VIN-FIX

VIDEO | MY PROJECT SOFTWARE | LEED tested | A+ | SEISMIC C2 | CE ETA-20/0363 ETA-21/0982

VINYL ESTER CHEMICAL ANCHOR WITHOUT STYRENE

- CE option 1 for cracked and uncracked concrete
- Certified use for post-installed threaded rods and reinforcing rods according to ETA-20/0363 Option 1
- C2 Seismic performance category (M12-M16)
- Comply with LEED® v4
- A+ Class: emission of volatile organic compounds (VOC) in living environments
- Certified for masonry use in solid and semi-hollow material (categories b, c, d)
- Dry, wet concrete or submerged holes
- Certified for use on aerated autoclaved concrete blocks (AAC)

USA, Canada and more design values available online.

CODES AND DIMENSIONS

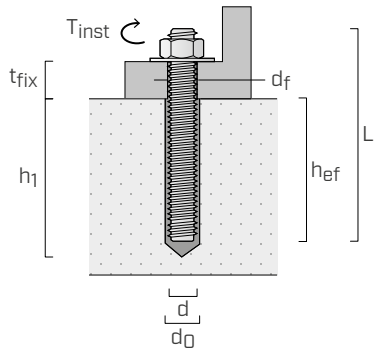
CODE	format		pcs
	[ml]	*[US fl oz]*	
FIX300	300	*10.14*	12
FIX420	420	*14.20*	12

Expiry from date of manufacturing: 12 months for 300 ml, 18 months for 420 ml.
Storage temperature between +5 and +25° C.

ADDITIONAL PRODUCTS - ACCESSORIES

type	description	format	pcs
MAM400	gun for cartridge	420 ml	1
FLY	gun for cartridge	300 ml	1
STING	nozzle	-	12
STINGRED	nozzle tip reducer	-	1
FILL	filling washer	M8 - M24	-
BRUH	steel pipe cleaner	M8 - M30	-
BRUHAND	grip and extension for pipe cleaner	-	1
CAT	compressed air tool	-	1
PONY	blow pump	-	1

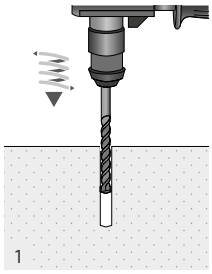
GEOMETRY

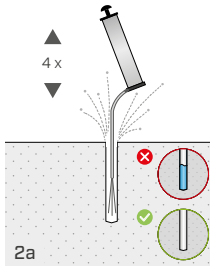


d	anchor diameter
d_0	hole diameter in the concrete support
h_{ef}	effective anchoring depth
d_f	hole diameter in the element to be fastened
T_{inst}	maximum tightening torque
L	anchor length
t_{fix}	maximum fastening thickness
h_1	minimum hole depth

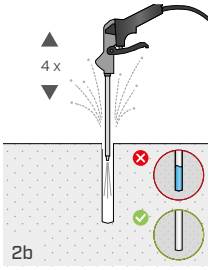
MOUNTING

CONCRETE

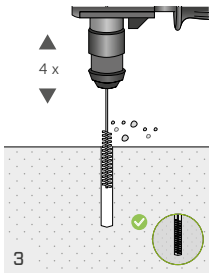


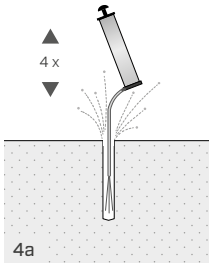


hole diameter ≤ 20 mm

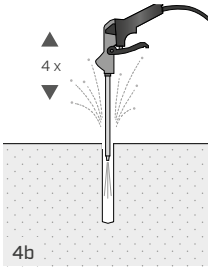


hole diameter > 20 mm or depth greater than 240 mm

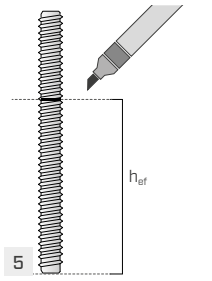


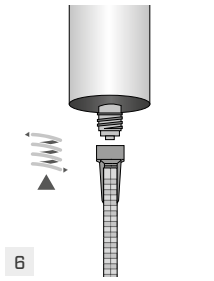


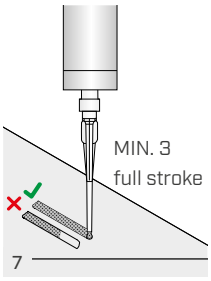
hole diameter ≤ 20 mm

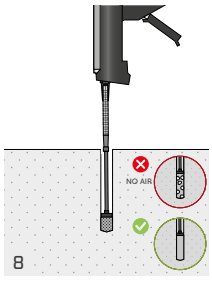


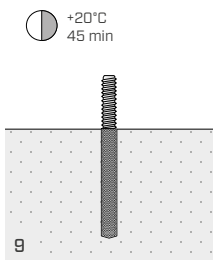
hole diameter > 20 mm or depth greater than 240 mm

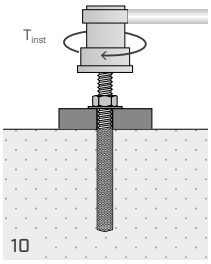




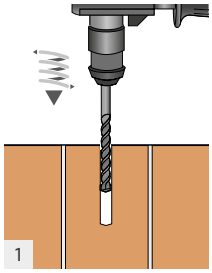


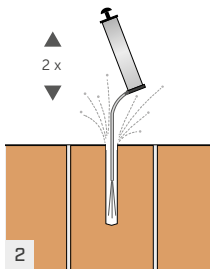


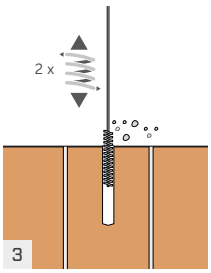


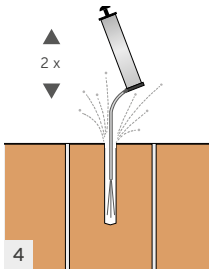


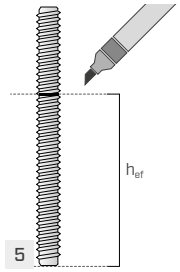
SOLID MASONRY

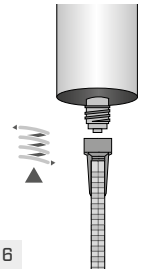


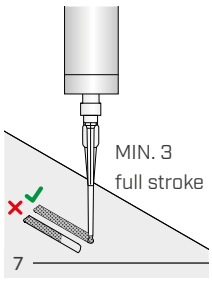


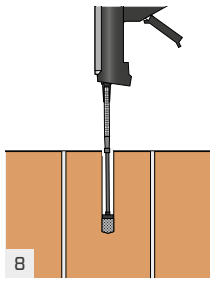


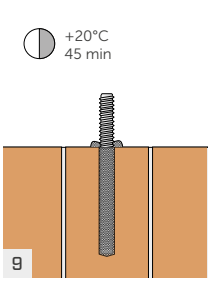


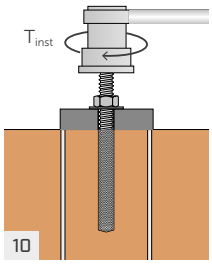




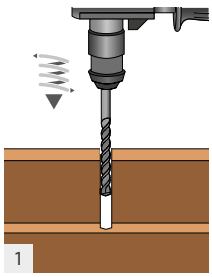


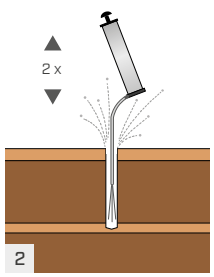


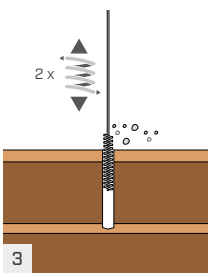


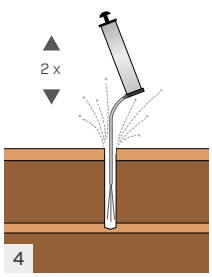


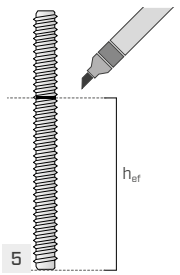
HOLLOW MASONRY

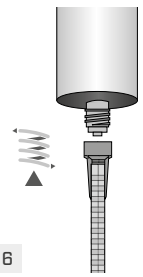


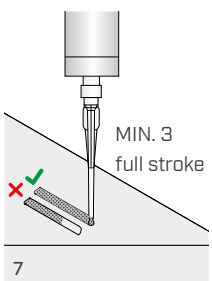


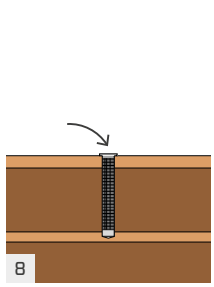


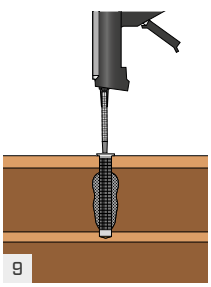


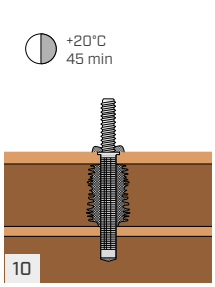


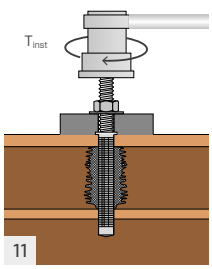






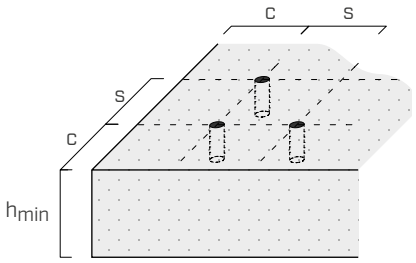






INSTALLATION

INSTALLATION GEOMETRY ON CONCRETE | THREADED RODS



d	[mm]	M8	M10	M12	M16	M20	M24
d_0	[mm]	10	12	14	18	24	28
$h_{ef,min}$	[mm]	60	60	70	80	90	96
$h_{ef,max}$	[mm]	160	200	240	320	400	480
d_f	[mm]	9	12	14	18	22	26
T_{inst}	[Nm]	10	20	40	80	120	160

			M8	M10	M12	M16	M20	M24
Minimum spacing	s_{min}	[mm]	40	50	60	80	100	120
Minimum edge distance	c_{min}	[mm]	40	50	60	80	100	120
Minimum thickness of concrete support	h_{min}	[mm]	$h_{ef} + 30 \geq 100$ mm				$h_{ef} + 2\ d_0$	

For spacing and distances smaller than the critical ones, strength values have to be reduced depending on the installation parameters.

INSTALLATION TIME AND TEMPERATURE

support temperature	cartridge temperature	workability time	curing time before loading
-5 ÷ -1 °C (*)	+5 ÷ +40 °C	90 min	6 h
0 ÷ +4 °C		45 min	3 h
+5 ÷ +9 °C		25 min	2 h
+10 ÷ +14 °C		20 min	100 min
+15 ÷ +19 °C		15 min	80 min
+20 ÷ +29 °C		6 min	45 min
+30 ÷ +34 °C		4 min	25 min
+35 ÷ +39 °C		2 min	20 min

(*) Temperatures not permitted for masonry.

Component A classification: Eye Irrit. 2; Skin Sens. 1.

Component B classification: Eye Irrit. 2; Skin Sens. 1.

STRUCTURAL CHARACTERISTIC VALUES

Valid for a single threaded rod (INA or MGS) in very thick C20/25 grade concrete with a thin reinforcing layer when spacing and edge-distance are not limiting parameters.

UNCRACKED CONCRETE[1]

TENSION

rod	$h_{ef,standard}$	$N_{Rk,p}$[2] [kN]				$h_{ef,max}$	$N_{Rk,s}$[3] [kN]			
	[mm]	5.8 steel	γ_{Mp}	8.8 steel	γ_{Mp}	[mm]	5.8 steel	γ_{Ms}	8.8 steel	γ_{Ms}
M8	**80**	17,1	1,8	17,1	1,8	**160**	18	1,5	29	1,5
M10	**90**	22,6		22,6		**200**	29		46	
M12	**110**	33,2		33,2		**240**	42		67	
M16	**128**	51,5		51,5		**320**	79		126	
M20	**170**	85,5		85,5		**400**	123		196	
M24	**210**	126,7		126,7		**480**	177		282	

SHEAR

rod	h_{ef}	$V_{Rk,s}$[3] [kN]			
	[mm]	5.8 steel	γ_{Ms}	8.8 steel	γ_{Ms}
M8	**≥ 60**	11	1,25	15	1,25
M10	**≥ 60**	17		23	
M12	**≥ 70**	25		34	
M16	**≥ 80**	47		63	
M20	**≥ 100**	74		98	
M24	**≥ 125**	106		141	

incremental factor for $N_{Rk,p}$[4]		
Ψ_c	C25/30	1,04
	C30/37	1,08
	C40/50	1,15
	C50/60	1,19

CRACKED CONCRETE[1]

TENSION

rod	$h_{ef,standard}$	$N_{Rk,p}$[2] [kN]				$h_{ef,max}$	$N_{Rk,p}$ | $N_{Rk,s}$ [kN]			
	[mm]	5.8 steel	γ_{Mp}	8.8 steel	γ_{Mp}	[mm]	5.8 steel	γ_{Ms}	8.8 steel	γ_{Ms}
M8	**80**	9,0	1,8	9,0	1,8	**160**	18,0	1,5[3]	18,1	1,8[2]
M10	**90**	12,7		12,7		**200**	28,3	1,8[2]	28,3	
M12	**110**	18,7		18,7		**240**	40,7		40,7	
M16	**128**	29,0		29,0		**320**	72,4		72,4	

SHEAR

rod	$h_{ef,standard}$	V_{Rk} [kN]			
	[mm]	5.8 steel	γ_{Ms}	8.8 steel	γ_M
M8	**80**	11	1,25[3]	15	1,25[3]
M10	**90**	17		23	
M12	**110**	25		34	
M16	**128**	47		58	1,8[5]

incremental factor for $N_{Rk,p}$[6]		
Ψ_c	C25/30	1,02
	C30/37	1,04
	C40/50	1,07
	C50/60	1,09

NOTES

(1) For the calculation of anchors in masonry or in case of high bond rods, please see ETA document.

(2) Pull-out and concrete cone failure.

(3) Steel failure mode.

(4) Tensile-strength increment factor (excluding steel failure) for uncracked concrete.

(5) Pry-out failure mode.

(6) Tensile-strength increment factor (excluding steel failure) for uncracked concrete.

UK CONSTRUCTION PRODUCT EVALUATION

- UKTA-0836-23/6844.

GENERAL PRINCIPLES

- The characteristic values are according to EN 1992-4:2018 with a factor α_{sus}=0,6 and in accordance with ETA-20/0363.
- The design values are obtained from the characteristic values as follows: $R_d = R_k/\gamma_M$. Coefficients γ_M are listed in the table in accordance with the failure characteristics and product certificates.
- For the calculation of anchors with reduced spacing, or too close to the edge, please refer to ETA. Similarly, in case of fastening on concrete-supports with a better-grade, limited thickness or a thick reinforcing layer please see ETA.
- For the design of anchors subjected to seismic loading refer to ETA and to EN 1992-4:2018.
- For specifications of the diameters covered by the various certifications (cracked concrete, uncracked concrete, seismic applications), please refer to ETA.