



Heat permeability: U-value

The U-value is a measure for the heat transition through a component and is specified in W/(m²K). With the U-value it is also expressed, which thermal output per m² innersurface of the VENTAFLEX® air duct Classic is needed to maintain the temperature in the ventilation system.

The smaller the U-value, the better, because less heat is guided through the component

Formular:

$$R = \frac{d}{\lambda}$$

Thermal resistance R unit = (m²K)/W

d = material thickness in meter (m)

= Lambda W/(mK) (thermal conductivity of building materials) WLG

$$U = \frac{1}{R}$$

U-value unit = W/(m²K)

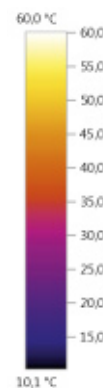
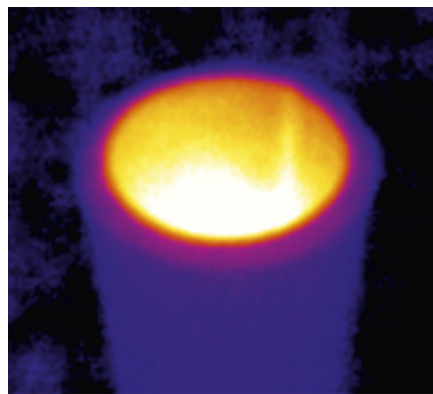
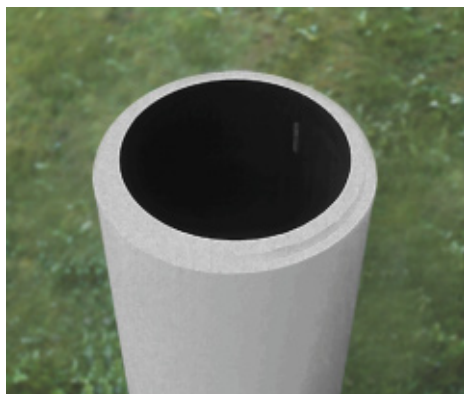
Example:

VENTAFLEX® air duct with a material thickness of 50 mm and thermal conductivity of the building material PUR foam is 0,022 W/(mK)

$$R = \frac{0,05 \text{ m}}{0,022 \text{ W/(mK)}} = \underline{\underline{2,27 \text{ (m}^2\text{K/W)}}}$$

$$U = \frac{1}{2,27 \text{ (m}^2\text{K)/W}} = \underline{\underline{0,44 \text{ W/(m}^2\text{K)}}}$$

The U-value for the VENTAFLEX® ducts with a wall thickness of 50 mm is 0,44 W/(m²K).



The thermo camera shows the thermal protection of the VENTAFLEX® air ducts Classic. The ducts are made of PUR rigid foam in the core. This makes for ideal insulation values (WLG 022).