

PRODUCT DATA SHEET – TD-090/TDP-090

Section 1. PRODUCT

SPECIAL FASTENER WITH FRAME PLUG – TD-090/TDP-090

Special fastener with frame plug TD-090/TDP-090 for use with frame plug for fixing of mineral wool and polystyrene foam in concrete. The fastener has a reduced surface of the washer for better mortar adhesiveness. Recommended for:

- EPS polystyrene
- XPS polystyrene
- mineral wool
- mineral wool lamella board

Types of substrates on which fastener TD-090/TDP-090 can be installed:



Beton

Cegły ceramiczne pełne, silikatowe

Pustak ceramiczny



Kołnierz



Gniazdo kołnierza



Kolek



Fasteners hold Technical Approval: AT-15-9228/2013

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 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 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; for WOOL number of fasteners should be increased in each area by 2pcs/m²

Recommendation shall not replace thermal insulation design!!
11. Embed the fastener body so that the fastener washer is faced with thermal insulation material
12. Then using screw gun tighten the frame plug to fix it in place



TDP-090 + SMN-10100



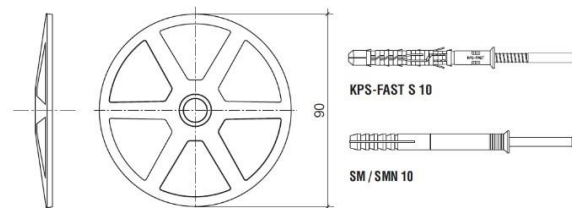
TDP-090 + KPS-FAST-10100

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Section 3. TECHNICAL DATA

TECHNICAL PARAMETERS			
Parameter	Unit	SM/SMN 10	KPS-FAST S 10
Plug diameter	d_w [mm]	10	10
Plate diameter	D_k [mm]	90	90
Anchorage depth	h_{eff} [mm]	50	70
Drilled hole depth	h_o [mm]	60	80
Plug material	[-]	Polyamide PA/Polypropylene	Polyamide PA/Polypropylene
Pin material	[-]	Galvanized steel	Galvanized steel
Approval	[-]	AT-15-9228/2013	AT-15-9228/2013

STRENGTH PARAMETERS				
Substrate type	Fastener marking	Design resistance [kN]	Fastener marking	Design resistance [kN]
Concrete C20/25	SM 10/SMN 10	0.89/1.08	KPS-FAST S 10	6.14
Solid clay brick	SM 10/SMN 10	0.45/1.34	KPS-FAST S 10	3.79
Calcium silica solid brick	SM 10/SMN 10	0.45/1.34	KPS-FAST S 10	3.72
Aerated concrete 350	SMN 10	-	KPS-FAST S 10	0.18
Aerated concrete 650	SMN 10	0.44	KPS-FAST S 10	0.86
Porous block	SMN 10	-	KPS-FAST S 10	0.81
Hollow block MAX	SMN 10	-	KPS-FAST S 10	0.48



SELECTION TABLE			
Insulation material thickness [mm]	Washer	Concrete, Solid clay brick, Calcium silicate brick	Concrete, Solid clay brick, Calcium silicate brick, Porous block, aerated concrete
		SM/SMN	KPS-FAST
30	TD-090/TDP-090	SM(SMN)-10080	KPS-FAST-10100 S
40	TD-090/TDP-090	SM(SMN)-10100	KPS-FAST-10120 S
50	TD-090/TDP-090	SM(SMN)-10100	KPS-FAST-10120 S
60	TD-090/TDP-090	SM(SMN)-10120	KPS-FAST-10140 S
70	TD-090/TDP-090	SM(SMN)-10120	KPS-FAST-10140 S
80	TD-090/TDP-090	SM(SMN)-10140	KPS-FAST-10160 S
90	TD-090/TDP-090	SM(SMN)-10140	KPS-FAST-10160 S
100	TD-090/TDP-090	SM(SMN)-10160	KPS-FAST-10180 S
110	TD-090/TDP-090	SM(SMN)-10160	KPS-FAST-10180 S
120	TD-090/TDP-090	SM(SMN)-10180	KPS-FAST-10200 S
130	TD-090/TDP-090	SM(SMN)-10180	KPS-FAST-10200 S
140	TD-090/TDP-090	SM(SMN)-10200	KPS-FAST-10230 S
150	TD-090/TDP-090	SM(SMN)-10200	KPS-FAST-10230 S
160	TD-090/TDP-090	SM(SMN)-10220	KPS-FAST-10230 S
170	TD-090/TDP-090	SM(SMN)-10220	KPS-FAST-10260 S
180	TD-090/TDP-090	-	KPS-FAST-10260 S
190	TD-090/TDP-090	-	KPS-FAST-10260 S
220	TD-090/TDP-090	-	KPS-FAST-10300 S

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.