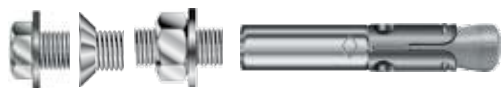


Wedge Anchor BZ-IG

Steel, zinc plated

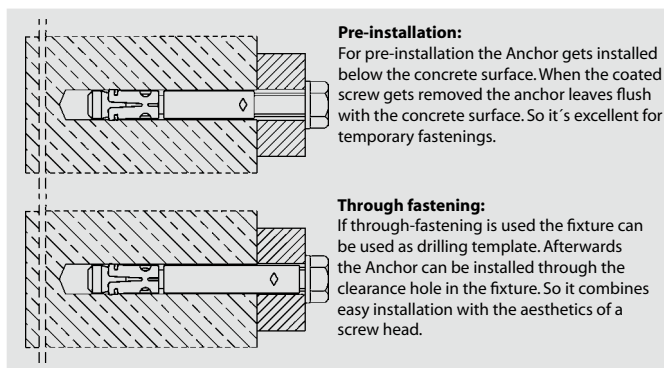


Description

The fastening system BZ-IG 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 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, 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-IG¹⁾



→ Steel, zinc plated; 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	03600101	8 x 60	50	M6x20	1,42	100
BZ-IG M 8-0	03610101	10 x 75	62	M8x22	1,31	50
BZ-IG M 10-0	03620101	12 x 90	70	M10x23	1,08	25
BZ-IG M 12-0	03630101	16 x 105	86	M12x27	2,03	20

Coated Countersunk Screw DIN 7991 with Countersunk Washer¹⁾

Description	Ref. No.	Fixture- thickn. t _f mm	Wght. per pkg. kg	Pkg. content pcs.
SK-IG 6x25	55013101	6-14	0,53	100
SK-IG 8x30	55112101	9-15	0,59	50
SK-IG 10x30	55211101	8-11	0,48	25
SK-IG 12x35	55311101	9-14	0,64	20

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

Description	Ref. No.	Fixture- thickn. t _f mm	Wght. per pkg. kg	Pkg. content pcs.
S-IG 6x25	54010101	4-12	0,80	100
S-IG 8x25	54110101	2-8	0,79	50
S-IG 10x40	54210101	15-19	0,90	25
S-IG 12x45	54310101	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	56005101	0,32	100
MU-IG 8	56105101	0,35	50
MU-IG 10	56205101	0,36	25
MU-IG 12	56305101	0,45	20

¹⁾ Screws (Strength class 8.8) or hex nuts and washers to be ordered separately. Other screw lengths according to DIN 933 on demand.

Through Fastening

Wedge Anchor BZ-IG¹⁾



→ Steel, zinc plated; Through Fastening

→ Approved for cracked and non-cracked concrete

Description	Ref. No.	Drill Hole Øxdepth	Fixture- thickness t _f mm	Anchor- length l mm	Thread Ø x length mm	Weight per pkg. kg	pkg. content pcs	
			Typ S-IG	Typ SK-IG				
BZ-IG M 6-10	03602101	8 x 60	10	14	60	M6 x 20	1,80	100
BZ-IG M 6-20	03604101	8 x 60	20	24	70	M6 x 20	2,20	100
BZ-IG M 6-30	03606101	8 x 60	30	34	80	M6 x 20	2,60	100
BZ-IG M 8-10	03611101	10 x 75	10	15	72	M8 x 22	1,65	50
BZ-IG M 8-20	03612101	10 x 75	20	25	82	M8 x 22	1,95	50
BZ-IG M 8-30	03613101	10 x 75	30	35	92	M8 x 22	2,25	50
BZ-IG M 10-10	03621101	12 x 90	10	16	80	M10 x 23	1,32	25
BZ-IG M 10-20	03622101	12 x 90	20	26	90	M10 x 23	1,48	25
BZ-IG M 10-30	03623101	12 x 90	30	36	100	M10 x 23	1,76	25
BZ-IG M 12-10	03631101	16 x 105	10	17	96	M12 x 27	2,34	20
BZ-IG M 12-20	03632101	16 x 105	20	27	106	M12 x 27	2,66	20
BZ-IG M 12-30	03633101	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	54020101	0,64	100
S-IG 8x18	54120101	0,68	50
S-IG 10x20	54220101	0,64	25
S-IG 12x25	54320101	0,67	20

Coated Countersunk Screw DIN 7991 with Countersunk Washer¹⁾

Description	Ref. No.	Wght. per pkg. kg	Pkg. content pcs
SK-IG 6x16	55010101	0,64	100
SK-IG 8x20	55110101	0,60	50
SK-IG 10x25	55210101	0,62	25
SK-IG 12x30	55310101	0,80	20

¹⁾ Screws (Strength class 8.8) to be ordered separately.



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).

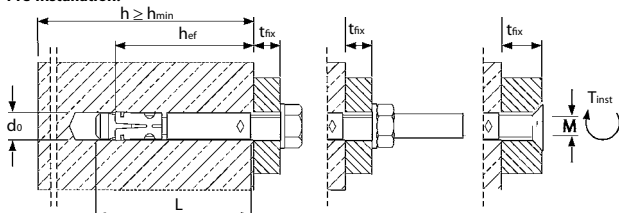
Loads and performance data		Wedge Anchor BZ-IG	M 6	M 8	M 10	M 12
cracked concrete						
Mean ultimate loads, tension	C25/30 N_{um}	[kN]	14,1	19,8	28,3	45,9
Mean ultimate loads, shear	C25/30 V_{um}	[kN]	8,7	11,4	14,8	33,9
Approved loads, tension	C20/25 appr. N	[kN]	2,0	3,6	4,8	7,9
	C25/30 appr. N	[kN]	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]	5,8	7,7	9,7	14,5
	C40/50 appr. N	[kN]	6,7	9,0	11,2	16,8
	C50/60 appr. N	[kN]	7,4	9,8	12,3	18,5
cracked and non-cracked concrete						
Approved loads, shear (Pre-Installation)	\geq C20/25 appr. V	[kN]	3,3	3,9	5,9	14,7
Approved loads, shear (Through Fastening)	\geq C20/25 appr. V	[kN]	2,9	4,3	6,2	13,9
Approved bending moments (Pre-Installation)	appr. M	[Nm]	7,0	17,1	34,2	59,8
Approved bending moments (Through Fastening)	appr. M	[Nm]	20,6	30,4	43,4	118,3
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

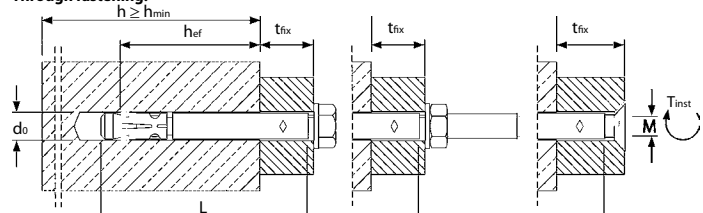
Drill hole diameter	d_o	[mm]	8	10	12	16
Diameter of clearance hole in the fixture - Pre-Installation	d_f	[mm]	7	9	12	14
Diameter of clearance hole in the fixture - Through Fastening	d_f	[mm]	9	12	14	18
Depth of drill hole	h_1	[mm]	60	75	90	105
Installation torque	Screw DIN 933 T_{inst}	[Nm]	10	30	30	55
	Countersunk screw T_{inst}	[Nm]	10	25	40	50
	Threaded rod T_{inst}	[Nm]	8	25	30	45
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	T45	-	-
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.

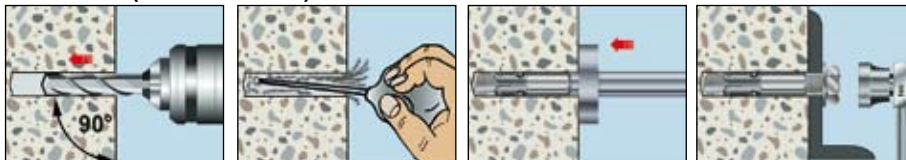
Pre-installation:



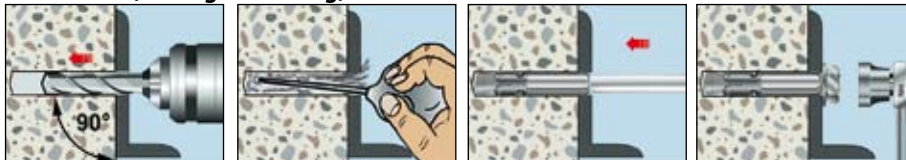
Through fastening:



Installation (Pre-installation)



Installation (Through fastening)



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

Countersunk head

