

**PRODUCT DATA SHEET – ECO-DRIVE-8**

**Section 1. PRODUCT DESCRIPTION**

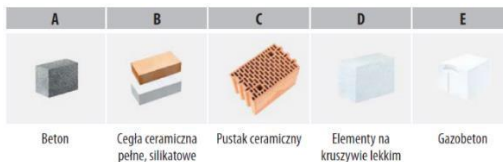
**SCREWED-IN FASTENER WITH METAL PIN AND TELESCOPIC DESIGN SUPPORT**

**WASHER – ECO-DRIVE-8**

Screwed-in fastener with metal pin with telescopic design support washer ECO-DRIVE-8 is made from polyamide, and the pin from galvanized steel, with the head sealed in glass-fibre reinforced polyamide which reduces spot thermal conductivity of the fastener. Use of telescopic design significantly shortens the installation time and eliminates the use of cutters for immersed mount. Fastener ECO-DRIVE-8 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 ECO-DRIVE-8 can be installed according to ETAG 014:



Fasteners hold European Technical Assessment: ETA-13/0107



Łącznik wkręcany, gniazdo TORX-40



Nowoczesna konstrukcja teleskopowa



Krażek styropianowy



**Section 2. METHOD OF INSTALLATION**

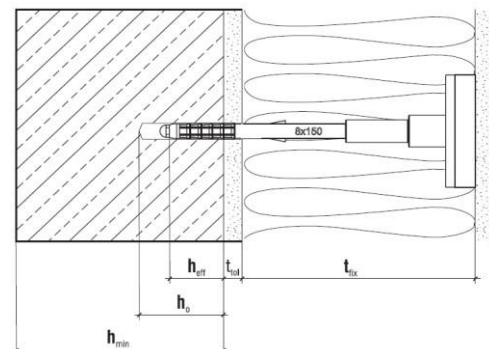
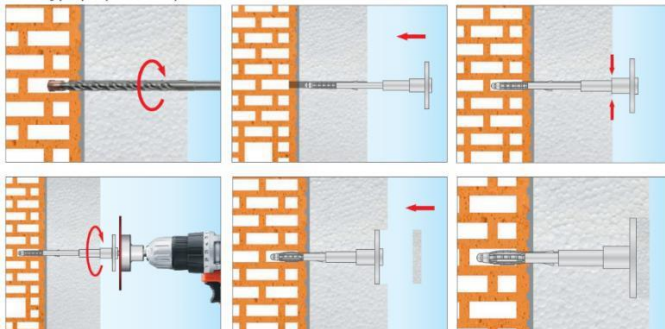
1. Before installation identify the substrate and select suitable fasteners
2. Select adequate length of the fastener so that expansion zone is in the construction material of the wall
3. Minimum length of the fastener is:  $L_d = t_{fix} + t_{tot} + h_{eff} + 25mm$ , where:  $t_{fix}$  - thickness of insulation material to be fixed,  $t_{tot}$  - thickness of substrates (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 1m<sup>2</sup> 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/m<sup>2</sup> in the middle area of a wall and 8pcs/m<sup>2</sup> in a corner area
- above 15m from the ground, as minimum use 8pcs/m<sup>2</sup> in the middle area of a wall and 10pcs/m<sup>2</sup> 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 touches the polystyrene surface with the first ring underneath the washer
13. Then screw in the support washer using EDST tool and cover up the installation spot using the delivered polystyrene disc EDKS/EDKSG

Montaż zagłębiony z krażkiem dociskowym



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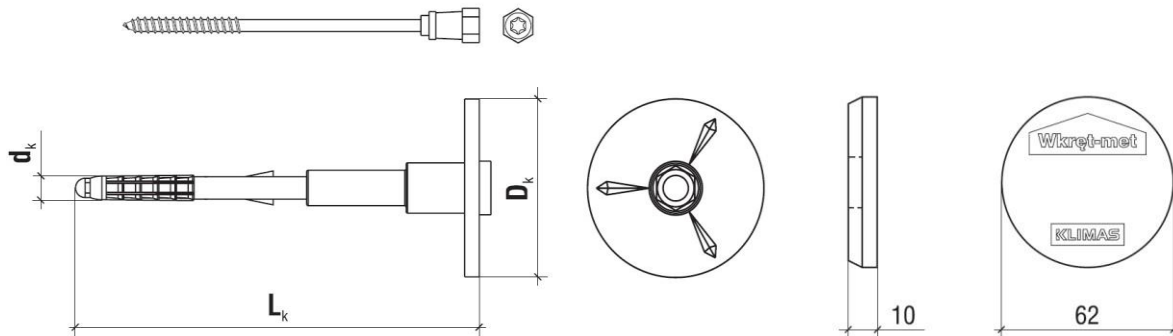
**Section 3. TECHNICAL DATA**

TECHNICAL PARAMETERS		
Parameter	Unit	Value
Plug diameter	$d_k$ [mm]	8
Plate diameter	$D_k$ [mm]	60
Anchorage depth	$h_{eff}$ [mm]	35/55*
Drilled hole depth	$h_o$ [mm]	45/65*
Thermal conductivity	$\chi$ [W/K]	0.002
Plate stiffness	S [kN/mm]	0.60
Use categories	[-]	A B C D E
Plug material	[-]	PA
Pin material	[-]	Galvanized steel, head sealed in PA + GF
European Technical Assessment	[-]	ETA-13/0107

\*for substrate use category E (aerated concrete)

STRENGTH PARAMETERS			
Substrate category	Substrate type	Density [kg/dm <sup>3</sup> ]	Characteristic pull-out resistance [kN]
A	Concrete C12/15	≥ 2.25	1.20
A	Concrete C16/20 – C50/60	≥ 2.30	1.50
B	Solid clay brick	≥ 2.00	1.50
B	Calcium silica solid brick	≥ 2.00	1.50
C	Calcium silicate hollow blocks	≥ 1.60	1.50
C	Perforated brick	≥ 1.20	1.50
C	Lightweight concrete hollow blocks	≥ 0.80	1.50
D	Lightweight concrete blocks	≥ 1.05	0.90
E	Autoclaved aerated concrete AAC2	≥ 0.35	0.60
E	Autoclaved aerated concrete AAC7	≥ 0.65	1.20

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)	
		Cat. A B C D	Cat. E	Cat. A B C D	
ECODRIVE-08150	8x150	80	60	60	100
ECODRIVE-08170	8x170	100	80	80	100
ECODRIVE-08190	8x190	120	100	100	100
ECODRIVE-08210	8x210	140	120	120	100
ECODRIVE-08230	8x230	160	140	140	100
ECODRIVE-08250	8x250	180	160	160	100
ECODRIVE-08270	8x270	200	180	180	100
ECODRIVE-08290	8x290	220	200	200	100
ECODRIVE-08310	8x310	240	220	220	100
ECODRIVE-08330	8x330	260	240	240	100
ECODRIVE-08350	8x350	280	260	260	100
ECODRIVE-08370	8x370	300	280	280	100
ECODRIVE-08390	8x390	320	300	300	100
ECODRIVE-08410	8x410	340	320	320	100
ECODRIVE-08430	8x430	360	340	340	100

**Section 4. REMARKS**

1. All previous versions of this Product Data Sheet shall cease to be valid
2. 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.