

Certificate

Certified Passive House Component

for cold climate, valid until 31.12.2018

Passive House Institute
Dr. Wolfgang Feist
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GERMANY

Category: **Attic staircase**
 Manufacturer: **Wellhöfer Treppen GmbH & Co.KG**
97084 Würzburg, GERMANY
 Product name: **Fire resistance-Passivehouse-Attic staircase with connection-system**

This certificate was awarded based on the following criteria:

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

$$U_D = 0.45 \text{ W/(m}^2\text{K)} \leq 0.80 \text{ W/(m}^2\text{K)}$$

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

$$U_{D,installed} \leq 0.80 \text{ W/(m}^2\text{K)}$$

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)]	0.05	0.07	-
$U_{D,installed}$ [W/(m ² K)]	0.64	0.76	-

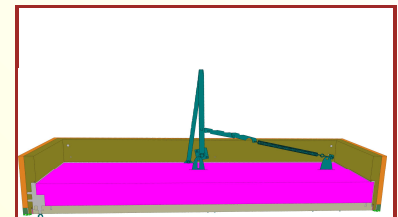
Description

Coated chipboard ($\lambda = 0.136 \text{ W/(mK)}$) with insulation panel ($\lambda = 0.039 \text{ W/(mK)}$) with two EPDM sealings between frame and insulation panel. In order to reduce the thermal bridge of the installation and to enable the fire resistance of the construction, the supplied FS-PH-connection-system comprising sealing, jointplait and insulation filling ($\lambda = 0.033 \text{ W/(mK)}$) is installed at the structural connection.

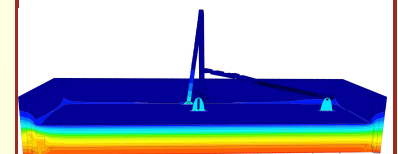
Please ask the manufacturer for a detailed report containing all calculations and results.

www.passivehouse.com

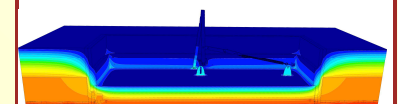
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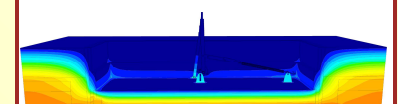
Representation of the Passive House Attic Stairs



Isothermal map of the Passive House Attic Stairs



Isothermal map installation in concrete ceiling



Isothermal map installation in wooden beam ceiling

cold climate



CERTIFIED COMPONENT

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