

VIN-FIX PRO NORDIC



VINYL ESTER CHEMICAL ANCHOR FOR LOW TEMPERATURES

- CE option 1 for cracked and uncracked concrete
- Certified for use in masonry (category c, w/d)
- C1 Seismic performance category (M12-M24)
- Maintains workability at low temperatures - 10 °C
- Comply with LEED®, IEQ Credit 4.1
- Dry or wet concrete
- Concrete with submerged holes
- No stress in the support
- Without styrene



  USA, Canada and more design values available online.

CODES AND DIMENSIONS

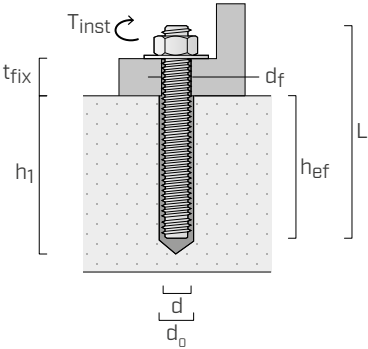
CODE	format		pcs
	[ml]	[US fl oz]	
VIN410N	410	13.86	12

Expiry from date of manufacturing: 18 months.
Storage temperature between 0 and +25° C.

ADDITIONAL PRODUCTS - ACCESSORIES

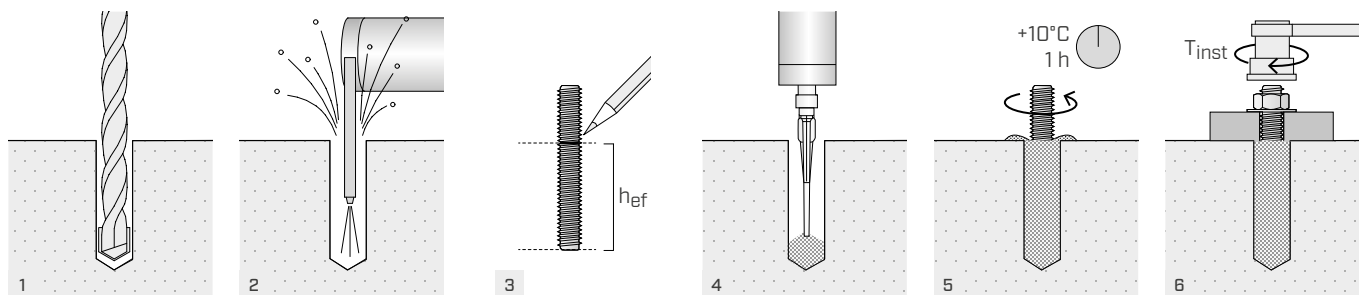
type	description	format	pcs
MAM400	gun for cartridge	410 ml	1
STING	nozzle	-	12
PONY	blow pump	-	1

GEOMETRY



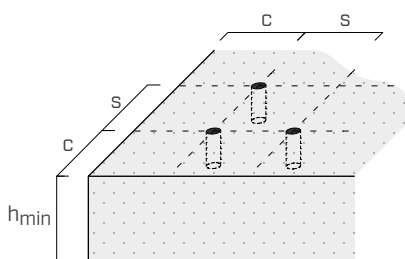
- d anchor diameter
- d₀ hole diameter in the concrete support
- h_{ef} effective anchoring depth
- d_f maximum hole diameter in the element to be fastened
- T_{inst} tightening torque
- L anchor length
- t_{fix} maximum fastening thickness
- h₁ minimum hole depth

MOUNTING



INSTALLATION

INSTALLATION GEOMETRY ON CONCRETE | THREADED RODS (TYPE INA or MGS)



d	[mm]	M8	M10	M12	M16	M20	M24	M27	M30
d_0	[mm]	10	12	14	18	22	26	30	35
$h_{ef,min}$	[mm]	64	80	96	128	160	192	216	240
$h_{ef,max}$	[mm]	160	200	240	320	400	480	540	600
d_f	[mm]	9	12	14	18	22	26	30	33
T_{inst}	[Nm]	10	20	40	80	150	200	240	275

		M8	M10	M12	M16	M20	M24	M27	M30
Minimum spacing	s_{min} [mm]	$h_{ef} / 2$							
Minimum edge distance	c_{min} [mm]	$h_{ef} / 2$							
Minimum thickness of concrete support	h_{min} [mm]	$h_{ef} + 30 \geq 100 \text{ mm}$				$h_{ef} + 2 d_0$			

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	
			dry support	wet support
-20 ÷ -11 °C*	0 ÷ +20 °C	45 min *	35 h *	70 h *
-10 ÷ -6 °C		35 min	12 h	24 h
-5 ÷ -1 °C		15 min	5 h	10 h
0 ÷ +4 °C		10 min	2,5 h	5 h
+5 ÷ +9 °C		6 min	80 min	160 min
+10 °C		6 min	60 min	120 min

*Use not included in certification.

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	$h_{ef,standard}$ [mm]	$N_{Rk,p}^{(2)}$ [kN]			
		5.8 steel	γ_{Mp}	8.8 steel	γ_{Mp}
M8	80	17,1	1,8	17,1	1,8
M10	90	28,3		28,3	
M12	110	39,4		39,4	
M16	128	57,9		57,9	
M20	170	90,8		90,8	
M24	210	126,7		126,7	
M27	240	132,3	2,1	132,3	2,1
M30	270	140,0		140,0	

SHEAR

rod	h_{ef} [mm]	$V_{Rk,s}^{(3)}$ [kN]			
		5.8 steel	γ_{Ms}	8.8 steel	γ_{Ms}
M8	≥ 64	9,0	1,25	15,0	1,25
M10	≥ 80	15,0		23,0	
M12	≥ 96	21,0		34,0	
M16	≥ 128	39,0		63,0	
M20	≥ 160	61,0		98,0	
M24	≥ 192	88,0		141,0	
M27	≥ 216	115,0		184,0	
M30	≥ 240	140,0		224,0	

CRACKED CONCRETE⁽¹⁾

TENSION

rod	$h_{ef,standard}$ [mm]	$N_{Rk,p}^{(2)}$ [kN]			
		5.8 steel	γ_{Mp}	8.8 steel	γ_{Mp}
M12	110	18,7	1,8	18,7	1,8
M16	128	29,0		29,0	
M20	170	48,1		48,1	
M24	210	71,3		71,3	

SHEAR

rod	$h_{ef,standard}$ [mm]	V_{Rk} [kN]			
		5.8 steel	γ_{Ms}	8.8 steel	γ_{Mc}
M12	110	21,0	1,25 ⁽³⁾	37,3	1,5 ⁽⁵⁾
M16	128	39,0		57,9	
M20	170	61,0		96,1	
M24	210	88,0		142,5	

incremental factor for $N_{Rk,p}^{(4)}$		
ψ_c	C25/30	1,02
	C30/37	1,04
	C40/50	1,08
	C50/60	1,10

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 both cracked and uncracked concrete.

⁽⁵⁾ Pry-out failure mode.

Component A classification: Flam. Liq. 3; Eye Irrit. 2; Skin Sens. 1; Aquatic Chronic 3.

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

GENERAL PRINCIPLES

- Characteristic values according to ETA-16/0600.
- 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, masonry), please refer to ETA.