

Wedge Anchor BZ-IG A4

Stainless Steel A4/316



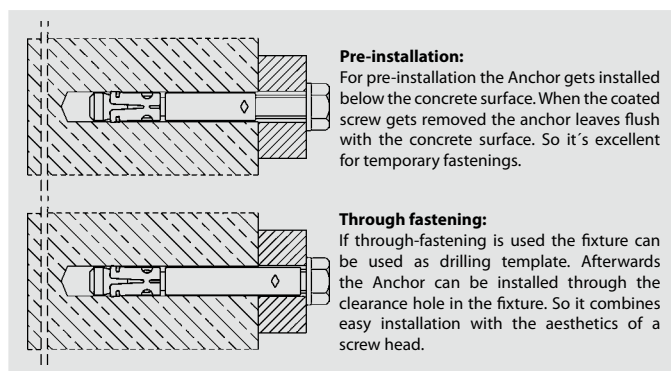
Range of Loading: 2,0 kN–18,5 kN
Range of concrete quality: C20/25–C50/60

Description

The fastening system BZ-IG A4 is the first approved (ETA-99/0010) 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.



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 Ø x depth mm	Anchor length mm	Thread Ø x length mm	Pkg. content. pcs.	Weight per pkg. kg
BZ-IG M 6-0 A4	03600501	8 x 60	50	M6x20	100	1,42
BZ-IG M 8-0 A4	03610501	10 x 75	62	M8x22	50	1,31
BZ-IG M 10-0 A4	03620501	12 x 90	70	M10x23	25	1,08
BZ-IG M 12-0 A4	03630501	16 x 105	86	M12x27	20	2,03

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



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

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



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

¹⁾Screws or hex nuts and washers to be ordered separately.

Coated Countersunk Screw ISO 10642 with Countersunk Washer¹⁾



Description	Ref. No.	Fixture thickn. t_{fix} mm	Pkg. content pcs.	Wght. per pkg. kg
SK-IG 6x25 A4 ²⁾	55013501	6-14	100	0,53
SK-IG 8x30 A4 ²⁾	55112501	9-15	50	0,59
SK-IG 10x30 A4	55211501	8-11	25	0,48
SK-IG 12x35 A4	55311501	9-14	20	0,64

¹⁾Screws or hex nuts and washers to be ordered separately.

²⁾Screw similar to ISO 10642 with Torx®-drive. Size see page 24.

Anchor system in high corrosion resistant steel grade 1.4529 on demand. Other screw lengths on demand.

Setting Tool BZ-IG for Pre-Installation



Description	Ref. No.	Weight per pcs. 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

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 Ø x depth mm	Drill hole depth through fixture mm	Fixture thickness		Anchor length l mm	Thread Ø x length mm	Pkg. content pcs	Weight per pkg. kg
				Typ S-IG	Typ SK-IG				
BZ-IG M 6-10 A4	03602501	8 x 60	74	10	14	60	M6 x 20	100	1,80
BZ-IG M 6-20 A4	03604501	8 x 60	84	20	24	70	M6 x 20	100	2,20
BZ-IG M 6-30 A4	03606501	8 x 60	94	30	34	80	M6 x 20	100	2,60
BZ-IG M 8-10 A4	03611501	10 x 75	90	10	15	72	M8 x 22	50	1,65
BZ-IG M 8-20 A4	03612501	10 x 75	100	20	25	82	M8 x 22	50	1,95
BZ-IG M 8-30 A4	03613501	10 x 75	110	30	35	92	M8 x 22	50	2,25
BZ-IG M 10-10 A4	03621501	12 x 90	106	10	16	80	M10 x 23	25	1,32
BZ-IG M 10-20 A4	03622501	12 x 90	116	20	26	90	M10 x 23	25	1,48
BZ-IG M 10-30 A4	03623501	12 x 90	126	30	36	100	M10 x 23	25	1,76
BZ-IG M 12-10 A4	03631501	16 x 105	122	10	17	96	M12 x 27	20	2,34
BZ-IG M 12-20 A4	03632501	16 x 105	132	20	27	106	M12 x 27	20	2,66
BZ-IG M 12-30 A4	03633501	16 x 105	142	30	37	116	M12 x 27	20	2,97

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

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



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

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

Coated Countersunk Screw ISO 10642 with Countersunk Washer¹⁾



Description	Ref. No.	Pkg. content pcs	Weight per pcs. kg
SK-IG 6x16 A4 ²⁾	55010501	100	0,64
SK-IG 8x20 A4 ²⁾	55110501	50	0,60
SK-IG 10x25 A4	55210501	25	0,62
SK-IG 12x30 A4	55310501	20	0,80

¹⁾Screws or hex nuts and washers to be ordered separately.

²⁾Screw similar to ISO 10642 with Torx®-drive. Size see page 24.

Anchor system in high corrosion resistant steel grade 1.4529 on demand. Other screw lengths on demand.

Setting Tool BZ-IG for Through Fastening



Description	Ref. No.	Weight per pcs. 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



Extract from Permissible Service Conditions of European Technical Assessment ETA-99/0010

Approved loads for single anchor without influence of spacing and edge distance.

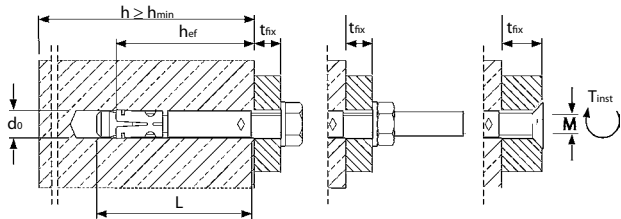
Total safety factor as per ETAG 001 included (γ_M and γ_R). Load capacities under fire exposure see page 188.

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 Num	[kN]	14,1	19,8	28,3	45,9
Mean ultimate loads, shear	C25/30 Vum	[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 / 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	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]	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	$t_{fix} \geq$	[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⁾

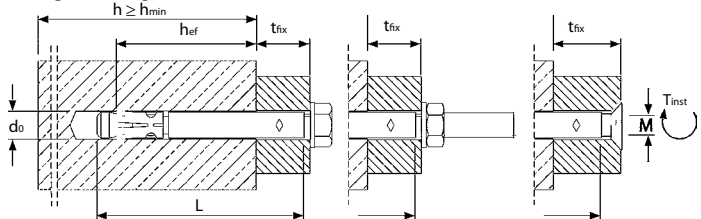
¹⁾Pre-Installation / Through Installation.

For anchor designing, an easy to operate software on CD-ROM is available on request or can be downloaded at www.mkt.de.

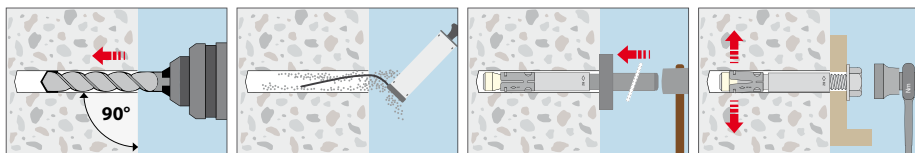
Pre-installation:



Through fastening:

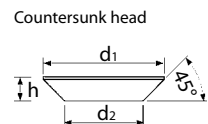


Installation (Pre-installation)



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



Installation (Through fastening)

