

## Section 1. PRODUCT DESCRIPTION

### PLASTIC SLEEVE FOR FIXING OF FLAT ROOF THERMAL INSULATION AND WATERPROOFING SYSTEMS – LINO 13

Plastic sleeve LINO 13 for fixing of flat roof thermal insulation and waterproofing systems with use of telescopic connections to be used with WSR, WSR-T-4,8xL self-drilling or WDB, WDB-T-4,8xL self-tapping screws. The sleeve is made of the top-quality polypropylene. Telescopic design prevents damage to waterproofing systems; special protrusions on the inside of the sleeve prevent the screw from popping up. Recommended for thermal insulation materials:



Types of substrates on which sleeve LINO 13 can be installed according to EAD 030351-00-0402:

- profiled roof sheets th 0.50-1.75mm
- concrete C12/15, concrete C20/25, thin-wall concrete panel
- timber C24, OSB board, plywood

Fasteners hold European Technical Assessment: ETA-15/0578



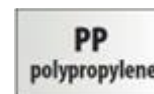
Teleskopic design



Special protrusions



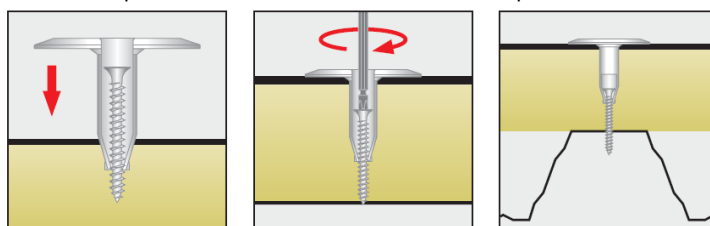
Product designation



## Section 2. METHOD OF INSTALLATION

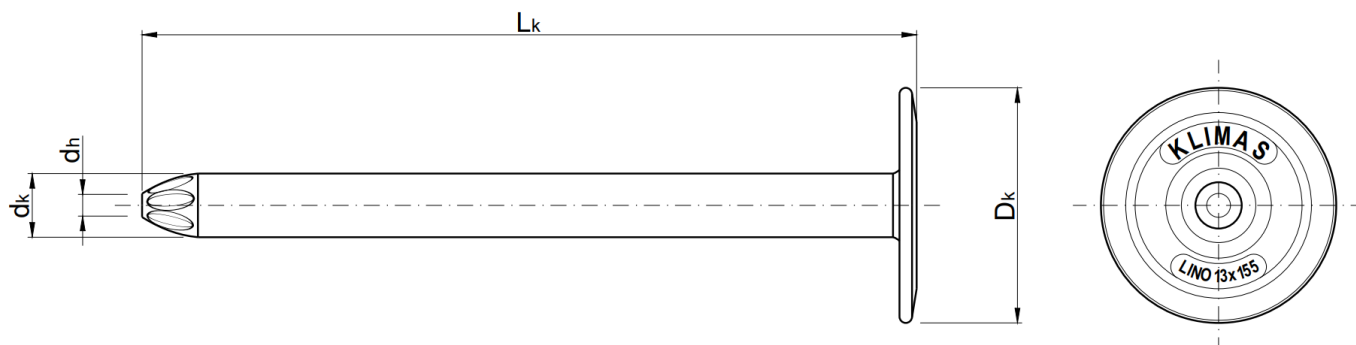
1. Before installation identify the substrate (steel sheet, concrete, timber substrate), and its thickness and select suitable fasteners. Pay particular attention to select suitable fastener type for renovation of flat roofs on a concrete substrate (in special cases perform fastener pull-out resistance tests).
2. Identify thermal insulation thickness and type (mineral wool, polystyrene, PIR foam, PUR foam, EPS roofing membrane).
3. Identify waterproofing material type and width (1.0; 1.5; 2.0; 2.5 rm.)
4. Based on items 1-3 select adequate length of plastic sleeve – by min. 15mm shorter than thermal insulation thickness
5. Due to telescopic connection of the screw, effective width of plastic sleeve is:  $L_k - 15\text{mm}$
6. Select adequate length of a screw according to a substrate, so that its effective depth of anchorage conforms with European Technical Assessment and relevant Product Data Sheet
7. It is recommended to keep the distance of support washer of the sleeve or KD steel washers of min. 10mm from the edge of the waterproofing (on the overlap, for oval washers in parallel with the longer side to the waterproofing edge)
8. Once plastic sleeve is combined with an suitable screw, the fastener should be screwed in the substrate using dedicated driver bits
9. After installation, roof fastener should maintain an effective pressure on the waterproofing and thermal insulation systems, and the support washer of the plastic sleeve should prevent rotation about steel fastener axis
10. Number of fasteners per  $1\text{m}^2$  should be defined in the facility technical design – the design should include division of a flat roof into individual wind zones (corner, outer side, inner side, central)

Example installation: steel substrate – telescopic connection



**PRODUCT DATA SHEET – LINO 13**

**Section 3. TECHNICAL DATA**



TECHNICAL PARAMETERS		
Parameter	Unit	Value
Sleeve diameter	dk [mm]	13
Hole in the sleeve	dh [mm]	4,9
Collar of the sleeve	Dk [mm]	48
Sleeve material	[-]	PP - polypropylene
European Technical Assessment	[-]	ETA-15/0578

SELECTION TABLE			
Product code	Sleeve dimensions (dk x Lk)	Min. thermal insulation thickness [mm]	Number of pieces in a box
LINO-13035-PP	13x35	50	200
LINO-13055-PP	13x55	70	200
LINO-13085-PP	13x85	100	200
LINO-13105-PP	13x105	120	200
LINO-13135-PP	13x135	150	200
LINO-13155-PP	13x155	170	200
LINO-13185-PP	13x185	200	200
LINO-13235-PP	13x235	250	100
LINO-13285-PP	13x285	300	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.