

Last Updated:
 06.02.2020

Xtreme Bond VR-EA styrene free epoxy acrylate chemical anchor

Product Code: HH0106000050

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Certificates

ETA 15/070 ETAG 001 pt5 Option 7 for anchoring of threaded bars/ anchor studs M8 to M16 in non cracked concrete with variable anchorage depths

ETA 15/070 ETAG 001 pt5 Option 7 for rebars Ø8 - Ø16 in non-cracked concrete with variable anchorage depths.

Complies with LEED® requirements.

ISO 16000/EN16516 Class A+ for emission of volatile organic compounds (VOCs) in living spaces.


Option 7

Rebar


Base material

Certified use	Specific use	Suitable use
Non-cracked concrete (threaded studs and rebars)	Natural stone Solid, perforated and hollow masonry Wood	Hollow concrete block Cellular concrete

Sizes

Art.	Content	Mixer	Applicator
HH0106000050	400 ml	HH0106100040	HH0106100010

Intended use

Dry or wet non-cracked concrete

Installation temperature: between 0 and +35 °C

Cartridge temperature during installation: between +5 and +30 °C

Work temperature: I between -40 and +40 °C (maximum short term temperature +40 °C; long term +24 °C)

II between -40 and +80 °C (maximum short term temperature +80 °C; long term +50 °C)

Shelf life: 12 months for 400 ml cartridges (storage temperature between +5 and +25 °C)

Time and temperatures

Temperature of base material	Working time	Full curing
0°C	25 min	180 min
+5°C	15 min	120 min
+10°C	12 min	90 min
+20°C	6 min	45 min
+25°C	4 min	30 min
+30°C	3 min	20 min

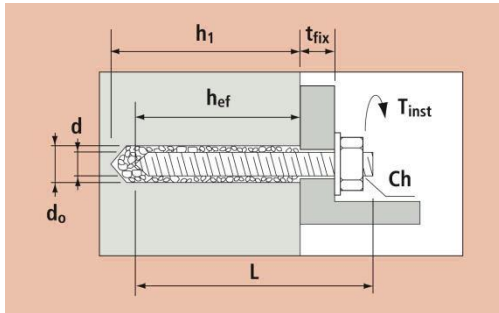
Cartridge temperature must be between +5 and +20 °C

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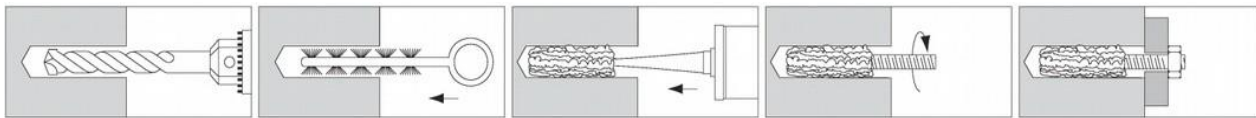
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- d = bar diameter
- L = bar length
- t_{fix} = fixable thickness
- d₀ = hole diameter
- h₁ = minimum hole depth
- h_{nom} = setting depth
- h_{ef} = effective anchorage depth
- T_{inst} = tightening torque

Installation of threaded bars/anchor studs in non cracked concrete

(for detailed instructions and recommendations ask for FFX data sheet)



Setting parameters

Thread size		M8	M10	M12	M16	M20	M24
Hole diameter	d ₀ [mm]	10	12	14	18	24	28
Hole depth	h _{ef,min} [mm]	60	70	80	100	120	145
	h _{ef,max} [mm]	160	200	240	320	400	480
Characteristic spacing [min depth] h _{ef,min}	S _{Cr,N} [mm]	180	210	240	300	360	435
Characteristic spacing [max depth] h _{ef,max}	S _{Cr,N} [mm]	210	255	295	350	450	540
Minimum spacing *	S _{min} [mm]	40	40	40	50	60	80
Characteristic edge [min depth] h _{ef,min}	C _{Cr,N} [mm]	90	105	120	150	180	220
Characteristic edge [max depth] h _{ef,max}	C _{Cr,N} [mm]	105	127	147	175	225	270
Minimum edge distance *	C _{min} [mm]	40	40	40	50	60	80
Min. base material thickness	h _{min} [mm]	h _{ef} + 30 ≥ 100				h _{ef} + 2d ₀	
Tightening torque	T _{inst} Nm	10	20	40	80	150	200

* seek advice from FFX Technical Dept for performance at these distances and spacings

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Performance data

For installation in dry or wet concrete and working temperature I (minimum temperature -40°C, maximum short term temperature +40 °C; long term +24 °C)

Valid for a single anchor with no influence of spacing or edge distance, on a thick concrete member [min 2x h_{ef}] of class C20/25 non cracked concrete with normal reinforcement.

Threaded bars/anchor studs in non-cracked concrete

Characteristic resistance (kN) C20/25 non cracked concrete, 5.8 grade anchor studs

Thread size		M8*	M10*	M12*	M16*	M20	M24
Embedment depth	h _{ef} [mm]	80	90	110	125	170	210
Tension	N _{Rk} [kN]	19.0	30.2	43.8	61.2	82.3	108.4
Shear	V _{Rk} [kN]	9.5	15.1	21.9	40.8	63.5	92.0

Design resistance (kN) C20/25 non cracked concrete, 5.8 grade anchor studs

Thread size		M8*	M10*	M12*	M16*	M20	M24
Embedment depth	h _{ef} [mm]	80	90	110	125	170	210
Tension	N _{Rd} [kN]	12.6	20.1	29.2	40.8	54.8	72.3
Shear	V _{Rd} [kN]	7.6	12.1	17.5	32.6	50.8	73.6

Recommended load (kN) C20/25 Non cracked concrete, 5.8 grade anchor studs

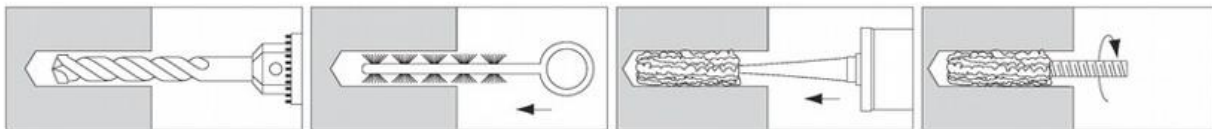
Thread size		M8*	M10*	M12*	M16*	M20	M24
Embedment depth	h _{ef} [mm]	80	90	110	125	170	210
Tension	N _{rec} [kN]	9.0	14.3	20.8	29.2	32.6	43.0
Shear	V _{rec} [kN]	5.4	8.6	12.5	23.3	36.2	52.5

1 kN ~ 100 kg

*M8-M16 are included in the ETA (manufacturers figures for other sizes)

Installation of reinforcing bars/ rebar in non cracked concrete (used as anchors)

(for detailed instructions and recommendations ask for FFX data sheet)



Setting parameters

Bar size		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25
Hole diameter	d ₀ [mm]	12	14	16	18	20	25	32
Hole depth	h _{ef,min} [mm]	60	70	80	80	100	120	150
	h _{ef,max} [mm]	160	200	240	280	320	400	500
Minimum spacing *	S _{min} [mm]	40	40	40	40	50	80	100
Minimum edge distance *	C _{min} [mm]	40	40	40	40	50	80	100
Min. base material thickness	h _{min} [mm]	h _{ef} + 30 ≥ 100			h _{ef} + 2d ₀			

* seek advice from FFX Technical Dept for performance at these distances and spacings

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Performance data

For installation in dry or wet concrete and work temperature I (minimum temperature -40 °C, maximum short term temperature +40 °C; long term +24 °C)

Valid for a single anchor with no influence of spacing or edge distance, on a thick concrete member [min 2x h_{ef}] of class C20/25 non cracked concrete with normal reinforcement.

Reinforcing bars in non-cracked concrete (used as anchors)

Characteristic resistance (kN) for reinforcing bars with f_{uk} = 550 N/mm²

Bar size		Ø8*	Ø10*	Ø12*	Ø14*	Ø16*	Ø20	Ø25
Embedment depth	h _{ef} [mm]	80	90	110	125	145	170	210
Tension	N _{Rk} [kN]	25.5	31.9	43.3	54.4	64.0	85.4	131.0
Shear	V _{Rk} [kN]	13.6	21.2	30.5	41.6	54.3	84.8	132.5

Design resistance (kN) for reinforcing bars with f_{uk} = 550 N/mm²

Bar size		Ø8*	Ø10*	Ø12*	Ø14*	Ø16*	Ø20	Ø25
Embedment depth	h _{ef} [mm]	80	90	110	125	145	170	210
Tension	N _{Rd} [kN]	14.1	17.6	24.0	30.2	35.5	47.4	73.3
Shear	V _{Rd} [kN]	10.9	16.9	24.4	33.3	43.5	67.9	106.0

Recommended load (kN) for reinforcing bars with f_{uk} = 550 N/mm²

Bar size		Ø8*	Ø10*	Ø12*	Ø14*	Ø16*	Ø20	Ø25
Embedment depth	h _{ef} [mm]	80	90	110	125	145	170	210
Tension	N _{rec} [kN]	10.1	12.6	17.2	21.6	25.4	33.9	52.3
Shear	V _{rec} [kN]	7.8	12.1	17.4	23.8	31.0	48.5	75.7

1kN ~ 100 kg

* Ø8-Ø16 are included in the ETA (manufacturers figures for other sizes)

Load values derive from parameters certified in European Technical Assessment ETA 15/0706. Characteristic resistance N_{Rk} refers to the resistance to failure due to pull-out, concrete cone and steel failure. Design resistances N_{Rd} and V_{Rd} refer to all failure modes and include partial safety factors on strengths. Recommended loads N_{rec} and V_{rec} include the further 1.4 safety factor.

For the design of fixing with reduced spacing, near the edge or on concrete with increased resistance, reduced thickness or dense reinforcement refer to ETA 15/0706 or to Declaration of Performance and use the design method outlined in EOTA's *Technical Report 029* or in CEN/TS 1992-4-5:2009. In the same way, for anchors installed in flooded holes and for different working temperatures (II, between -40 and +80 °C) refer to ETA.



TECHNICAL DATA SHEET



- OPTION 7

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Notes: