PAROC®
Better built environment

Thermal Insulation of Ventilation Ducts

PAROC® Academy

Ventilation systems

Application	Reason to insulate
Thermal insulation	Economical heat insulation
Condensation insulation	Avoid condensation on cold surfaces
Fire insulation	Fire protection according to requirements creates safety
Sound insulation	Noise reduction creates comfortable environment

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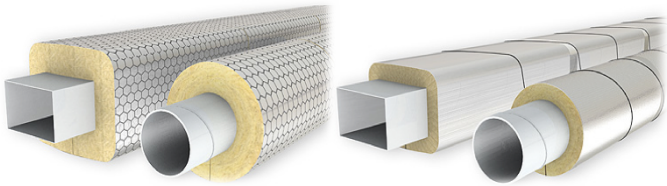
Thermal insulation

Thermal insulation is required in order to

- Restrict and control heat loss
- Transport warm or cool air in ducts to the targeted place
- Maintain a certain temperature within the duct
- Restrict unwanted heating of the surrounding environment
- Allow the ventilation system to function properly with less equipment or calibration
- Accrue financial and environmental benefits



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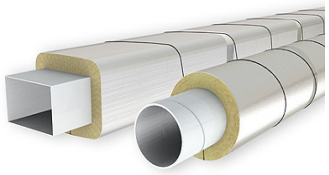
Condensation insulation

Condensation insulation is required in order to

- Prevent damage and discoloration of ceilings and floors
- Prolong the service life of ducts
- Reduce also the heating of the air inside



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Thermal heat loss in ventilation ducts

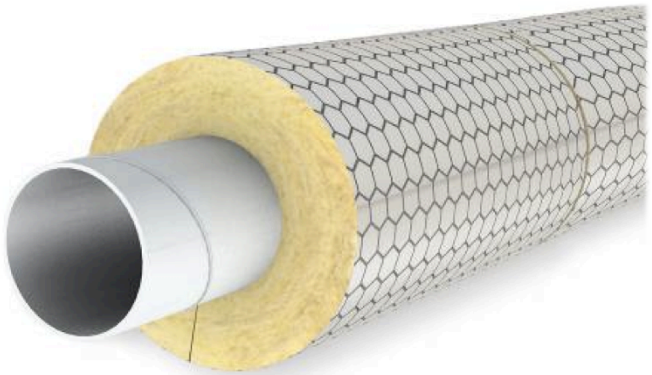
Diameter 315 mm

Length 30 m (99 ft.)

Temp. in duct 20 °C

Air speed 3 m/s (6,7 mph)

Surrounding temp. 6 °C (Stockholm)



Insulation	**Heat loss** W	**End temperature** °C
Uninsulated	2607	12,9
PAROC WM 80 mm	226	19,3
PAROC WM 150 mm	143	19,5

728 kWh/year

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Thermal heat loss in ventilation ducts

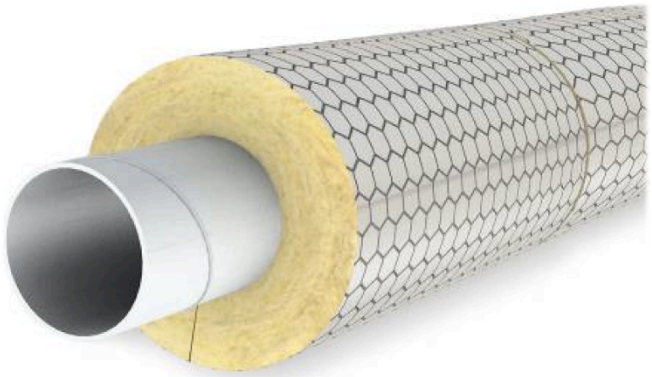
Diameter 315 mm

Length 30 m (99 ft.)

Temp. in duct 20 °C

Air speed 3 m/s (6,7 mph)

Surrounding temp. 10 °C (London)



Insulation	**Heat loss** W	**End temperature** °C
Uninsulated	3438	10,8
PAROC WM 80 mm	168	19,5
PAROC WM 150 mm	105	19,7

555 kWh/year

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Insulation of ventilation ducts

Inside insulation

Outside insulation

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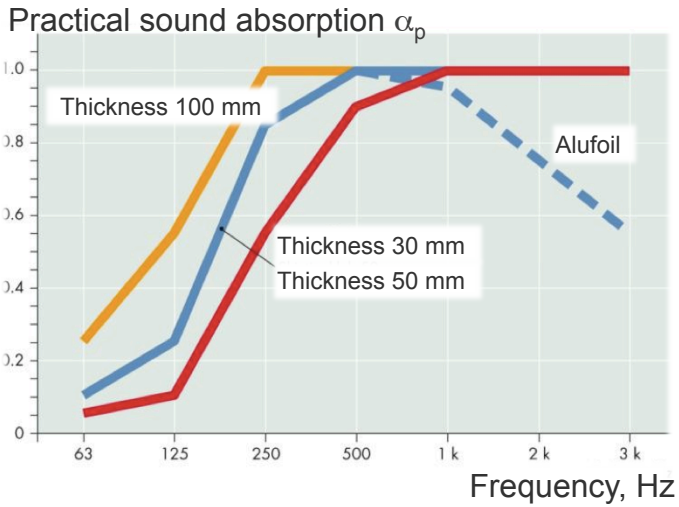
Inside insulation with PAROC InVent slabs

PAROC InVent slabs have G5 facing

- Cleanability of G5 tissue facing (~200 g/m²) is better than cleanability of aluminum foil facing (18 g/m²)
- Sound absorption with G5 tissue facing is better than with aluminum foil facing



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