

PRODUCT DATA SHEET – FIXPLUG-10

Section 1. PRODUCT DESCRIPTION

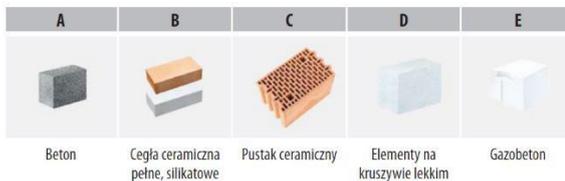
HAMMER DRIVEN FASTENER WITH PLASTIC PIN AND TELESCOPIC DESIGN SUPPORT WASHER – FIXPLUG-10



Hammer driven fastener with plastic pin and telescopic design support washer FIXPLUG-10 is made from polyethylene, and the pin from glass fibre-reinforced polyamide which improves its strength. The applied telescopic solution allows for problem-free facing of the support washer and polystyrene surface by its shallow recess. Fastener FIXPLUG-10 should be used to transfer loads of wind suction forces and applied as an additional mechanical fixing for the whole system, recommended for:

- EPS polystyrene
- XPS polystyrene

Types of substrates on which fastener FIXPLUG-10 can be installed according to ETAG:

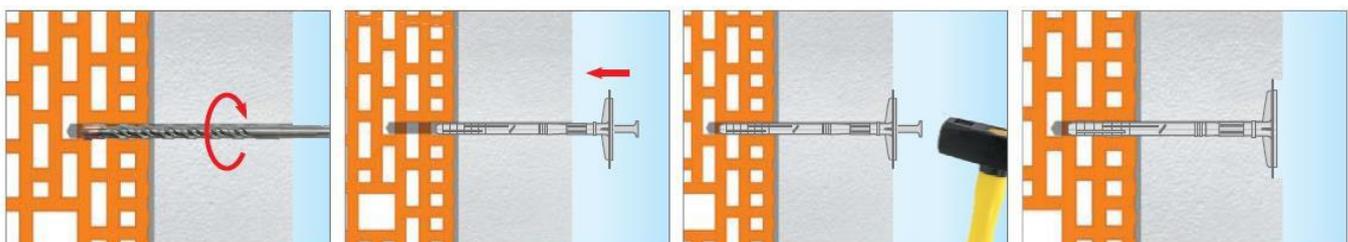


Fasteners hold European Technical Assessment: **ETA-15/0373**



Section 2. METHOD OF INSTALLATION

1. Before installation identify the substrate and select suitable fasteners
2. Select adequate length of the fastener so that expansion zone is in the construction material of the wall
3. Minimum length of the fastener is: $L_d = t_{fix} + t_{tol} + h_{eff}$, where: t_{fix} - thickness of insulation material to be fixed, t_{tol} - thickness of sub-crests (adhesive + existing plaster), h_{eff} - depth of fastener anchorage in the substrate (given in the sheet and in Technical Approval)
4. Before installation prepare the substrate as recommended by ETICS manufacturer
5. Fix thermal insulation panels correctly using an adhesive
6. Diameter of drilled holes should match diameter of the fasteners used
7. Drilled holes in substrates of solid materials should be deeper by min. 10 mm compared to the fastener anchorage depth
8. Clean the holes drilled in solid materials of drillings with a back and forth motion of the drill at a reduced speed, repeating it four times
9. Drill the holes in substrates of hollowed bricks and aerated concrete without impact as this will cause breakage of inner walls of the substrate and reduce pull-out resistance of fasteners
10. Number of fasteners per 1m² should be defined in thermal insulation design. Recommended number of fasteners: FOR POLYSTYRENE:
 - up to the height of 15m from the ground, as minimum use 6pcs/m² in the middle area of a wall and 8pcs/m² in a corner area
 - above 15m from the ground, as minimum use 8pcs/m² in the middle area of a wall and 10pcs/m² in a corner area**Recommendation shall not replace thermal insulation design!!**
11. Fix the fasteners so that the installation spot matches the area where adhesive is placed on a thermal insulation panel
12. Embed the fastener body so that the fastener washer is faced with thermal insulation material



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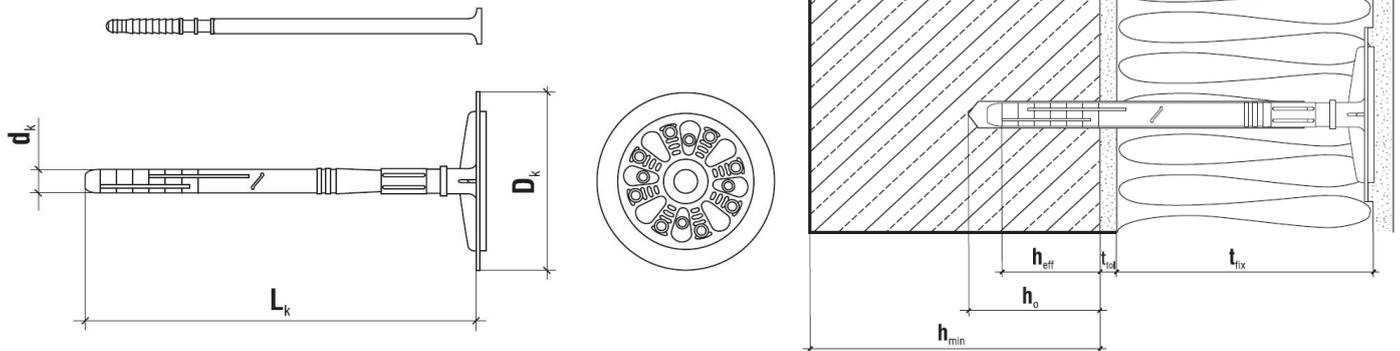
Section 3. TECHNICAL DATA

TECHNICAL PARAMETERS		
Parameter	Unit	Value
Plug diameter	d_k [mm]	10
Plate diameter	D_k [mm]	60
Anchorage depth	h_{eff} [mm]	30/50*
Drilled hole depth	h_o [mm]	40/60*
Thermal conductivity	χ [W/K]	0.000
Plate stiffness	S [kN/mm]	0.60
Use categories	[-]	A B C D E
Plug material	[-]	PE
Pin material	[-]	PA + GF
European Technical Assessment	[-]	ETA-15/0373

*for substrate use category C,D,E

STRENGTH PARAMETERS			
Substrate category	Substrate type	Density [kg/dm ³]	Characteristic pull-out resistance [kN]
A	Concrete C12/15	≥ 2.25	0.75
A	Concrete C16/20 – C50/60	≥ 2.30	1.20
B	Solid clay brick	≥ 2.00	0.90
B	Calcium silica solid brick	≥ 2.00	0.90
C	Calcium silicate hollow blocks	≥ 1.60	0.60
C	Perforated brick	≥ 1.20	0.40
C	Lightweight concrete hollow blocks	≥ 0.80	0.90
D	Lightweight concrete blocks	≥ 1.05	0.75
E	Autoclaved aerated concrete AAC2	≥ 0.35	0.50
E	Autoclaved aerated concrete AAC7	≥ 0.65	0.75

Partial safety factor $\gamma_M=2$ in absence of regulations



SELECTION TABLE						
Product code	Fastener diameter and length ($d_k \times L_k$)	Insulation material thickness t_{fix} [mm]				Number of pieces in a box
		New buildings (t_{tot} adhesive layer of 10mm)		Old buildings (t_{tot} adhesive layer of 10mm + 20mm of old plaster)		
		A B	C D E	A B	C D E	
FIXPLUG-10120	10x120	80	60	60	40	200
FIXPLUG-10140	10x140	100	80	80	60	200
FIXPLUG-10160	10x160	120	100	100	80	200
FIXPLUG-10180	10x180	140	120	120	100	200
FIXPLUG-10200	10x200	160	140	140	120	200
FIXPLUG-10220	10x220	180	160	160	140	100
FIXPLUG-10260	10x260	220	200	200	180	100

Section 4. REMARKS

- All previous versions of this Product Data Sheet shall cease to be valid
- Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.