



# INSTALLATION GUIDE

PAROC® HVAC LAMELLA MAT BLACKCOAT



**PAROC**®

# INSTALLATION INSTRUCTIONS FOR CIRCULAR AND RECTANGULAR VENTILATION WITH PAROC® HVAC LAMELLA MAT BLACKCOAT



## STEP 1

Cut the lamella mat with a knife (e. g. PAROC® Pro Knife) to the appropriate length equal to the external circumference of the insulated duct:

- for **circular ducts**:  
 $\pi \times [D + 2 \times \text{insulation thickness}]$
- for **rectangular ducts**:  
[2 x length side A] + [2 x length side B] + 8 x thickness insulation)  
plus add about 2-3 cm.

## STEP 2

Place the lamella mat on the **circular duct** with the BlackCoat aluminium foil on the outside so that its ends hang loosely.

## STEP 3

In case of tension or compression on the BlackCoat Aluminium foil and for insulation of ducts bigger than 200 mm diameter, it is needed to add wire (~3 times per running meter wire min 0,7mm) or tape or metal bands, taking care that they are not too tight and will not cut or damage the facing.

## STEP 4

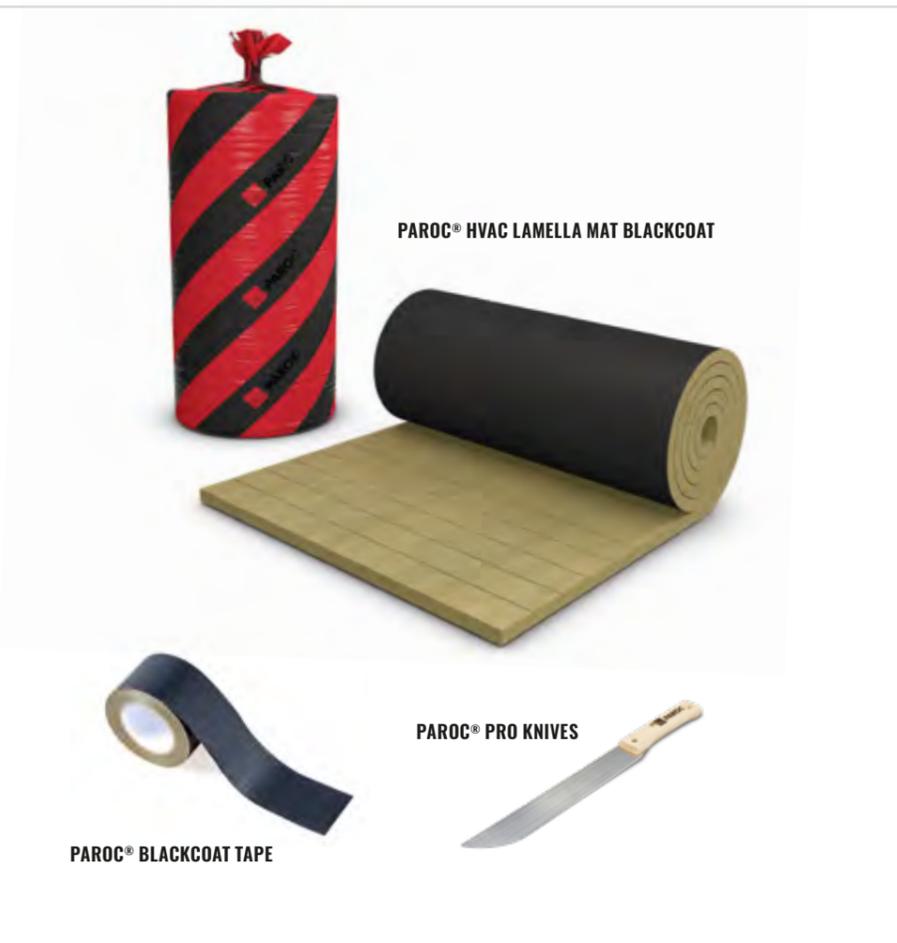
For **rectangular ducts**, the insulation should touch the frames connecting the individual duct elements. The joints, insulated on both sides in this way, should be fixed along the perimeter with self-adhesive PAROC® BlackCoat Tape.

## STEP 5

Press both ends of the lamella mat to the surface of the duct and connect them with PAROC® BlackCoat Tape.

## STEP 6

If PAROC® Hvac Lamella Mat BlackCoat is used on large rectangular ducts, it should also be secured additionally with welding pins. Depending on the size of the duct and the thickness of the insulation, 8-10 welding pins per m<sup>2</sup> may be needed. Joint sealing must be applied over the welding pins.



## STEP 7

Add next lamella to the duct, following the instructions given in with points 1-4.

## STEP 8

Connect the joints using PAROC® BlackCoat Tape.

## STEP 9

The ends of insulation should be covered by a cuff, adjusted to the thickness of the mat.

## STEP 10

Before installing the lamella, cut out holes for all kinds of elements on the duct, such as fittings, valves, tees, fasteners, etc.

## Notes:

- The thickness of the insulation should be designed appropriately according to the operating parameters of the installation and the conditions in the room, otherwise the glued joints may be damaged. The surface temperature of the BlackCoat aluminium foil during operation at the maximum operating temperature should not exceed 80 °C.
- PAROC® Hvac Lamella Mat BlackCoat can be used for all types of indoor installations, provided that the maximum operating temperature does not exceed 250 °C.
- When high insulation thickness is required, PAROC® Hvac Lamella Mat BlackCoat can be installed in two layers, placing the joints of mat fragments away each other to prevent thermal bridges.
- Do not walk on the previously made insulation during the installation process, as this may cause damage to it.
- When insulating outdoor installations, additional protection is needed.
- Dry and clean the BlackCoat surfaces well before fixing them on the mat ends in order to obtain a good quality of the joints. The self-adhesive tape should be firmly pressed with the help of a spatula.
- BlackCoat facing may show some irregularities due to production process.
- Head Pins must be insulated.

## SELECT THE CORRECT INSULATION THICKNESS

Outer diameter	Thermal conductivity coefficient of the insulating material [W/(mK)]															
	0.035		0.036		0.037		0.038		0.039		0.040		0.041		0.042	
	I	O	I	O	I	O	I	O	I	O	I	O	I	O	I	O
63	40	80	42	84	43	88	45	93	47	97	49	102	51	107	53	112
80	40	80	42	84	43	88	45	92	47	96	48	100	50	105	52	109
100	40	80	42	84	43	87	45	91	46	95	48	99	50	103	51	107
125	40	80	41	83	43	87	44	90	46	94	48	98	49	102	51	106
150	40	80	41	83	43	87	44	90	46	93	47	97	49	101	50	104
160	40	80	41	83	43	86	44	90	46	93	47	97	49	100	50	104
200	40	80	41	83	43	86	44	89	46	93	47	96	49	99	50	102
250	40	80	41	83	43	86	44	89	45	92	47	95	48	98	50	101
300	40	80	41	83	43	86	44	89	45	92	47	94	48	97	49	101
315	40	80	41	83	43	86	44	89	45	91	47	94	48	97	49	100
400	40	80	41	83	43	85	44	88	45	91	46	94	48	97	49	99
500	40	80	41	83	42	85	44	88	45	91	46	93	47	96	49	99
600	40	80	41	83	42	85	44	88	45	90	46	93	47	96	49	98
630	40	80	41	83	42	85	44	88	45	90	46	93	47	96	49	98
800	40	80	41	83	42	85	44	88	45	90	46	93	47	95	49	98

I - air heating pipes (placed inside the thermal insulation of the building),  
O - air heating pipes (placed outside the thermal insulation of the building)



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