	0,32	100
MU-IG 8 A4	56105501	0,35	50
MU-IG 10 A4	56205501	0,36	25
MU-IG 12 A4	56305501	0,45	20

¹⁾ Screws or hex nuts and washers to be ordered separately.
Anchor system in high corrosion resistant steel grade 1.4529 on demand.
Other screw lengths according to DIN 933 on demand.



Through Fastening

Wedge Anchor BZ-IG A4¹⁾



→ Stainless steel A4/316; Through Fastening

→ Approved for cracked and non-cracked concrete

Description	Ref. No.	Drill Hole Øxdepth	Fixture- thickness t _s mm	Anchor- length l mm	Thread Ø x length mm	Weight per pkg. kg	pkg. content pcs	
		mm	Typ S-IG	Typ SK-IG				
BZ-IG M 6-10 A4	03602501	8 x 60	10	14	60	M6 x 20	1,80	100
BZ-IG M 6-20 A4	03604501	8 x 60	20	24	70	M6 x 20	2,20	100
BZ-IG M 6-30 A4	03606501	8 x 60	30	34	80	M6 x 20	2,60	100
BZ-IG M 8-10 A4	03611501	10 x 75	10	15	72	M8 x 22	1,65	50
BZ-IG M 8-20 A4	03612501	10 x 75	20	25	82	M8 x 22	1,95	50
BZ-IG M 8-30 A4	03613501	10 x 75	30	35	92	M8 x 22	2,25	50
BZ-IG M 10-10 A4	03621501	12 x 90	10	16	80	M10 x 23	1,32	25
BZ-IG M 10-20 A4	03622501	12 x 90	20	26	90	M10 x 23	1,48	25
BZ-IG M 10-30 A4	03623501	12 x 90	30	36	100	M10 x 23	1,76	25
BZ-IG M 12-10 A4	03631501	16 x 105	10	17	96	M12 x 27	2,34	20
BZ-IG M 12-20 A4	03632501	16 x 105	20	27	106	M12 x 27	2,66	20
BZ-IG M 12-30 A4	03633501	16 x 105	30	37	116	M12 x 27	2,97	20

Setting Tool BZ-IG for Through Fastening

Description	Ref. No.	Weight per package kg
BZ-IGS M 6D	43005155	0,32
BZ-IGS M 8D	43100155	0,33
BZ-IGS M 10D	43200155	0,33
BZ-IGS M 12D	43300155	0,35

Coated Screw DIN 933 with Washer DIN EN ISO 7089 (DIN 125)¹⁾

Description	Ref. No.	Wght. per pkg. kg	Pkg. content pcs
S-IG 6x16 A4	54020501	0,64	100
S-IG 8x18 A4	54120501	0,68	50
S-IG 10x20 A4	54220501	0,64	25
S-IG 12x25 A4	54320501	0,67	20

Coated Countersunk Screw DIN 7991 with Countersunk Washer¹⁾

Description	Ref. No.	Wght. per pkg. kg	Pkg. content pcs
SK-IG 6x16 A4	55010501	0,64	100
SK-IG 8x20 A4	55110501	0,60	50
SK-IG 10x25 A4	55210501	0,62	25
SK-IG 12x30 A4	55310501	0,80	20

¹⁾ Screws to be ordered separately.
Anchor system in high corrosion resistant steel grade 1.4529 on demand.



Extract from Permissible Service Conditions of ETA-02/0002

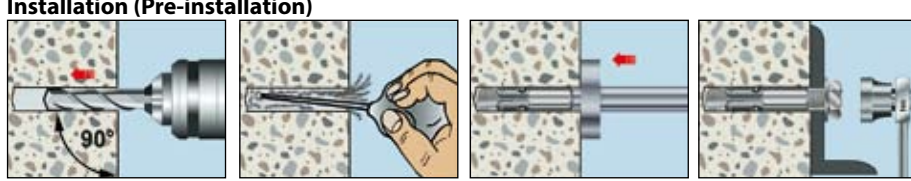
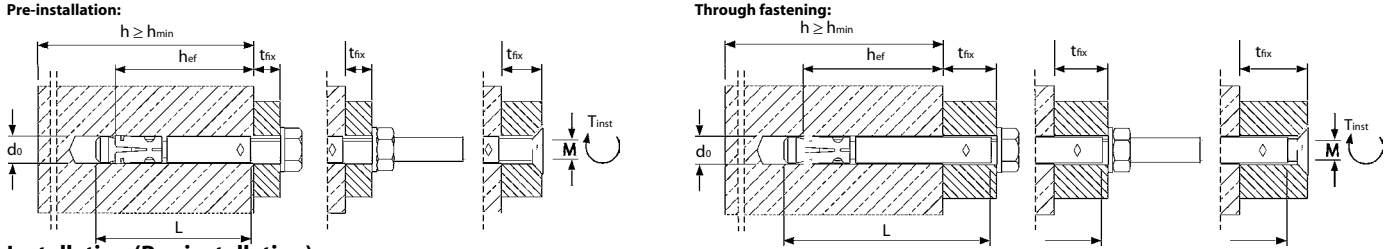
Approved loads for single anchor without influence of spacing and edge distance.
Total safety factor as per ETAG 001 included (γ_{M} und γ_{P}).

Loads and performance data	Wedge Anchor BZ-IG A4		M 6	M 8	M 10	M 12
cracked concrete						
Mean ultimate loads, tension	C25/30 N_{um}	[kN]	14,1	19,8	28,3	45,9
Mean ultimate loads, shear	C25/30 V_{um}	[kN]	12,0	12,2	14,9	45,4
Approved loads, tension	C20/25 appr. N	[kN]	2,0	3,6	4,8	7,9
	C25/30 appr. N	[kN]	2,2	3,9	5,2	8,7
	C30/37 appr. N	[kN]	2,4	4,4	5,8	9,7
	C40/50 appr. N	[kN]	2,8	5,0	6,7	11,2
	C50/60 appr. N	[kN]	3,1	5,5	7,4	12,3
non-cracked concrete						
Approved loads, tension	C20/25 appr. N	[kN]	4,8	6,3	7,9	11,9
	C25/30 appr. N	[kN]	5,2	7,0	8,7	13,1
	C30/37 appr. N	[kN]	5,4	7,7	9,7	14,5
	C40/50 appr. N	[kN]	5,4	9,0	11,2	16,8
	C50/60 appr. N	[kN]	5,4	9,8	12,3	18,5
cracked and non-cracked concrete						
Approved loads, shear (Pre-Installation)	\geq C20/25 appr. V	[kN]	3,3	5,3	6,1	13,5
Approved loads, shear (Through Fastening)	\geq C20/25 appr. V	[kN]	4,2	4,3	5,5	16,9
Approved bending moments (Pre-Installation)	appr. M	[Nm]	4,9	12,0	23,9	41,9
Approved bending moments (Through Fastening)	appr. M	[Nm]	16,1	25,3	39,9	109,3

Spacing and edge distance						
Effective anchorage depth	h_{ef}	[mm]	45	58	65	80
Characteristic spacing	$s_{cr,N}$	[mm]	135	174	195	240
Characteristic edge distance	$c_{cr,N}$	[mm]	67,5	87	97,5	120
cracked concrete						
Minimum spacing / for edge distance c	s_{min} / c	[mm]	50 / 60	60 / 80	70 / 100	80 / 120
Minimum edge distance / for spacing s	c_{min} / s	[mm]	50 / 75	60 / 100	70 / 100	80 / 120
non-cracked concrete						
Minimum spacing / for edge distance c	s_{min} / c	[mm]	50 / 80	60 / 100	65 / 120	80 / 160
Minimum edge distance / for spacing s	c_{min} / s	[mm]	50 / 115	60 / 155	70 / 170	100 / 210
Minimum thickness of concrete slab	h_{min}	[mm]	100	120	130	160

Installation parameters						
Drill hole diameter	d_o	[mm]	8	10	12	16
Diameter of clearance hole in the fixture - Pre-Installation	d_r	[mm]	7	9	12	14
Diameter of clearance hole in the fixture - Through Fastening	d_r	[mm]	9	12	14	18
Depth of drill hole	h_1	[mm]	60	75	90	105
Installation torque	Screw DIN 933 T_{inst}	[Nm]	15	40	50	100
	Countersunk screw T_{inst}	[Nm]	12	25	45	60
	Threaded rod T_{inst}	[Nm]	8	25	40	80
Width across nut	Screw DIN 933 SW	[mm]	10	13	17	19
Internal hexagon size	Countersunk screw SW	[mm]	-	-	6	8
Torx® size	Countersunk screw		T30	T40	-	-
Min. thickness of fixture	Screw DIN 933 or Threaded rod $t_{fix} \geq$	[mm]	1 / 5 ¹⁾	1 / 7 ¹⁾	1 / 8 ¹⁾	1 / 9 ¹⁾
Min. thickness of fixture	Countersunk screw $t_{fix} \geq$	[mm]	5 / 9 ¹⁾	7 / 12 ¹⁾	8 / 14 ¹⁾	9 / 16 ¹⁾

¹⁾ Pre-Installation / Through Installation. For anchor designing, an easy to operate CD-ROM is available on request or can be downloaded at www.mkt-duebel.de.



Dimension countersunk washer [mm]	d1	d2	h
SK M 6	16,5	9,5	3,9
SK M 8	20,5	11,5	5,0
SK M 10	24,5	14,5	5,7
SK M 12	29,5	17,5	6,7

