

Last Updated
 06.02.2020

Xtreme Bond PSF - styrene-free polyester chemical anchor
 Product Code: HH0106000110 and HH0106000090

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Certificates

 ETA 15/0560: Option 7 for anchoring of threaded bars/ anchor studs (M8-M16) in non-cracked concrete.
 ETA 11/0396: For anchoring in solid and hollow masonry, with threaded bar or internally threaded socket, and plastic sleeve.

 Complies with LEED® requirements
 Class A+ for emission of volatile organic compounds (VOCs) in living spaces

Base material

Certified use	Specific use	Suitable use
Non-cracked concrete Solid masonry Hollow masonry Hollow block	Natural stone Solid, perforated and hollow masonry Lightweight concrete Concrete masonry unit	Cellular concrete

Product size 400ml (co-axial cartridge)

PSF cartridge	Content	Mixer	Applicator
HH0106000110	400 ml	HH0106100040	HH0106100010

Product size 300ml ('sealant' cartridge)

PSF cartridge	Content	Mixer	Applicator
HH0106000090	300 ml	HH0106100040	HH0106100020

Intended use

 Dry or wet non-cracked concrete
 Dry masonry, installation in dry or wet substrate
 Installation temperature: between +5 and +30 °C
 Work temperature: between -40 and +40 °C (maximum short term temperature +40 °C; long term +24 °C)
 Shelf life: 12 months for 300ml and 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

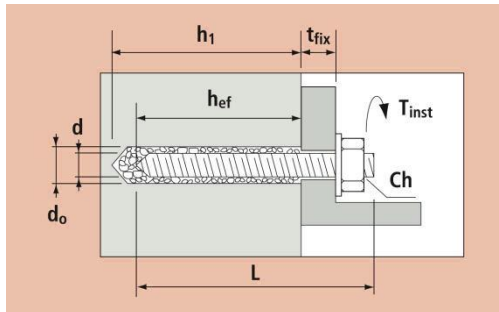
Cartridge temperature must be between +5 and +20 °C

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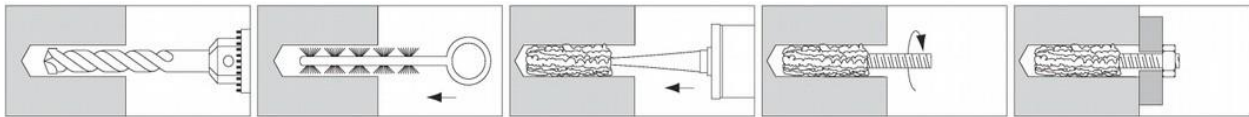
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d = bar diameter
 L = bar length
 t_{fix} = fixable thickness
 d_0 = hole diameter
 h_1 = minimum hole depth
 h_{nom} = setting depth
 h_{ef} = effective anchorage depth
 T_{inst} = tightening torque

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	100	120
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	100	120
Min. base material thickness	h_{min} [mm]	$h_{ef} + 30 \geq 100$			$h_{ef} + 2d_0$		
Tightening torque	T_{inst} Nm	10	20	40	80	150	200

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



TECHNICAL DATA SHEET



- OPTION 7

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Performance data

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	58.7	74.5	97.0
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	19.6	25.8	32.2	41.4	54.2
Shear	V_{Rd} [kN]	7.2	12.0	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	14.0	18.4	23.3	29.6	38.7
Shear	V_{rec} [kN]	5.4	8.6	12.5	23.3	36.2	52.5

1kN ~ 100 kg

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

Characteristic resistances N_{Rk} and V_{Rk} derive from parameters certified in European Technical Assessment ETA 15/0560. Design resistances N_{Rd} and V_{Rd} include partial safety factors on strengths. Recommended loads N_{rec} and V_{rec} include the further 1.4 safety factor.

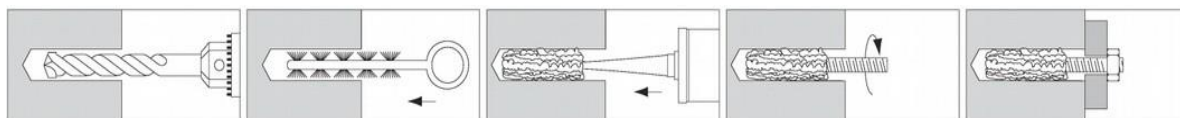
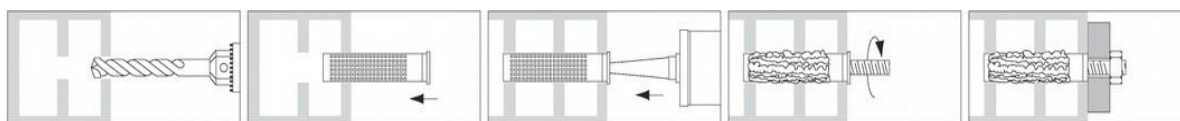
For the design of fixing with reduced spacing, near the edge or on concrete with increased resistance, reduced thickness or dense reinforcement refer to ETA 15/0560 and use the design method outlined in EOTA's *Technical Report 029* or in CEN/TS 1992-4-5:2009.

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Use in Masonry


Installation in solid masonry (for detailed instructions and recommendations ask for data sheet)

Installation in hollow masonry with a plastic or metal sleeve (for detailed instructions and recommendations ask for data sheet)


Base material types

		Classification (acc. to EN 771-1)	LxWxH (mm)	Min. compr. strength f_b (N/mm ²)
Solid brick	Clay brick	MZ 12-2,0-NF	240x116x71	12
	Calcium silicate brick	KS 12-2,0-NF	240x115x70	12
Hollow brick	Hollow clay brick (c1)	HLZ 12-1,0-2DF	235x112x115	12
	Hollow clay brick (c2)	HLZW 6-0,7-8DF	250x240x240	6
	Hollow calcium silicate brick (c3)	KSL 12-1,4-3DF	240x175x113	12
	Hollow calcium silicate brick (c4)	KSL 12-1,4-8DF	250x240x237	12
	Lightweight concrete hollow block (c5)	HBL 2-0,45-10DF	250x300x248	2
	Lightweight concrete hollow block (c6)	HBL 4-0,7-8DF	250x240x248	4
	Concrete masonry unit (c7)	HBN 4-12DF	370x240x238	4

Base material type: ETA 11/0396:

		Classification (acc. to EN 771-1)	LxWxH (mm)	Min. compr. strength f_b (N/mm ²)
Solid brick	Clay brick	Mattone Pieno	120x240x60	73
Hollow brick	Hollow clay brick	Doppio UNI	240x120x120	18
	Hollow clay brick	Forato	120x250x250	5
	Hollow clay brick	RC 40	555x195x275	4
	Hollow clay brick	POROTHERM 25	373x238x250	15
	Hollow clay brick	HiZ B -1.0 1NF	115x240x71	12

 It is possible to use other bricks after site tests conducted according to *Annex B* of ETAG 029 and CFA GN Testing

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Setting parameters

Anchor rod in solid masonry without sleeve

Thread size		M8	M10	M12
Nominal diameter of drill bit	d ₀ [mm]	10	12	14
Effective anchorage depth	h _{ef} [mm]	85	85	85
Diameter of clearance hole in the fixture	d _{fix} [mm]	9	12	14
Depth of the drilling hole	h ₁ [mm]	90	90	90
Maximum installation torque	T _{inst} Nm	2	2	2

Anchor rod in solid and hollow masonry with a plastic sleeve

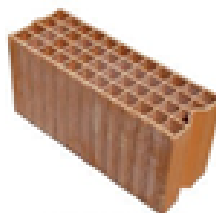
Thread size		M8	M10	M12
Sleeve		12x85	16x85	20x85
Nominal diameter of drill bit	d ₀ [mm]	16	16	20
Effective anchorage depth	h _{ef} [mm]	85	85	85
Installation depth of sleeve	h _{nom} [mm]	85	85	85
Diameter of clearance hole in the fixture	d _{fix} [mm]	9	12	14
Depth of the drilling hole	h ₁ [mm]	90	90	90
Maximum installation torque	T _{inst} Nm	2	2	2

Load data in Hollow Masonry: Indicative values. For other material types undertake tests.

Brique Cresuse RC 40

EN 771-1 - LD (Low Density)

Dimensions: 555 x 195 x 275mm

 class f_b ≥ 4 N/mm²
 density ≥ 600 kg/m³


Rod / anchor size	Plastic sleeve	Permissible Tensile Load	Permissible Shear Load
		N _{rec} [kN]	V _{rec} [kN]
M8	12x80	0.3	0.4
M10	16x85	0.3	0.4
M12	20x85	0.3	0.4

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Porotherm 25 P+W

EN 771-1 - LD (Low Density)

Dimensions: 373 x 238x250 mm

 class $f_b \geq 15 \text{ N/mm}^2$
 density $\geq 800 \text{ kg/m}^3$


Rod / anchor size	Plastic sleeve	Permissible Tensile Load	Permissible Shear Load
		$N_{rec} \text{ [kN]}$	$V_{rec} \text{ [kN]}$
M8	12x80	0.9	0.8
M10	16x85	0.9	0.9
M12	20x85	1.0	1.0

HiZ B - 1.0 1NF 12-1

EN 771-1 - LD (Low Density)

Dimensions: 115 x 240

 class $f_b \geq 12 \text{ N/mm}^2$
 density $\geq 900 \text{ kg/m}^3$


Rod / anchor size	Plastic sleeve	Permissible Tensile Load	Permissible Shear Load
		$N_{rec} \text{ [kN]}$	$V_{rec} \text{ [kN]}$
M8	12x80	1.2	1.3
M10	16x85	1.7	1.7
M12	20x85	1.8	1.7

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Load data in Solid Masonry: Indicative values. For other materials undertake tests
EN 771-1 - HD (High Density)

Dimensions: 120 x 240 x 60

 class $f_b \geq 73 \text{ N/mm}^2$
 density $\geq 1700 \text{ kg/m}^3$


Rod / anchor size	Permissible Tensile Load	Permissible Shear Load
	$N_{rec} \text{ [kN]}$	$V_{rec} \text{ [kN]}$
M8	0.7	1.3
M10	1.0	2.5
M12	1.2	2.6

Characteristic resistances N_{Rk} and V_{Rk} derive from parameters certified in European Technical Assessment ETA 11/0396. Design resistances N_{Rd} and V_{Rd} include partial safety factors on strengths. Recommended loads N_{rec} and V_{rec} include the further 1.4 safety factor.



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Notes: