

Chemical Anchor VZ-IG



Range of loading: 3,2 kN–57,6 kN
Range of concrete quality: C20/25–C50/60
Material: Steel, zinc plated, Stainless steel A4, HCR

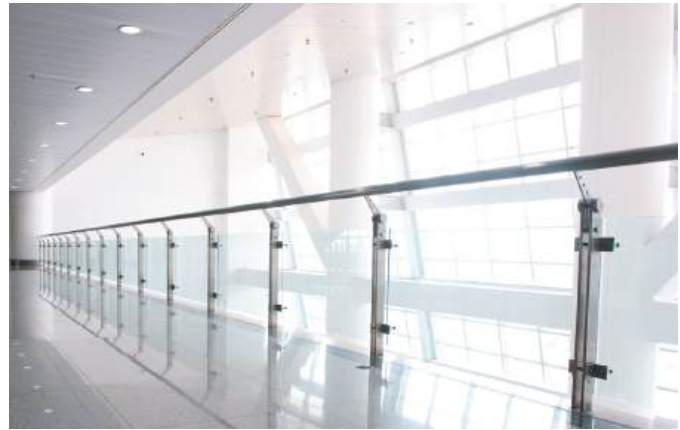
Description

The Chemical Anchor VZ, consisting of the styrene-free Resin Anchor Capsule VZ-P and Internally Threaded Anchor Rod VZ-IG, has the European Technical Assessment for cracked and uncracked concrete. Installation is quick and easy: After inserting the composite mortar cartridge into the cleaned drill hole, the Internally Threaded Anchor Rod VZ-IG is driven in with the help of the enclosed adapter and a hammer drill with drill chuck for cylindrical drills. Since the composite reaction is not started until the internally threaded anchor rod is driven in, the composite adhesive cartridge and internally threaded anchor rod can be set independently of each other and it is possible to interrupt work without problem. The very short curing time enables heavy components to be fastened quickly without long waiting times. As the VZ composite anchor can be used in concrete temperatures from -20 °C to +40 °C, it can be used indoors and outdoors all year round and is ideally suited for use in cold stores.

Hammer drills, compressed air drills or suction drills can be used to create the drill holes. When using the hollow drill bit SB, fine dust exposure is reduced to a minimum and subsequent drill hole cleaning is not necessary.

Advantages

- European Technical Assessment for cracked and uncracked concrete
- High permissible loads at low anchorage depths and component-thicknesses
- Small spacings and very small edge distances
- Approved processing from -20°C substrate temperature
- Very fast, reliable curing, thus hardly any waiting time before installation
- No longer curing times in wet concrete
- Wide range of application and design options, as various screws, threaded rods and nuts (galvanised steel: FKL ≥8.8, stainless steel A4, HCR: FKL ≥70) can be used for fastening.
- Also suitable for architecturally demanding applications
- Can be dismantled flush with the surface
- A setting tool is included with each package
- When using the hollow drill bit SB, subsequent drill hole cleaning is not necessary
- Styrene free



Applications

Anchoring of large loads in cracked and uncracked concrete with standard screws or threaded rods: Steel structures, brackets, railings, posts, supports, ladders, gates, fixings in cold stores.

Resin Anchor Capsule VZ-P



- Two component glass capsule, Styrene free
- European Technical Assessment for cracked and uncracked concrete

Description	Ref. No.	Capsule Ø mm	Capsule length mm	Content of master box pcs.	Weight per master box kg	Package content pcs.	Weight per package kg
VZ-P 10	64201001	11	90	500	9,7	10	0,19
VZ-P 12	64201201	13	95	500	12,8	10	0,25
VZ-P 16	64201601	17	95	500	19,5	10	0,38
VZ-P 20	64202001	17	145	200	12,9	10	0,63
VZ-P 24	64202401	23	190	-	-	5	0,72

NEW

Curing time Chemical Anchor VZ

- Capsule temperature when installing -15°C to +40°C

Temperature (°C) of base material	Curing time
-20°C to -16°C	17 h
-15°C to -11°C	7 h
-10°C to -6°C	4 h
-5°C to -1°C	3 h
0°C to +4°C	50 min
+5°C to +9°C	25 min
+10°C to +19°C	15 min
+20°C to +29°C	6 min
+30°C to +40°C	6 min

Accessories for Chemical Anchor VZ

Chemical Anchor	Internally Threaded Sleeve	Drill hole Ø mm	Blow-out pump / Air gun	Cleaning brush RB
VZ-P 10	VZ-IG M6	12	VM-AP 270 / 360 VM-ABP 200	RB 12 M6 RB 12 M8
VZ-P 12	VZ-IG M8	14	VM-AP 270 / 360 VM-ABP 200	RB 14 M6 RB 14 M8
VZ-P 16	VZ-IG M10	18	VM-AP 270 / 360 VM-ABP 200 / 250 / 500	RB 18 M6 RB 18 M8
VZ-P 20	VZ-IG M12	22	VM-AP 270 / 360 VM-ABP 250 / 500	RB 22 M6
VZ-P 24	VZ-IG M16	28	VM-ABP 250 / 500	RB 28 M6
see page			179	180

Internally Threaded Anchor Rods for Chemical Anchor VZ

Internally Threaded Anchor Rod VZ-IG



→ For use in structures subject to dry internal conditions

→ Steel, zinc plated 8.8

Description	Suitable for capsule	Ref. No.	Drill hole Ø x depth mm	Outer Ø x Length mm	Internal thread	Package content pcs.	Weight per package kg
VZ-IG M6	VZ-P 10	24406171	12 x 90	10 x 90	M6 x 20	10	0,42
VZ-IG M8	VZ-P 12	24408171	14 x 110	12 x 110	M8 x 20	10	0,72
VZ-IG M10	VZ-P 16	24410171	18 x 125	16 x 125	M10 x 25	10	1,53
VZ-IG M12	VZ-P 20	24412171	22 x 170	20 x 170	M12 x 30	10	3,18
NEW VZ-IG M16	VZ-P 24	24416171	28 x 210	24 x 210	M12 x 32	5	2,41

Internally Threaded Anchor Rod VZ-IG 5.8 on demand.

A setting tool is included with each package.

Internally Threaded Anchor Rod VZ-IG A4



→ For use in structures subject to dry internal conditions or external atmospheric exposure

→ Stainless steel A4-70

Description	Suitable for capsule	Ref. No.	Drill hole Ø x depth mm	Outer Ø x Length mm	Internal thread	Package content pcs.	Weight per package kg
VZ-IG M6 A4	VZ-P 10	24406501	12 x 90	10 x 90	M6 x 20	10	0,42
VZ-IG M8 A4	VZ-P 12	24408501	14 x 110	12 x 110	M8 x 20	10	0,72
VZ-IG M10 A4	VZ-P 16	24410501	18 x 125	16 x 125	M10 x 25	10	1,53
VZ-IG M12 A4	VZ-P 20	24412501	22 x 170	20 x 170	M12 x 30	10	3,18
NEW VZ-IG M16 A4	VZ-P 24	24416501	28 x 210	24 x 210	M12 x 32	5	2,41

Internally Threaded Anchor Rod VZ-IG HCR on demand.

A setting tool is included with each package.



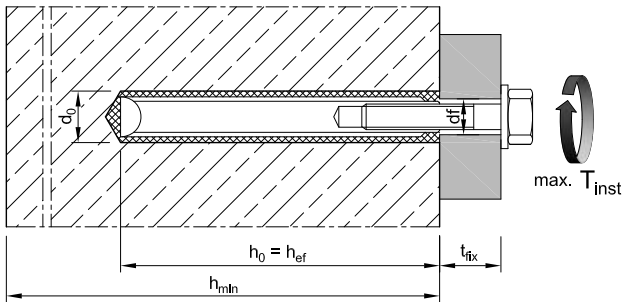
Extract from Permissible Service Conditions of European Technical Assessment ETA-20/0533 for use in cracked and uncracked concrete (Option 1)

Approved loads according to EN 1992-4 for single anchors without the influence of spacing and edge distances in dry and wet concrete for temperature range I -40°C to +24°C (short term temperature +40°C) and for temperature range II -40°C to +50°C (short term temperature +80°C). The influence of the sustained load has been taken into account by the factor $\Psi_{sus} = 1,0$ and the total safety factor (γ_M and γ_F) is included. For further details and temperature ranges see ETA.

Loads and performance data				IG M6	IG M8	IG M10	IG M12	IG M16	
Anchorage depth	h_{ef}	[mm]		90	110	125	170	210	
Chemical Anchor VZ, Internal Threaded Anchor Rod steel VZ-IG 8.8									
Mean ultimate loads (Range of temperature: 24°C/40°C ¹⁾)				cracked and uncracked concrete					
Mean ultimate loads tension	C20/25	$N_{u,m}$	[kN]	16,1	27,2	46,4	67,4	121,2	
Mean ultimate loads, shear	C20/25	$V_{u,m}$	[kN]	8,0	13,6	23,2	33,7	60,6	
Approved loads, tension				cracked concrete					
Range of temperature	24°C/40°C ¹⁾	C20/25	rec. N	[kN]	7,5	11,7	18,6	31,5	48,3
	50°C/80°C ¹⁾	C20/25	rec. N	[kN]	6,3	9,9	15,6	26,4	40,7
Approved loads, tension				uncracked concrete					
Range of temperature	24°C/40°C ¹⁾	C20/25	rec. N	[kN]	7,6	12,9	21,9	31,9	57,6
	50°C/80°C ¹⁾	C20/25	rec. N	[kN]	7,6	12,9	21,9	31,9	57,6
Approved loads, shear				cracked and uncracked concrete					
Range of temperature	24°C/40°C ¹⁾	C20/25	rec. V	[kN]	4,6	8,0	13,1	19,4	34,3
	50°C/80°C ¹⁾	C20/25	rec. V	[kN]	4,6	8,0	13,1	19,4	34,3
Chemical Anchor VZ, Internal Threaded Anchor Rod VZ-IG stainless \geq A4-70, \geq HCR-70									
Mean ultimate loads (Range of temperature: 24°C/40°C ¹⁾)				cracked and uncracked concrete					
Mean ultimate loads tension	C20/25	$N_{u,m}$	[kN]	14,1	23,8	40,6	59,0	106,0	
Mean ultimate loads, shear	C20/25	$V_{u,m}$	[kN]	7,0	11,9	20,3	29,5	53,0	
Approved loads, tension				cracked concrete					
Range of temperature	24°C/40°C ¹⁾	C20/25	rec. N	[kN]	5,3	9,9	15,7	22,5	42,0
	50°C/80°C ¹⁾	C20/25	rec. N	[kN]	5,3	9,9	15,0	22,5	40,7
Approved loads, tension				uncracked concrete					
Range of temperature	24°C/40°C ¹⁾	C20/25	rec. N	[kN]	5,3	9,9	15,7	22,5	42,0
	50°C/80°C ¹⁾	C20/25	rec. N	[kN]	5,3	9,9	15,7	22,5	42,0
Approved loads, shear				cracked and uncracked concrete					
Range of temperature	24°C/40°C ¹⁾	C20/25	rec. V	[kN]	3,2	6,0	9,2	13,7	25,2
	50°C/80°C ¹⁾	C20/25	rec. V	[kN]	3,2	6,0	9,2	13,7	25,2
Minimum thickness of concrete slab, spacing and edge distance									
Minimum thickness of concrete slab	h_{min}	[mm]		120	140	160	220	270	
Minimum spacing	s_{min}	[mm]		50	60	75	90	115	
Minimum edge distance	c_{min}	[mm]		45	45	50	55	60	
Installation parameters									
Drill hole diameter	d_0	[mm]		12	14	18	22	28	
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]		7	9	12	14	18	
Depth of drill hole	h_0	[mm]		90	110	125	170	210	
Installation torque	$T_{inst} \leq$	[Nm]		10	10	20	40	60	

¹⁾max long term temperature / max short term temperature

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



Installation

