Vorpa **VE.CE7 MT**

Heavy duty anchor with European Technical Assesment for non cracked concrete

non cracked concrete

products group

Approved for
- non-cracked concrete C20/25-C50/60
- anchorage under static, quasi/static actions M8-M16

To fix
- parapets
- gates, stairs, profiles
- steel beams
- machine tools
- industrial systems
- heavy duty metal constructions
- static, quasi/static anchorages

CALCULATION SOFTWARE

ETAG 001-02
for non cracked concrete

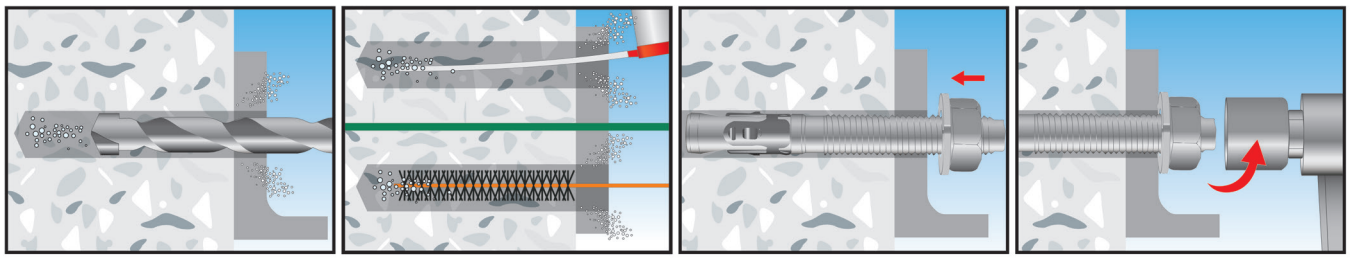
product information

Characteristics
- special wedge anchor assembled with hex nut and washer with European Technical Assessment for non cracked concrete
- reduced hole diameter
- suitable for through-setting applications in concrete
- thread diameter and hole diameter are the same
- reinforced anchor's head to avoid damaging the thread during the installation

Installation
- through-setting anchor

Suggestion for use
- choose the right size of the anchor according to the load
- always check load bearing capacity values in the table
- respect the installation data
- **clean the hole before the installation**

installation sequence



Examples of applications

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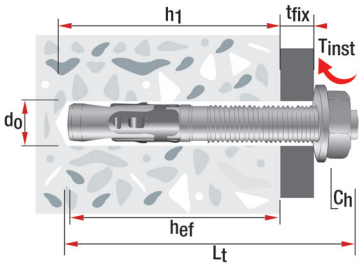
product code and technical data

VE.CE7

Code	Description	L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
2210	VE.CE 7 8/10-75	75	8	65	10	15	13
2211	VE.CE 7 8/20-90	90	8	65	20	15	13
2212	VE.CE 7 8/45-115	115	8	65	45	15	13
2196	VE.CE 7 10/10-80	80	10	70	10	30	17
2214	VE.CE 7 10/20-90	90	10	70	20	30	17
2197	VE.CE 7 10/30-100	100	10	70	30	30	17
2215	VE.CE 7 10/50-120	120	10	70	50	30	17
2198	VE.CE 7 12/5-100	100	12	95	5	50	19
2218	VE.CE 7 12/15-110	110	12	95	15	50	19
2219	VE.CE 7 12/40-120	120	12	95	40	50	19
2199	VE.CE 7 12/45-140	140	12	95	45	50	19
2200	VE.CE 7 12/65-160	160	12	95	65	50	19
2221	VE.CE 7 12/85-180	180	12	95	85	50	19
2201	VE.CE 7 12/105-200	200	12	95	105	50	19
2202	VE.CE 7 12/125-220	220	12	95	125	50	19
2203	VE.CE 7 12/145-240	240	12	95	145	50	19
2204	VE.CE 7 12/165-260	260	12	95	165	50	19
2205	VE.CE 7 12/185-280	280	12	95	185	50	19
2206	VE.CE 7 12/205-300	300	12	95	205	50	19
2207	VE.CE 7 12/235-330	330	12	95	235	50	19
2208	VE.CE 7 12/250-360	360	12	95	250	50	19
2209	VE.CE 7 16/10-125	125	16	120	10	100	24
2223	VE.CE 7 16/30-145	145	16	120	30	100	24
2224	VE.CE 7 16/60-175	175	16	120	60	100	24
2226	VE.CE 7 16/105-220	220	16	120	105	100	24
2227	VE.CE 7 16/125-240	240	16	120	125	100	24
2228	VE.CE 7 16/145-260	260	16	120	145	100	24
2229	VE.CE 7 16/165-280	280	16	120	165	100	24
2230	VE.CE 7 16/185-300	300	16	120	185	100	24
2235	VE.CE 7 16/215-330	330	16	120	215	100	24
2236	VE.CE 7 16/245-360	360	16	120	245	100	24
2237	VE.CE 7 16/280-400	400	16	120	280	100	24



L_t = Anchor length
h_{ef} = Effective anchorage depth
h_1 = Min. hole depth
d_o = Hole diameter
t_{fix} = Fixture thickness
T_{inst} = Torque
Ch = Spanner

Note: All anchors Ø16 whose length is more than 220 mm will be assembled with DIN 9021 washer

Examples of applications

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technical data

VE.CE7 MT			M8	M10	M12	M16	M12 long	M16 long
Installation data								
Anchor diameter	d	mm	8	10	12	16	12	16
Anchor length	L	mm	67-115	75-120	100-180	120-220	181-360	221-400
Effective anchorage depth	h_{ef}	mm	43,2	46,6	63,6	75,8	63,6	75,8
Fixture thickness	T_{fix}	mm	1-45	1-50	1-250	1-280	1-250	1-280
Drill hole diameter	d_o	mm	8	10	12	16	12	16
Drill hole depth	h_1	mm	65	70	95	120	95	120
Drill hole diameter in the fixture	d_f	mm	9	11	14	18	14	18
Torque moment	T_{inst}	Nm	15	30	50	100	50	100
Critical axial spacing	$S_{cr,N}$	mm	144	180	210	270	210	270
Critical edge distance	$C_{cr,N}$	mm	72	90	105	135	105	135
Minimum axial spacing	S_{min}	mm	48	60	72	96	72	96
Minimum edge distance	C_{min}	mm	64	80	96	128	96	128
Minimum thickness member	h_{min}	mm	110	120	160	200	160	200
Characteristic values								
Pull out failure kN (1kN≃100kg)								
non-cracked concrete	$N_{rk,P}$ C20/25	KN	7,5	9	12	25	12	25
ψc C30/37			1,22	1,22	1,22	1,22	1,22	1,22
ψc C40/50			1,41	1,41	1,41	1,41	1,41	1,41
ψc C50/60			1,55	1,55	1,55	1,55	1,55	1,55
Shear failure	$V_{Rk,S}$ C20/25	KN	6,6	10,1	21,1	39,3	8,8	13,5
Bending moment	$M_{RK,S}$	Nm	18,7	37,4	65,4	166	65,4	166
Values with reduction factor γ (Design loads)								
Pull out failure	$N_{rk,P}$	KN	5	6	8	13,9	8	13,9
Shear failure	$V_{Rk,S}$	KN	5,3	8,1	16,9	31,4	7	10,8
Bending moment	$M_{RK,S}$	Nm	15	29,9	52,3	132,8	52,3	132,8
Recommended loads								
Pull out failure	N	KN	3,6	4,3	5,7	9,9	5,7	9,9
Shear failure	T	KN	3,8	5,8	12	22,4	5	7,7
Bending moment	M	Nm	8,5	17	29,8	75	29,8	75

Examples of applications