

Determination of Thermal Transmittance According to EN 12428:2013

(3 appendices)

Work requested

The thermal transmittance (U_D) for a sliding door made of wood was to be calculated. Heat losses are calculated based on the drawings and material data supplied by the client (appendix3).

Test object

Client: Allemann GMBH
Size: Complete door 3000 x 3000 mm, 6 panels and 5 transistions
Type of door: Swing door (two sealing levels)
Type of panels: 2 leafs
Drawings: 250772 POS 4

Calculation and test methods

Calculations where performed according to EN 12428:2013. The THERM 7.4 software was applied when calculating linear heat losses.

Profiles and panels are calculated according to EN 10077-2:2012. Areas and definition of joints are made according to EN 12631:2012. Point bridges and hardware components with has neglectable influence are calculated according to EN 10211:2017.

Values of the thermal conductivity and applied boundary conditions are shown in appendix 1.

Calculation result

Type	Door daylight size (W x H)	U_D
General Swing door wood	3000 x 3000 mm	1.0 W/(m ² K)

The calculations that are only valid for the calculated positions are shown in greater detail in appendix 2.

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Appendices

- 1 Material data and boundary conditions
- 2 Calculation of thermal transmittance
- 3 Drawings