

PRODUCT DATA SHEET - LFMG-10

Section 1. PRODUCT DESCRIPTION

HAMMER DRIVEN FASTENER WITH PLAIN METAL PIN AND EXTENDED EXPANSION ZONE LFMG-10

Hammer driven fastener with plain metal pin and extended expansion zone LFMG-10 is made from polyethylene, and the pin from galvanized steel, with the head sealed in polyamide which reduces spot thermal conductivity of the fastener. Fastener LFMG-10 should be used to transfer loads of wind suction forces and applied as an additional mechanical fixing for the whole system, recommended for:

- Polystyrene EPS
- XPS polystyrene
- mineral wool (with support washer TDX-90 and TDX-140)
- mineral wool lamella board (with support washer TDX-90 and TDX-140)

Types of substrates on which the LFMG-10 fastener can be installed according to EAD 330196-01-0604:

A	B	C	D	E
				
Concrete	Solid ceramic brick, silicate	Ceramic block	Lightweight aggregate elements	Aerated concrete



The head of the metal pin is covered with plastic



Innovative sleeve design



long expansion zone

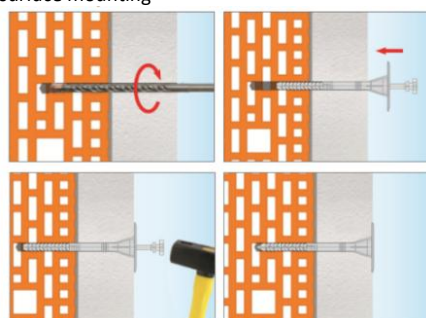


The fasteners have the European Technical Assessment: ETA-17/0450

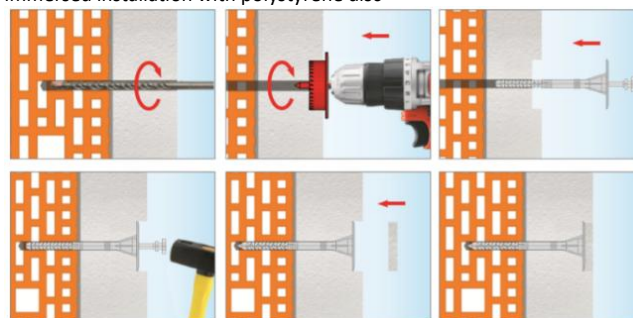
Section 2. INSTALLATION METHOD

1. Before starting the installation, it is necessary to recognise the support and select the fasteners intended for it
2. The appropriate fastener length must be chosen so that the expansion zone is in the wall construction material
3. The minimum fastener length is: $L_d = t_{fix} + t_{tol} + h_{eff}$, where: t_{fix} - thickness of the applied thermal insulation, t_{tol} - thickness of the levelling layers (adhesive mortar + existing plaster), h_{eff} - anchorage depth of the fastener in the substrate (stated in the Product Data Sheet and European Technical Approval)
4. Before installation, the substrate must be prepared according to the recommendations of the ETICS insulation system manufacturer
5. Thermal insulation panels must be adequately fixed with adhesive mortar
6. The diameter of the holes drilled must correspond to the diameter of the fasteners used
7. Holes in substrates made of solid materials should be at least 10 mm deeper than the anchoring depth of the fastener
8. Holes in solid materials must be cleaned of drill residue using a back-and-forth motion of the drill at reduced speed, repeating the operation four times.
9. Holes in substrates with voids must be drilled without the use of a hammer, as this would cause the inner walls of the substrate to crack, reducing the tear resistance of the fasteners.
10. The fasteners must be fixed so that the installation location coincides with the position of the adhesive mortar on the thermal insulation board.
11. The fastener body must be positioned so that the fastener pressure plate is flush with the heat-insulating material.
12. Then insert the fastener pin to fix it permanently
13. The fasteners can be installed in milled holes with **WK-FT** polystyrene cutter or **WK-FM** mineral wool (flush installation).
14. After installing the fastener, mask the installation position with a **KS/KSG** polystyrene disc or **EDMW** mineral wool (flush-mounted installation).

surface mounting



immersed installation with polystyrene disc



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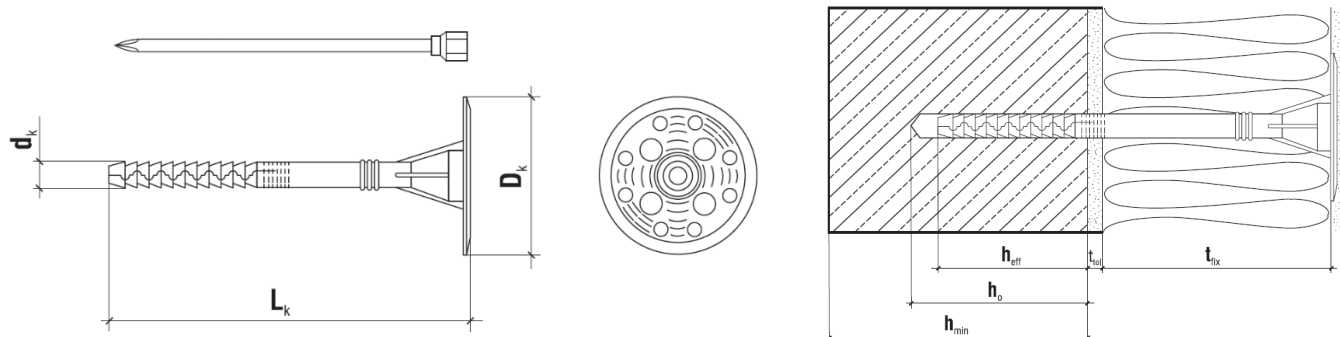
Section 3. SPECIFICATIONS

TECHNICAL PARAMETERS		
Parameter	Unit	Value
Fastener diameter	d_k [mm]	10
Plate diameter	D_k [mm]	60
Anchorage depth	h_{eff} [mm]	70
Depth of hole	h_0 [mm]	80
Point thermal conductivity - for insulation thickness 80 mm - for insulation thickness 150 mm - for insulation thickness 300 mm	χ [W/K]	0,004/0,002* 0,004/0,003* 0,003/0,002*
Plate rigidity	S [kN/mm]	0,4
Utility categories	[-]	ABCDE
Fastener material	[-]	PE
Stem material	[-]	Galvanised steel, PA coated header
European Technical Assessment	[-]	ETA-17/0450

*in the case of flush-mounted installation

STRENGTH PARAMETERS			
Substrate category	Type of substrate	Density [kg/dm ³]	Characteristic tensile strength N_{Rk} [kN]
A	Concrete C12/15	$\geq 2,25$	0,65
A	Concrete C16/20 to C50/60	$\geq 2,30$	0,90
B	Solid ceramic brick MZ	$\geq 2,00$	0,75
B	KS solid silicate brick	$\geq 2,00$	0,75
C	KSL silicate channel blocks	$\geq 1,60$	0,50
C	HLZ ceramic block	$\geq 1,20$	0,40
C	Porotherm 25 ceramic block	$\geq 0,80$	0,40
D	Concrete on lightweight aggregate LAC	$\geq 0,88$	0,75
E	AAC2 aerated concrete	$\geq 0,35$	0,40
E	AAC7 aerated concrete	$\geq 0,65$	0,50

Partial safety factor $\gamma_M = 2$ in the absence of regulation



SELECTION TABLE						
Product code	Fastener diameter and length (d _k x L _k) [mm].	Thickness of thermal insulation material t _{fix} [mm]				Quantity in the pack [pcs]
		New constructions (t _{tol} includes 10 mm of glue)		Old buildings (t _{tol} includes 10 mm of glue + 20 mm of old plaster)		
		No milling	With milling	No milling	With milling	
LFMG-10140	10x140	60	80	40	60	200
LFMG-10160	10x160	80	100	60	80	200
LFMG-10180	10x180	100	120	80	100	200
LFMG-10200	10x200	120	140	100	120	200
LFMG-10220	10x220	140	160	120	140	100
LFMG-10240	10x240	160	180	140	160	100
LFMG-10260	10x260	180	200	160	180	100
LFMG-10300	10x300	220	240	200	220	100

Section 4. NOTES

- All previous versions of this Data Sheet are no longer valid
- The data in this Product Data Sheet are in accordance with the current state of knowledge and are given in good faith. If the recommendations on how to use and install the product are not followed, Klimas Wkręt-met Sp. z o.o. is not responsible for the correctness and quality of the connection.