

Certificate

Certified Passive House Component

for cool-temperate climate, valid until 31.12.2018

Passive House Institute
Dr. Wolfgang Feist
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GERMANY

Category: **Attic staircase**
Manufacturer: **Columbus Treppen GmbH**
86356 Neusäss, GERMANY
Product name: **Designo**

This certificate was awarded based on the following criteria:

A given component size of 1.40 m by 0.70 m results in:

$$U_D = 0.63 \text{ W/(m}^2\text{K)} \leq 1.00 \text{ W/(m}^2\text{K)}$$

Taking the installation situations into account, the component meets the following criterion.

$$U_{D,installed} \leq 1.10 \text{ W/(m}^2\text{K)}$$

Functional requirements of hygiene:

$$f_{Rsi} = 0,25 \text{ m}^2\text{K/W} \geq 0.70$$

Following thermal bridge coefficients Ψ [W/(mK)] have been determined:

	Wooden- beam ceiling	Concrete-ceiling	-
Thermal bridge coefficient Ψ [W/(mK)]	0.08	0.12	-
$U_{D,installed}$ [W/(m²K)]	0.96	1.10	-

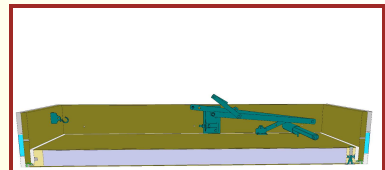
Description

PU - high performance insulation (0.024 W/(mK)) between two thin coated chipboard panels. 6-point windowframe-locking with circumferential TPE-gasket. Metal-fittings mounted at the hatch box of chipboard. In order to reduce the thermal bridge of the installation, a polystyrene-particle foam granulate (0.033 W/(mK)) is inserted in the joint.

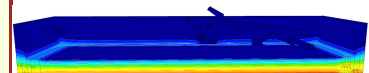
Please ask the manufacturer for a detailed report containing all calculations and results.

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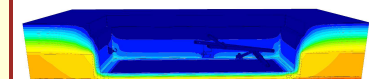
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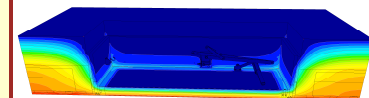
Representation of the Attic Stairs



Isothermal map of the Attic Stairs



Isothermal map installation in concrete ceiling



Isothermal map installation in wooden beam ceiling

cool, temperate climate



CERTIFIED COMPONENT

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