

## 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 substrate to which the ECO-DRIVE-8 connector can be installed according to EAD 330196-01-0604:

A	B	C	D	E
				
Concrete	Solid ceramic brick, silicate brick	Ceramic block	Elements on lightweight aggregate	Lightweight concrete



Screw connection, TORX-40 socket



Modern telescopic design



Polystyrene disc

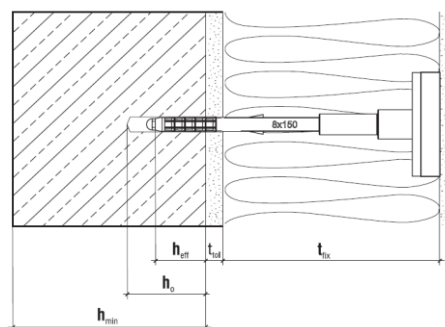
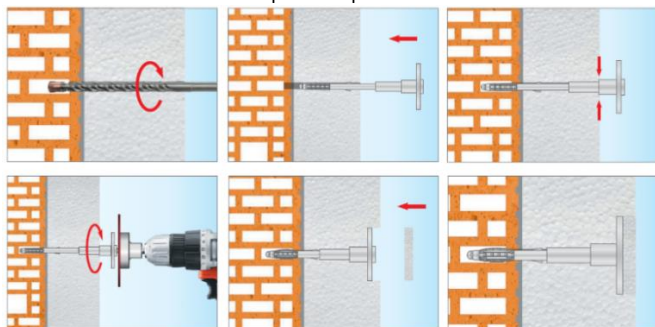


The connectors have European Technical Assessment: ETA-13/0107

### Section 2. ASSEMBLY

- Before installation identify the substrate and select suitable fasteners
- Select adequate length of the fastener so that expansion zone is in the construction material of the wall
- Minimum length of the fastener is:  $L_d = t_{fix} + t_{tol} + h_{eff} + 25mm$  (recess of the movable part of the connector's flange in the thermal insulation material), where:  $t_{fix}$  - thickness of insulation material to be fixed,  $t_{tol}$  - thickness of sub-crusts (adhesive + existing plaster),  $h_{eff}$  - depth of fastener anchorage in the substrate (given in the sheet and in Technical Approval)
- Before installation prepare the substrate as recommended by ETICS manufacturer
- Fix thermal insulation panels correctly using an adhesive
- Diameter of drilled holes should match diameter of the fasteners used
- Drilled holes in substrates of solid materials should be deeper by min. 10 mm compared to the fastener anchorage depth
- 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
- 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
- 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!!**
- Fix the fasteners so that the installation spot matches the area where adhesive is placed on a thermal insulation panel
- Embed the fastener body so that the fastener touches the polystyrene surface with the first ring underneath the washer
- Then screw in the support washer using EDST tool and cover up the installation spot using the delivered

Recessed installation with pressure plate



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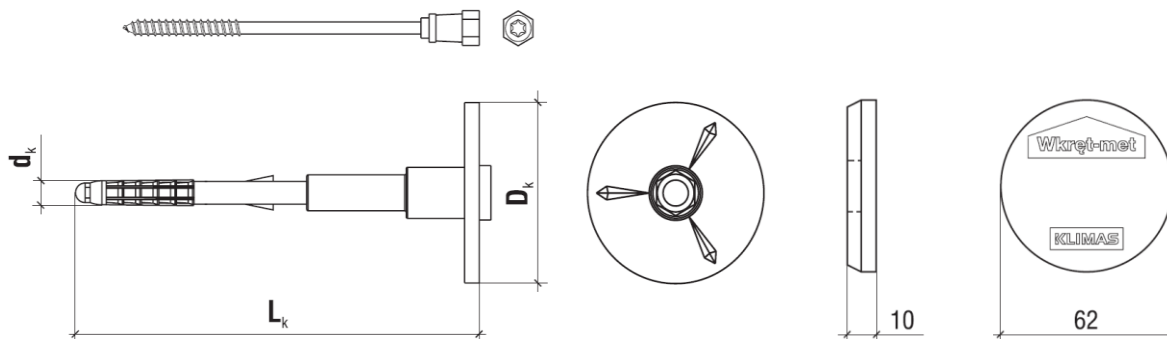
**Section 3. TECHNICAL DATA**

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	$h_0$ [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	[-]	Zinc-plated steel, head coated with PA + GF
European Technical Assessment	[-]	ETA-13/0107

\* for category E substrate (aerated concrete)

STRENGTH PARAMETERS			
Substrate category	Substrate type	Density [kg/dm³]	Characteristic pull-out resistance [kN]
A	Concrete C12/15	$\geq 2,25$	1,20
A	Concrete C16/20 - C50/60	$\geq 2,30$	1,50
B	Solid ceramic brick	$\geq 2,00$	1,50
B	Full silicate brick	$\geq 2,00$	1,50
C	Silicate channel blocks	$\geq 1,60$	1,50
C	Hollow clay brick	$\geq 1,20$	1,50
C	Lightweight concrete blocks	$\geq 0,80$	1,50
D	Lightweight concrete blocks	$\geq 1,05$	0,90
E	Autoclaved aerated concrete AAC2	$\geq 0,35$	0,60
E	Autoclaved aerated concrete AAC7	$\geq 0,65$	1,20

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



SELECTION TABLE					
Product code	Connector diameter and length (d <sub>k</sub> x L <sub>k</sub> )	Thickness of thermal insulation material t <sub>fix</sub> [mm]			Number of pieces in a box
		New buildings (t <sub>tol</sub> 10 mm adhesive layer)		Old buildings (t <sub>tol</sub> includes 10 mm of adhesive + 20 mm of old plaster)	
		Cat. A B C D	Cat. E	Cat. A B C D	
ECODRIVE-08150	8x150	80	100	60	8x150
ECODRIVE-08170	8x170	100	100	80	8x170
ECODRIVE-08190	8x190	120	100	100	8x190
ECODRIVE-08210	8x210	140	100	120	8x210
ECODRIVE-08230	8x230	160	100	140	8x230
ECODRIVE-08250	8x250	180	100	160	8x250
ECODRIVE-08270	8x270	200	100	180	8x270
ECODRIVE-08290	8x290	220	100	200	8x290
ECODRIVE-08310	8x310	240	100	220	8x310
ECODRIVE-08330	8x330	260	100	240	8x330
ECODRIVE-08350	8x350	280	100	260	8x350
ECODRIVE-08370	8x370	300	100	280	8x370
ECODRIVE-08390	8x390	320	100	300	8x390
ECODRIVE-08410	8x410	340	100	320	8x410
ECODRIVE-08430	8x430	360	100	340	8x430

**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.