

# Certificate

## Certified Passive House Component

for cool, temperate climate, valid until 31.12.2019

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
GERMANY

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	-

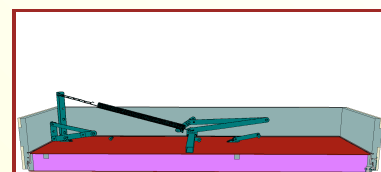
### Description

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.

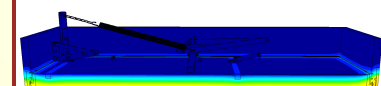
Please ask the manufacturer for a detailed report containing all calculations and results.

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

0832as03



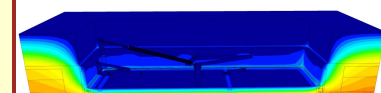
Representation of the Passive House Attic Stairs



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**

Passive House Institute