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PRODUCT DATA SHEET – WSR/WSR-T

Section 1. PRODUCT DESCRIPTION

SELF-DRILLING SCREW FOR FASTENING OF FLAT ROOF THERMAL INSULATION AND WATERPROOFING SYSTEMS TO 0.50 ÷ 1.25MM THICK PROFILED ROOF SHEETS – WSR/WSR-T





Self-drilling screw WSR/WSR-T in combination with LINO 13, LINO K 13, LINO 15 plastic sleeve is used for fastening thermal insulation and waterproofing systems with use of telescopic connections or KD steel washer with use of fixed connections (no thermal insulation or hard thermal insulation materials, e.g. PIR, PUR). The screw is made of carbon steel, coated with a special SQ ceramic coating, meeting stringent requirements of corrosion resistance (15 Kesternich cycles), thanks to which screws have the highest corrosion protection. Screws WSR-T with TX drive are only made to order.

Types of substrates on which screw WSR/WSR-T can be installed according to ETAG 006:

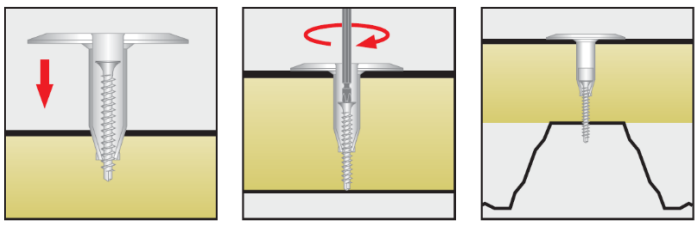
- **profiled roof sheets th 0.50-1.25mm**

Fasteners hold European Technical Assessment: ETA-15/0578

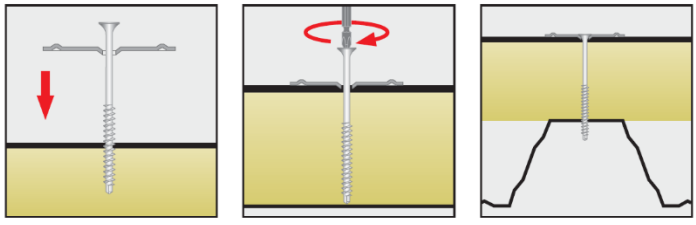
Section 2. METHOD OF INSTALLATION

1. Before installation identify the profiled roof sheet type, its module and thickness and select suitable fasteners.
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-15mm
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. If the waterproofing layer is installed only (without thermal insulation layer) or if thermal insulation system of high density is installed, it is recommended to use a combination: KD + WSR/WSR-T screw – fixed connection
9. Once plastic sleeve/washer is combined with a suitable screw, the fastener should be screwed in the substrate using dedicated driver bits
10. After installation, roof fastener should maintain effective pressure on the waterproofing and thermal insulation systems, and the support washer of the plastic sleeve/washer should prevent rotation about steel fastener axis
11. Number of fasteners per 1m² 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



Example installation: steel substrate – fixed connection



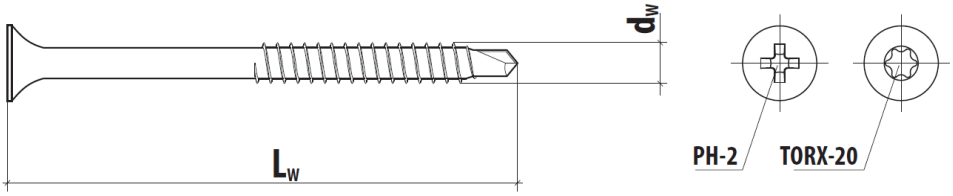
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Section 3. TECHNICAL DATA

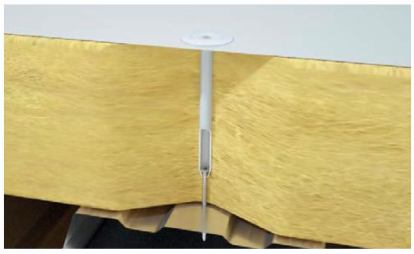
TECHNICAL PARAMETERS		
Parameter	Unit	Value
Screw diameter	d_w [mm]	4.8
Screw head diameter	D_w [mm]	9.0
Screw drive	-	PH-2/TORX-20*
Screw material	[-]	carbon steel
Corrosion protection	[-]	ceramic coating SQ
European Technical Assessment	[-]	ETA-15/0578

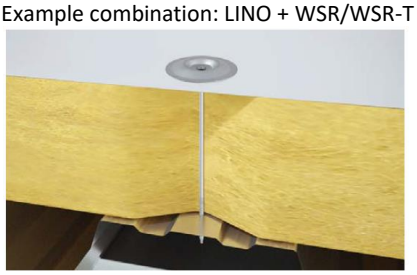
*WSR/WSR-T

INSTALLATION PARAMETERS			
Substrate	Min. substrate thickness	Min. distance from edge	Min. spacing
	h_{min} [mm]	c_{min} [mm]	L_{os} [mm]
Steel sheet	0.50 – 1.25	30	120

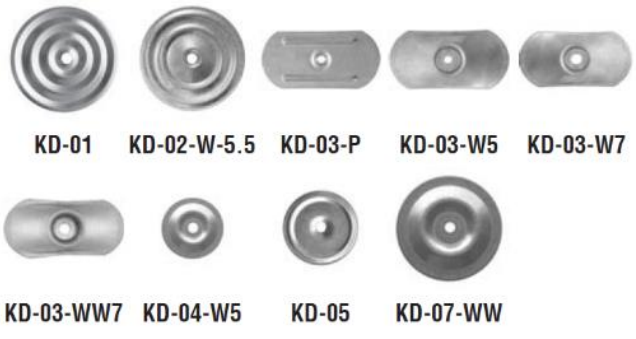


STRENGTH PARAMETERS			
Substrate	LINO 13/LINO K 13 + WSR/WSR-T	LINO 15 + WSR/WSR-T	KD + WSR/WSR-T
Characteristic load-bearing capacity [kN]			
Steel sheet th – 0.50 mm	0.84	0.84	0.84
Steel sheet th – 0.63 mm	1.03	1.03	1.03
Steel sheet th – 0.75 mm	1.20	1.20	1.20
Steel sheet th – 0.88 mm	1.53	1.53	1.53
Steel sheet th – 1.00 mm	1.61	1.61	1.61


Example combination: LINO + WSR/WSR-T


Example combination: KD + WSR/WSR-T

WASHER TYPES			
Washer marking	Washer type	Drilled hole diameter [mm]	Washer dimensions [mm]
KD-01	round	5.0	70
KD-02-W-5.5	round	5.5	70
KD-03-P	oval	5.5	80 x 40
KD-03-W5	oval	5.0	80 x 40
KD-03-W7	oval	7.0	80 x 40
KD-03-WW7	oval	7.0	80 x 40
KD-04-W5	round	5.0	40
KD-05	round	5.0	50
KD-07-WW	round	6.5	70



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SELECTION TABLE			
Product code		Screw dimensions (d_w x L_w)	Number of pieces in a box
WSR	WSR-T		
WSR-48050-D	WSR-T-48050-D	4.8 x 50	100
WSR-48060-D	WSR-T-48060-D	4.8 x 60	100
WSR-48070-D	WSR-T-48070-D	4.8 x 70	100
WSR-48080-D	WSR-T-48080-D	4.8 x 80	100
WSR-48090-D	WSR-T-48090-D	4.8 x 90	100
WSR-48100-D	WSR-T-48100-D	4.8 x 100	100
WSR-48120-D	WSR-T-48120-D	4.8 x 120	100
WSR-48140-D	WSR-T-48140-D	4.8 x 140	100
WSR-48160-D	WSR-T-48160-D	4.8 x 160	100
WSR-48180-D	WSR-T-48180-D	4.8 x 180	100
WSR-48200-D	WSR-T-48200-D	4.8 x 200	100
WSR-48220-D	WSR-T-48220-D	4.8 x 220	100
WSR-48240-D	WSR-T-48240-D	4.8 x 240	100
WSR-48260-D	WSR-T-48260-D	4.8 x 260	100
WSR-48300-D	WSR-T-48300-D	4.8 x 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.

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