

VINYLNORDIC



Vinyl ester chemical anchor for low temperatures

Workability at extremely low temperatures (- 20 °C)

- Uncracked concrete, dense and hollow supports
- Workability at extremely low temperatures (- 20 °C)



- Comply with LEED ®, IEQ Credit 4.1
- Without styrene - odorless

- No stress in the support, suitable for applications close to the edge

VINYLNORDIC



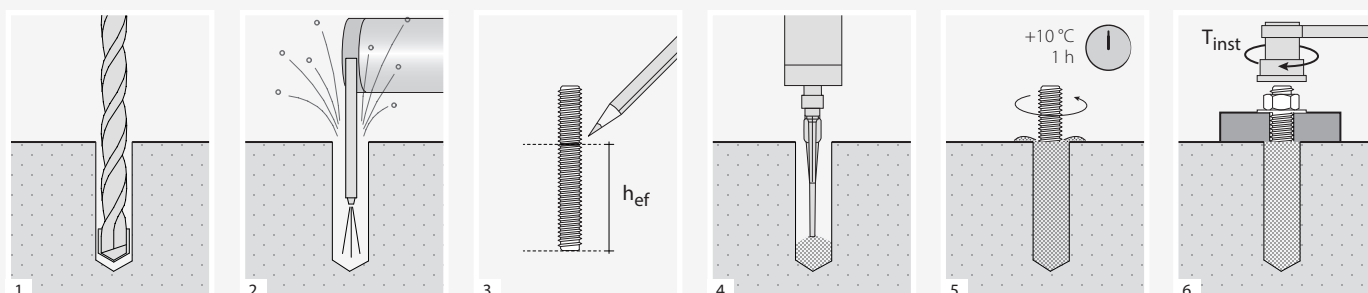
code	format [ml]	pcs/box
FE400065	400	1

Expiry from date of manufacturing: 18 months

ADDITIONAL PRODUCTS-ACCESSORIES

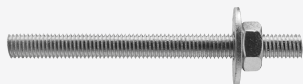
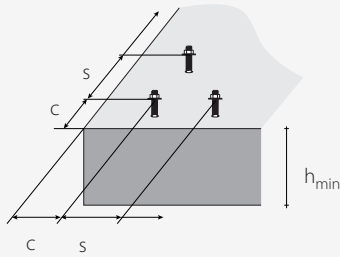
code	description	format [ml]	pcs/box
MAM400	gun for cartridge	400	1
STING	nozzle	-	12
PONY	blowing pump	-	1

ASSEMBLY



INSTALLATION

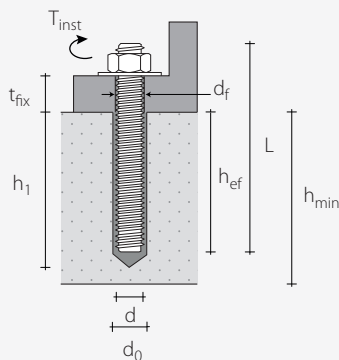
INSTALLATION GEOMETRY – THREADED RODS (TYPE INA O MGS)



d	[mm]	M8	M10	M12	M16	M20	M24	M27
d ₀	[mm]	10	12	14	18	24	28	32
h _{ef}	[mm]	80	90	110	125	170	210	250
d _f	[mm]	9	12	14	18	22	26	30
T _{inst}	[Nm]	10	20	40	60	120	150	200

			M8	M10	M12	M16	M20	M24	M27
Minimum spacing	s _{min}	[mm]	40	50	60	80	100	120	135
Minimum edge distance	c _{min}	[mm]	40	50	60	80	100	120	135
Minimum thickness of the concrete support	h _{min}	[mm]	h _{ef} + 30 ≥ 100 mm			h _{ef} + 2 d ₀			

For spacing and distance smaller than the critical ones, strength values have to be reduced according to the installation parameters.



d = anchor diameter
d₀ = hole diameter on the concrete support
h_{ef} = effective anchor depth
d_f = maximum hole diameter on the element to fasten

T_{inst} = tightening torque
L = anchor length
t_{fix} = maximum fixing thickness
h₁ = minimum hole depth

INSTALLATION TIME AND TEMPERATURE

support temperature	workability time	curing time before loading	
		dry support	dry support
- 20 ÷ - 16 °C	90 min	24 h	48 h
- 15 ÷ - 11 °C	75 min	16 h	32 h
- 10 ÷ - 6 °C	60 min	10 h	20 h
- 5 ÷ - 1 °C	50 min	5 h	10 h
0 ÷ 4 °C	25 min	150 min	300 min
5 ÷ 9 °C	10 min	80 min	160 min
10 ÷ 14 °C	6 min	60 min	120 min
15 ÷ 19 °C	3 min	45 min	90 min
+ 20 °C	1,5 min	35 min	70 min

Cartridge storage temperature - 20 ÷ + 25 °C

STATIC CHARACTERISTIC VALUES

Valid for a single threaded rod (type INA o MGS) in C20/25 grade concrete when spacing and edge-distance are not limiting parameters.

UNCRACKED CONCRETE

TENSION

bar	h_{ef} [mm]	$N_{Rk,p}^{(1)}$ [kN]			
		steel 5.8	γ_{Mp}	steel 8.8	γ_{Mp}
M8	80	15,9	1,8	15,9	1,8
M10	90	25,0		25,0	
M12	110	34,9		34,9	
M16	125	49,9		49,9	
M20	170	96,3		96,3	
M24	210	110,0		110,0	
M27	250	132,0		132,0	

increment factor for $N_{Rk,p}$		
ψ_c	C25/30	1,05
	C30/37	1,12
	C40/50	1,22
	C50/60	1,30

SHEAR

bar	h_{ef} [mm]	$V_{Rk,s}^{(2)}$ [kN]			
		steel 5.8	γ_{Ms}	steel 8.8	γ_{Ms}
M8	≥ 80	9,0	1,25	15,0	1,25
M10	≥ 90	15,0		23,0	
M12	≥ 110	21,0		34,0	
M16	≥ 125	39,0		63,0	
M20	≥ 170	61,0		98,0	
M24	≥ 210	88,0		141,0	
M27	≥ 250	115,0		184,0	

STATIC ADMISSIBLE VALUES

UNCRACKED CONCRETE

TENSION

bar	h_{ef} [mm]	N_{rec} [kN]	
		steel 5.8	steel 8.8
M8	80	6,3	6,3
M10	90	9,9	9,9
M12	110	13,8	13,8
M16	125	19,8	19,8
M20	170	38,2	38,2
M24	210	43,7	43,7
M27	250	52,4	52,4

SHEAR

bar	h_{ef} [mm]	V_{rec} [kN]	
		steel 5.8	steel 8.8
M8	≥ 80	5,1	8,6
M10	≥ 90	8,6	13,1
M12	≥ 110	12,0	19,4
M16	≥ 125	22,3	36,0
M20	≥ 170	34,9	56,0
M24	≥ 210	50,3	80,6
M27	≥ 250	65,7	105,1

GENERAL PRINCIPLES

- Characteristic values obtained from laboratory testing according to international guidelines.
- Design values can be obtained from characteristic values as follows:

$$R_d = \frac{R_k}{\gamma_m}$$

Coefficients γ_m are listed in the table.

- Admissible values (recommended) are evaluated from the characteristic values by applying the material safety factors γ_m according to ETA and a further partial factor for actions $\gamma_f = 1,4$.

NOTES

- (1) Pull-out and concrete cone failure.
(2) Steel failure mode.

INA

5.8 steel-grade threaded-rod for chemical anchors

- Complete with nut (ISO4032) and washer (ISO7089)
- 5.8 grade galvanized steel

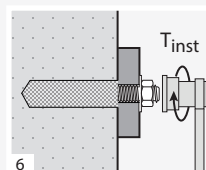
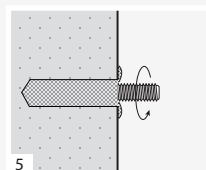
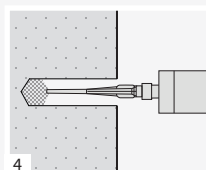
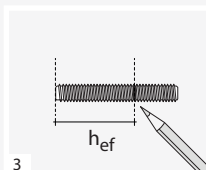
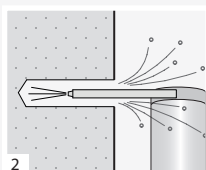
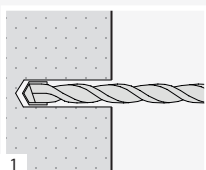
INA



code	d [mm]	L _t [mm]	d ₀ [mm]	d _f [mm]	pcs/box
FE210100	M8	110	10	≤ 9	10
FE210105	M10	110	12	≤ 12	10
FE210110		130	12	≤ 13	10
FE210115	M12	130	14	≤ 14	10
FE210119		180	14	≤ 15	10
FE210116	M16	160	18	≤ 18	10
FE210118		190	18	≤ 18	10
FE210121		230	18	≤ 18	10
FE210117	M20	240	24	≤ 22	10
FE210122	M24	270	28	≤ 26	10
FE210123	M27	400	32	≤ 30	10

d₀ = hole diameter in the support / d_f = hole diameter in the element to be fastened

ASSEMBLY



IHP - IHM

Mesh bush for hollow materials

IHP - PLASTIC MESH



code	d ₀ [mm]	L [mm]	bar [mm]	d ₀ [mm]	pcs/box
FE210120	16	85	M10 (M8)	16	10
FE210125	16	130	M10 (M8)	16	10
FE210130	20	85	M12 / M16	20	10

IHM - METALLIC MESH



code	d ₀ [mm]	L [mm]	bar [mm]	d ₀ [mm]	pcs/box
FE210230	12	1000	M8	12	10
FE210235	16	1000	M8 / M10	16	10
FE210240	22	1000	M12 / M16	22	5

ASSEMBLY

