

MARCOVIS FM-X5S STAINLESS STEEL – TH – CL TH – Ø10xL



PRODUCT DEFINITION

- Short multi-expansion metalloplastic anchor
- Soft clamping (low tightening torque)
- Extra-flexible high-quality nylon
- Delivered assembly (plug + screw)

SCOPE OF APPLICATION

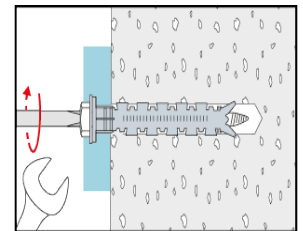
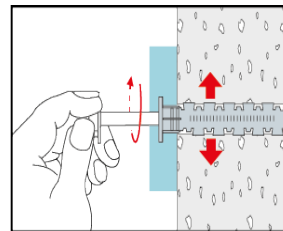
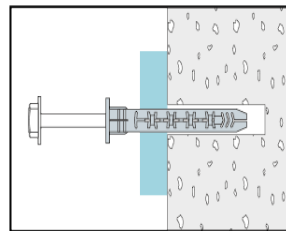
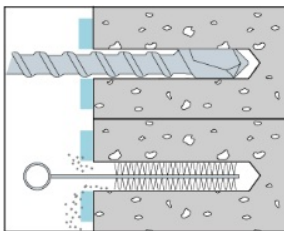
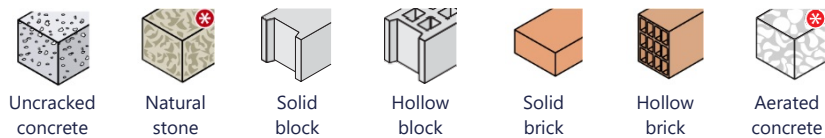
- Anchor for uncracked concrete, aerated concrete, solid masonry and hollow masonry
- Application for light load
- Structure subjected to external conditions or internal conditions without particular aggressive condition

MATERIAL & FINISH

Material:

- Screw: Stainless steel A4-50
- Plug: Polyamide PA6 according to ISO 1874

INSTALLATION



- Minimal temperature of installation: $\geq -20\text{ }^{\circ}\text{C}$
- Maximal temperature of installation: $\leq +40\text{ }^{\circ}\text{C}$

* On-site testing

PERFORMANCES

Recommended load in tensile N and in shear $V^{(\#)}$:

MARCOVIS FM-X5S IN CONCRETE				Ø10
(Hammer drilling)		h_{nom}	(mm)	50
Concrete \geq C20/25 - NF EN 206+A2	Tensile	N	(daN)	100
Concrete \geq C20/25 - NF EN 206+A2	Shear	V	(daN)	114

MARCOVIS FM-X5S IN SOLID BLOCK				Ø10
(Hammer drilling)		h_{nom}	(mm)	50
Solid block - NF EN 771-3	Tensile	N	(daN)	71
Solid block - NF EN 771-3	Shear	V	(daN)	71

MARCOVIS FM-X5S IN HOLLOW BLOCK				Ø10
(Drilling without percussion)		h_{nom}	(mm)	50
Hollow block - NF EN 771-1	Tensile	N	(daN)	12
Hollow block - NF EN 771-1	Shear	V	(daN)	12

MARCOVIS FM-X5S IN SOLID BRICK				Ø10
(Hammer drilling)		h_{nom}	(mm)	50
Solid brick - NF EN 771-1	Tensile	N	(daN)	71
Solid brick - NF EN 771-1	Shear	V	(daN)	71

MARCOVIS FM-X5S IN HOLLOW BRICK				Ø10
(Drilling without percussion)		h_{nom}	(mm)	50
Hollow brick - NF EN 771-3	Tensile	N	(daN)	30
Hollow brick - NF EN 771-3	Shear	V	(daN)	30

(#) $N = N_1 / \gamma_M$ with $\gamma_M = 6,0$ - $N = N_{Rd} / \gamma_{Mc}$ with $\gamma_{Mc} = 1,4$ $V = V_1 / \gamma_M$ with $\gamma_M = 6,0$ - $V = V_{Rd} / \gamma_{Mc}$ with $\gamma_{Mc} = 1,4$

N_1 : Average of laboratory tests in tensile made by LR ETANCO - N_{Rd} : Ultimate load or design - γ_M and γ_{Mc} : Partial safety factors

V_1 : Average of laboratory tests in shear made by LR ETANCO - V_{Rd} : Ultimate load or design - γ_M and γ_{Mc} : Partial safety factors

Minimum edge distance C_{min} and minimum spacing S_{min} :

MARCOVIS FM-X5S IN CONCRETE				Ø10
		h_{nom}	(mm)	50
Concrete and masonry		S_{min}	(mm)	75
Concrete and masonry		C_{min}	(mm)	90

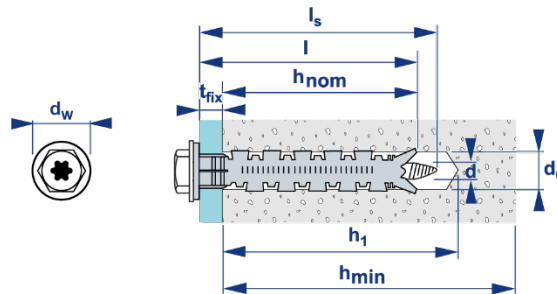
Recommended bending moment $M^{(##)}$:

SPECIAL SCREW MARCOVIS FM-X5S			Ø10
Concrete, aerated concrete, solid masonry and hollow masonry	M	(N.m)	9

(##) $M = M_{Rd} / \gamma_M$ with $\gamma_M = 1,4$ – $M_{Rd} = M_{Rk,s} / \gamma_{Ms}$ with $\gamma_{Ms} = 1,25$

M_{Rd} : ultimate moment or design – $M_{Rk,s}$: characteristic moment – γ_M et γ_{Ms} : partial safety factors

DIMENSIONS & CODES



MARCOVIS FM-X5S TH	d ₀ (mm)	t _{fix} (mm)	l (mm)	h ₁ (mm)	h _{nom} (mm)	h _{min} (mm)	d _f (mm)	d _w (mm)	d (mm)	L _s (mm°)	TH Torx	Code
Ø10x60	10	10	60	60	50	100	10,5	19	6	65	TH13 Tx40	360 640
Ø10x80		30	80							85		360 644

MARCOVIS FM-X5S CL TH	d ₀ (mm)	t _{fix} (mm)	l (mm)	h ₁ (mm)	h _{nom} (mm)	h _{min} (mm)	d _f (mm)	d _w (mm)	d (mm)	L _s (mm)	TH Torx	Code
Ø10x60	10	10	60	60	50	100	10,5	19	6	65	TH13 Tx40	360 620
Ø10x80		30	100							85		360 624

d: diameter of screw - t_{fix}: maximum thickness of the element to be fixed - l: anchor length - d₀: diameter of drilling - h₁: min depth support drilling - h_{nom}: minimum installation depth - h_{nom}: effective anchoring depth - h_{min}: min thickness support - d_f: through hole diameter - S_w: flat opening - d_w: diameter of head screw - L_s: screw length

ACCORDANCE

- In the absence of CE marking, the recommended loads are the result of tests carried out by the LR ETANCO laboratory on support materials commonly used in the building industry
- LR ETANCO recommends that you carry out field tests to evaluate the behaviour of the anchor in a support material whose characteristics are not known

MARKING - LABELLING

- MARCOVIS FM-X5S IN + TH or CL TH + Ø x Length + CODE

Registration date: 2021/07/30 – Revision A

LR ETANCO is associate member of:

QUALITY CONTROL

- ISO 9001 certified quality management system according to the certificate in force

NOTA

These products are intended for professional installers landlords whose the related service includes supply and installation. In accordance with rules and normative regulation, it's their responsibility to check that the use of these products is in conformity to themselves needs and their customers. They have to insure as well the adequacy of this material with their real operating conditions. The company excludes any guarantee for the use that does not respect these conditions. His responsibility is limited to the strict compliance with the specifications stipulated on the customer's purchase order. The guarantee is limited to the replacement of defective parts acknowledged by the Company's technical service, without workforce costs and travel expenses. It excludes material damage or physical injury and others direct or indirect damages, material or immaterial, which may result from defective parts including installation that not complying with the use for which they are designed and produced.

Registration date: 2021/07/30 – Revision A

LR ETANCO is associate member of:



Affix



EVOLIS
membre de la FIM

LR ETANCO - Parc les Érables - Bât. 1 - 66 Route de Sartrouville
78231 Le Pecq Cedex - France - www.etanco.eu

Tel : +33 (0)1 34 80 52 00 – commercial.france@etanco.fr