

DECLARATION of PERFORMANCE
No 01/ISOTHERM FIX-M/M-K/0447/2020



1. *Unique identification code of the product-type:* **ISOTHERM-FIX-M / ISOTHERM FIX-M-K**
2. *Intended use:* **Nailed-in plastic anchor for fixing of external thermal insulation composite systems with rendering in concrete and masonry**
3. *Name, registered trade name or registered trade mark and contact address of the manufacturer:* **Marcopol Sp. z o.o. Producer of Bolts str. Oliwska 100, 80-209 Chwaszczyno Poland**
4. *System or systems of assessment and verification of constancy of performance of the construction product:* **System "2+" of assessment**
5. *European Technical Assessment:* **ETA 20/0447 issued 28.05.2020**
Technical Assessment Body: **Deutsches Institut für Bautechnik Kolonnenstraße 30B 10829 Berlin**
Notified Body: Number: **1488 - Deutsches Institut für Bautechnik**
6. *Declared performance:*

	Essential characteristic	Performance	Technical Specification
3.1 BWR 4: Safety and accessibility in use			
3.1.1.	Characteristic resistance under tension load	see table below	ETA 20/0447
3.1.2.	Minimum edge distance and spacing	see table below	ETA 20/0447
3.1.3.	Displacements	see table below	ETA 20/0447
3.1.4.	Plate stiffness	see table below	ETA 20/0447
3.2 BWR 6: Energy economy and heat retention			
3.2.1.	Point thermal transmittance	see table below	ETA 20/0447

Essential characteristic	Performance ISOTHERM FIX-M	Technical Specification
Characteristic resistance under tension load N_{Rk}		
Concrete C12/15, bulk density ≥2,25 (kg/m ³) acc. to EN 206-1:2000	0.5 (kN)	ETA 20/0447
Concrete C16/20 ÷ C50/60, bulk density ≥2, (kg/m ³) acc. to EN 206-1:2000	0.7 (kN)	
Clay bricks, Mz, bulk density ≥2,0 (kg/m ³) EN 771-1:2011	0.45 (kN)	

Calcium silicate bricks KS20, bulk density $\geq 2,0$ (kg/m ³) acc. to EN 771-2:2011	0.45 (kN)		
Calcium silicate perforated bricks KSL12, bulk density $\geq 1,6$ (kg/m ³) acc. to EN 771-2:2011	0.45 (kN)		
Vertically perforated clay bricks HZL 12, bulk density $\geq 1,2$ (kg/m ³) acc. to EN 771-1:2011	0.25 (kN)		
Vertically perforated clay bricks Porotherm 25, bulk density $\geq 0,8$ (kg/m ³) acc. to EN 771-1:2011	0.1 (kN)		
Autoclaved aerated concrete AAC2-AAC7, bulk density $\geq 0,35$ (kg/m ³) acc. to EN 771-4:2011	0.35 (kN)		
Lightweight aggregate concrete LAC, bulk density $\geq 0,88$ (kg/m ³) acc. To EN 771-3:2011	0.7 (kN)		
Minimum spacing s_{min}	100 (mm)		ETA 20/0447
Minimum Edge distance c_{min}	100 (mm)		
Minimum thickness of member h	100 (mm)		
Displacements	Tension load N [N]	Displacement δ [mm]	
Concrete C12/15 - EN 206-1:2000	0.17	0.22	ETA 20/0447
Concrete C16/20 ÷ C50/60 - EN 206-1:2000	0.23	0.31	
Clay bricks Mz - EN 771-1:2011	0.15	0.33	
Calcium silicate bricks KS20 - EN 771-2:2011	0.15	0.33	
Calcium silicate hollow block KSL12 - EN 771-2:2011	0.15	0.23	
Vertically perforated clay bricks HZL 12 - EN 771-1:2011	0.08	0.44	
Vertically perforated clay bricks Porotherm 25 - EN 771-1:2011	0.03	0.27	
Autoclaved aerated concrete AAC2-AAC7 - EN 771-4:2011	0.12	0.12	
Lightweight aggregate concrete LAC - EN 771-3:2011	0.23	0.25	
Plate stiffness	load resistance of the anchor plate [kN]	stiffness [kN/mm]	ETA 20/0447
	1.50	0.30	
Point thermal transmittance	Insulation thickness h_D [mm]	Point thermal transmittance χ [W/K]	
Installed condition Surface mount	20	0.003	ETA 20/0447
	150	0.003	
	375	0.002	
Installed condition immersed mount	40	0.002	
	150	0.002	
	395	0.001	

Essential characteristic	Performance ISOTHERM FIX-M-K		Specyfikacja techniczna
Characteristic resistance under tension load N_{Rk}			
Concrete C12/15, bulk density $\geq 2,25$ (kg/m ³) acc. to EN 206-1:2000	0.4 (kN)		ETA 20/0447
Concrete C16/20 ÷ C50/60, bulk density ≥ 2 , (kg/m ³) acc. to EN 206-1:2000	0.55 (kN)		
Clay bricks, Mz, bulk density $\geq 2,0$ (kg/m ³) EN 771-1:2011	0.45 (kN)		
Calcium silicate bricks KS20, bulk density $\geq 2,0$ (kg/m ³) acc. to EN 771-2:2011	0.45 (kN)		
Calcium silicate perforated bricks KSL12, bulk density $\geq 1,6$ (kg/m ³) acc. to EN 771-2:2011	0.45 (kN)		
Vertically perforated clay bricks HZL 12, bulk density $\geq 1,2$ (kg/m ³) acc. to EN 771-1:2011	0.25 (kN)		
Vertically perforated clay bricks Porotherm 25, bulk density $\geq 0,8$ (kg/m ³) acc. to EN 771-1:2011	0.1 (kN)		
Autoclaved aerated concrete AAC2-AAC7, bulk density $\geq 0,35$ (kg/m ³) acc. to EN 771-4:2011	0.20 (kN)		
Lightweight aggregate concrete LAC, bulk density $\geq 0,88$ (kg/m ³) acc. To EN 771-3:2011	0.55 (kN)		
Minimum spacing s_{min}	100 (mm)		
Minimum Edge distance c_{min}	100 (mm)		
Minimum thickness of member h	100 (mm)		
Displacements	Tension load N [N]	Displacement δ [mm]	ETA 20/0447
Concrete C12/15 - EN 206-1:2000	0.13	0.22	
Concrete C16/20 ÷ C50/60 - EN 206-1:2000	0.18	0.30	
Clay bricks Mz - EN 771-1:2011	0.15	0.28	
Calcium silicate bricks KS20 - EN 771-2:2011	0.15	0.28	
Calcium silicate hollow block KSL12 - EN 771-2:2011	0.15	0.37	
Vertically perforated clay bricks HZL 12 - EN 771-1:2011	0.08	0.21	

Vertically perforated clay bricks Porotherm 25 - EN 771-1:2011	0.03	0.12	
Autoclaved aerated concrete AAC2-AAC7 - EN 771-4:2011	0.07	0.33	
Lightweight aggregate concrete LAC - EN 771- 3:2011	0.18	0.24	
Plate stiffness	load resistance of the anchor plate [kN]	stiffness [kN/mm]	ETA 20/0447
	1.50	0.30	
Point thermal transmittance	Insulation thickness h_D [mm]	Point thermal transmittance χ [W/K]	ETA 20/0447
	20	0.003	
Installed condition Surface mount	150	0.003	
	375	0.002	
Installed condition immersed mount	40	0.001	
	150	0.002	
	395	0.002	

7. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 6

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 3.

Chwaszczyno, 29.06.2020

Signed by:

R&D Director

Janusz Kabała

Dyrektor Działu Rozwoju
Produktów



Janusz Kabała