

# Certificate

## Certified Passive House Component

for cool, temperate climate, valid until 31.12.2018

Passive House Institute  
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Category: **Attic staircase**  
Manufacturer: **FAKRO Sp. z o.o.**  
**33-300 Nowy Sącz, POLAND**  
Product name: **LWT**

**This certificate was awarded based on the following criteria:**

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

$$U_D = 0.51 \text{ W/(m}^2\text{K)} \leq 1.00 \text{ W/(m}^2\text{K)}$$

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  $\Psi$  [W/(mK)] have been determined:

	Wooden- beam ceiling	Concrete-ceiling	-
Thermal bridge coefficient $\Psi$ [W/(mK)]	0.10	0.14	-
$U_{D,installed}$ [W/(m <sup>2</sup> K)]	0.93	1.10	-

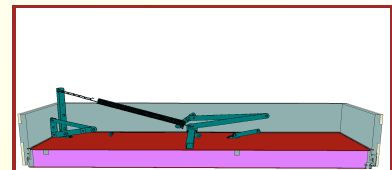
### Description

Attic stairs made of pinewood with thermally separated metal fittings and 3 sealing-levels (EPDM). Attic stair hatch of Styrofoam ( $\lambda = 0.031$  W/mK) with a coating of high density fibreboard (HDF). Surrounding insulation ( $\lambda = 0,035$  W/mK) to ceiling structure connection.

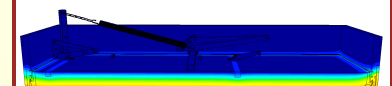
Please ask the manufacturer for a detailed report containing all calculations and results.

[www.passivehouse.com](http://www.passivehouse.com)

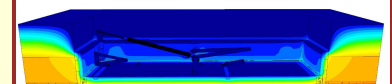
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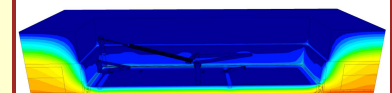
Representation of the Passive House Attic Stairs



Isothermal map of the Passive House Attic Stairs



Isothermal map installation in concrete ceiling



Isothermal map installation in wooden-beam ceiling

cool, temperate climate



**CERTIFIED COMPONENT**

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