

# Wedge Anchor BZ plus HCR

High corrosion resistant steel 1.4529 (HCR)



## Description

The Wedge Anchor BZ plus HCR (ETA, Option 1) combines high approved loads with close anchor spacing and edge distances. Time saving through fastening installations - no special drilling and setting tools are required. Tightening the hexagon nut expands the sleeve which produces permanent grip in cracked and non-cracked concrete. The BZ plus HCR is BZS shock approved.



## Applications

Medium to heavy duty anchorings which are exposed to highly corrosive atmospheres with high concentration of sulphur dioxides, chlorides, humidity: attaching brackets, ventilation systems, suspended ceilings, cable trays, in road tunnels, indoor swimming pools, etc.

**Range of Loading:** 2,4 kN - 43,9 kN

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



## Wedge Anchor BZ plus HCR

→ High corrosion resistant steel 1.4529 (HCR)



→ Approved for cracked and non-cracked concrete

Description	Ref. No.	Drill Hole Øxdepth	Setting- depth	Fixture- thickness t <sub>fix</sub>	Anchor- length l	Thread	Pkg. con- tent pcs.	Weight per pkg. kg
		mm	mm	mm	mm	mm		
BZ 8-10/75 HCR	02115651	8 x 60	52	10	75	M8x20	100	3,40
BZ 8-15/80 HCR	02120651	8 x 60	52	15	80	M8x25	100	3,50
BZ 8-30/95 HCR	02135651	8 x 60	52	30	95	M8x40	100	4,20
BZ 8-50/115 HCR	02145651	8 x 60	52	50	115	M8x60	100	5,00
BZ 10-10/90 HCR	02210651	10 x 75	67	10	90	M10x20	50	2,90
BZ 10-15/95 HCR	02215651	10 x 75	67	15	95	M10x25	50	3,35
BZ 10-30/110 HCR	02225651	10 x 75	67	30	110	M10x40	50	3,77
BZ 10-50/130 HCR	02235651	10 x 75	67	50	130	M10x60	50	4,31
BZ 12-15/110 HCR	02315651	12 x 90	80	15	110	M12x30	25	2,77
BZ 12-20/115 HCR	02320651	12 x 90	80	20	115	M12x35	25	2,87
BZ 12-50/145 HCR	02330651	12 x 90	80	50	145	M12x65	25	3,46
BZ 12-125/220 HCR	02350651	12 x 90	80	125	220	M12x80	25	5,03
BZ 16-25/145 HCR	02515651	16 x 110	100	25	145	M16x45	20	4,90
BZ 16-50/170 HCR	02520651	16 x 110	100	50	170	M16x70	20	5,80
BZ 16-100/220 HCR	02530651	16 x 110	100	100	220	M16x80	10	3,70
BZ 20-30/165 HCR	02615651	20 x 125	114	30	165	M20x50	10	4,83
BZ 20-60/195 HCR	02625651	20 x 125	114	60	195	M20x70	10	5,45
BZ 20-100/235 HCR	02630651	20 x 125	114	100	235	M20x80	5	3,53
BZ 20-130/265 HCR	02635651	20 x 125	114	130	265	M20x80	5	3,65
BZ 20-150/285 HCR	02640651	20 x 125	114	150	285	M20x80	5	3,75

Other lengths on demand.



**Extract from Permissible Service Conditions of ETA-99/0010**

Approved loads for single anchor without influence of spacing and edge distance.  
Total safety factor as per ETAG 001 included ( $\gamma_M$  und  $\gamma_P$ ).

Loads and performance data	Wedge Anchor BZ plus HCR	M 8	M 10	M 12	M 16	M 20
cracked concrete						
Mean ultimate loads, tension	C25/30 $N_{um}$ [kN]	10,8	16,7	21,1	40,0	54,3
Mean ultimate loads, shear	C25/30 $V_{um}$ [kN]	18,4	32,9	35,5	74,6	121,5
Approved loads, tension	C20/25 appr. N [kN]	2,4	4,3	5,7	11,9	17,1
	C25/30 appr. N [kN]	2,6	4,7	6,3	13,1	18,9
	C30/37 appr. N [kN]	2,9	5,2	7,0	14,5	20,9
	C40/50 appr. N [kN]	3,4	6,0	8,1	16,8	24,2
	C50/60 appr. N [kN]	3,7	6,6	8,9	18,5	26,6
non-cracked concrete						
Approved loads, tension	C20/25 appr. N [kN]	5,7	7,6	9,5	16,7	24,0
	C25/30 appr. N [kN]	6,3	8,4	10,5	18,3	26,4
	C30/37 appr. N [kN]	7,0	9,3	11,6	20,3	29,3
	C40/50 appr. N [kN]	7,6	10,7	13,4	23,5	33,8
	C50/60 appr. N [kN]	7,6	11,8	14,8	25,8	37,2
cracked and non-cracked concrete						
Approved loads, shear	C20/25 appr. V [kN]	7,4	11,4	17,1	26,9/31,4	34,3/43,9
	$\geq$ C25/30 appr. V [kN]	7,4	11,4	17,1	29,6/31,4	37,7/43,9
Approved bending moments	appr. M [Nm]	14,9	29,7	52,6	133,1	231,6

**Spacing and edge distance**

Effective anchorage depth	$h_{ef}$ [mm]	46	60	65	85	100
Characteristic spacing	$s_{cr,N}$ [mm]	138	180	195	255	300
Characteristic edge distance	$c_{cr,N}$ [mm]	69	90	97,5	127,5	150

**Respective minimum spacing and edge distance for standard thickness of concrete member**

cracked concrete						
Minimum spacing / for edge distance c	$s_{min} / c$ [mm]	40/70	50/75	60/100	60/100	95/150
Minimum edge distance / for spacing s	$c_{min} / s$ [mm]	40/80	55/90	60/140	60/180	95/200
non-cracked concrete						
Minimum spacing / for edge distance c	$s_{min} / c$ [mm]	40/80	50/75	60/120	65/120	90/180
Minimum edge distance / for spacing s	$c_{min} / s$ [mm]	50/100	60/120	75/150	80/150	130/240
Standard thickness of concrete slab	$h_{std}$ [mm]	100	120	130	160	200

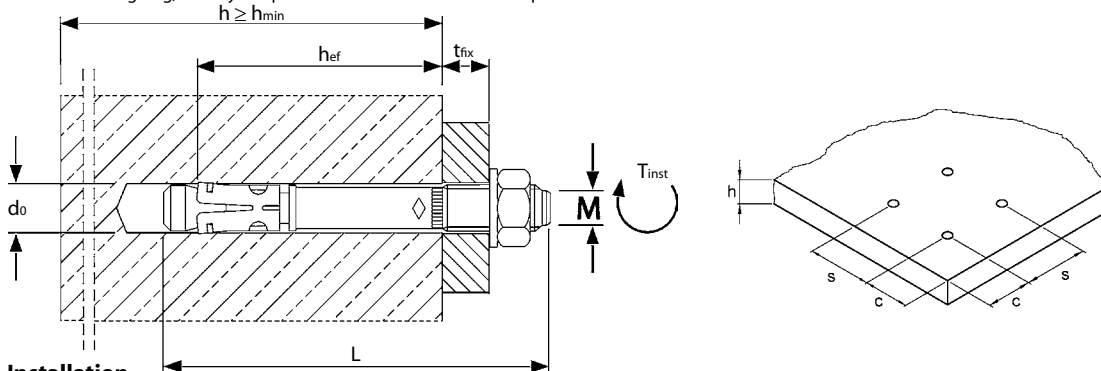
**Respective minimum spacing and edge distance for minimum thickness of concrete member**

cracked concrete						
Minimum spacing / for edge distance c	$s_{min} / c$ [mm]	40/70	45/90	60/100	70/160	95/150
Minimum edge distance / for spacing s	$c_{min} / s$ [mm]	40/80	50/115	60/140	80/180	95/200
non-cracked concrete						
Minimum spacing / for edge distance c	$s_{min} / c$ [mm]	40/80	60/140	60/120	80/180	90/180
Minimum edge distance / for spacing s	$c_{min} / s$ [mm]	50/100	90/140	75/150	90/200	130/240
Minimum thickness of concrete slab	$h_{min}$ [mm]	80	100	110	140	200

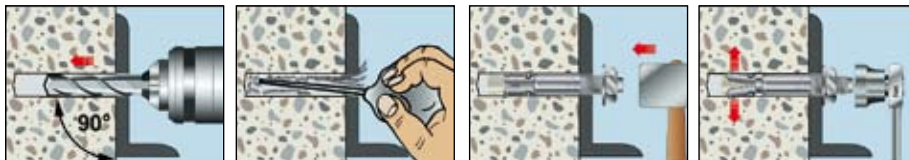
**Installation parameters**

Drill hole diameter	$d_o$ [mm]	8	10	12	16	20
Diameter of clearance hole in the fixture	$d_f$ [mm]	9	12	14	18	22
Depth of drill hole	$h_1$ [mm]	60	75	90	110	125
Installation torque	$T_{inst}$ [Nm]	20	35	50	110	200
Width across nut	SW [mm]	13	17	19	24	30

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



**Installation**



Mechanical Heavy Duty Anchors