

# Wedge Anchor BZ-IG A4

Stainless Steel A4/316



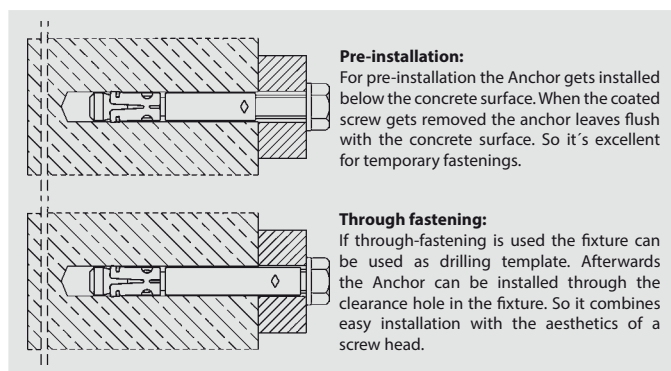
**Range of Loading:** 2,0 kN–18,8 kN  
**Range of concrete quality:** C20/25–C50/60

## 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 uncracked 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 A4<sup>1)</sup>



→ Stainless steel A4/316; Pre-Installation

→ Approved for cracked and uncracked 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)<sup>1)</sup>



Description	Ref. No.	Fixture thickn. t <sub>fx</sub> 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)<sup>1)</sup>



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

<sup>1)</sup>Screws or hex nuts and washers to be ordered separately.

## Coated Countersunk Screw ISO 10642 with Countersunk Washer<sup>1)</sup>



Description	Ref. No.	Fixture thickn. $t_{fix}$ mm	Pkg. content pcs.	Wght. per pkg. kg
SK-IG 6x25 A4 <sup>2)</sup>	55013501	6-14	100	0,53
SK-IG 8x30 A4 <sup>2)</sup>	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

<sup>1)</sup>Screws or hex nuts and washers to be ordered separately.

<sup>2)</sup>Screw similar to ISO 10642 with Torx®-drive. Size see page 36.

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 A4<sup>1)</sup>



→ Stainless steel A4/316; Through Fastening

→ Approved for cracked and uncracked 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

<sup>1)</sup>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)<sup>1)</sup>



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

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

## Coated Countersunk Screw ISO 10642 with Countersunk Washer<sup>1)</sup>



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

<sup>1)</sup>Screws or hex nuts and washers to be ordered separately.

<sup>2)</sup>Screw similar to ISO 10642 with Torx®-drive. Size see page 36.

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 for use in cracked and uncracked concrete (Option 1)**

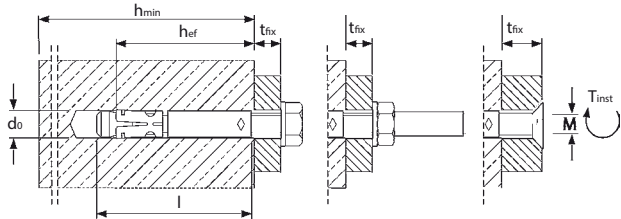
Approved loads according to EN 1992-4 for single anchors without the influence of spacing and edge distances. The total safety factor ( $\gamma_M$  und  $\gamma_F$ ) is included. Load capacities under fire exposure see page 197.

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	4,0	5,3	8,9
	C30/37 appr. N	[kN]	2,4	4,4	5,8	9,7
	C40/50 appr. N	[kN]	2,8	5,1	6,7	11,2
	C50/60 appr. N	[kN]	3,1	5,6	7,5	12,5
uncracked concrete						
Approved loads, tension	C20/25 appr. N	[kN]	4,8	6,3	7,9	11,9
	C25/30 appr. N	[kN]	5,3	7,1	8,9	13,3
	C30/37 appr. N	[kN]	5,4	7,8	9,7	14,6
	C40/50 appr. N	[kN]	5,4	9,0	11,2	16,8
	C50/60 appr. N	[kN]	5,4	9,8	12,5	18,8
cracked / uncracked 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
<b>Spacing and edge distance</b>						
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
uncracked 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
<b>Installation parameters</b>						
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 <sup>1)</sup>	1 / 7 <sup>1)</sup>	1 / 8 <sup>1)</sup>	1 / 9 <sup>1)</sup>
Min. thickness of fixture	Countersunk screw $t_{fix} \geq$	[mm]	5 / 9 <sup>1)</sup>	7 / 12 <sup>1)</sup>	8 / 14 <sup>1)</sup>	9 / 16 <sup>1)</sup>

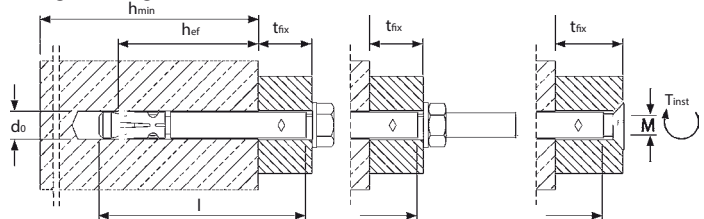
<sup>1)</sup>Pre-Installation / Through Installation.

For anchor designing, an easy to operate software on CD-ROM is available on request or can be downloaded at [www.mkt.de](http://www.mkt.de).

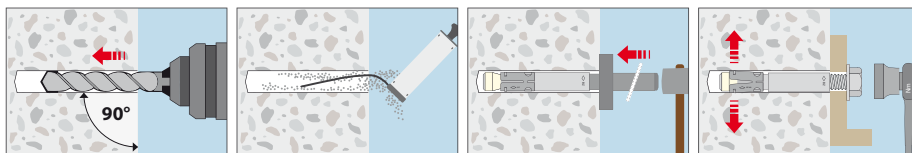
**Pre-installation:**



**Through fastening:**

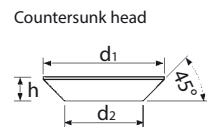


**Installation (Pre-installation)**



**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)**

