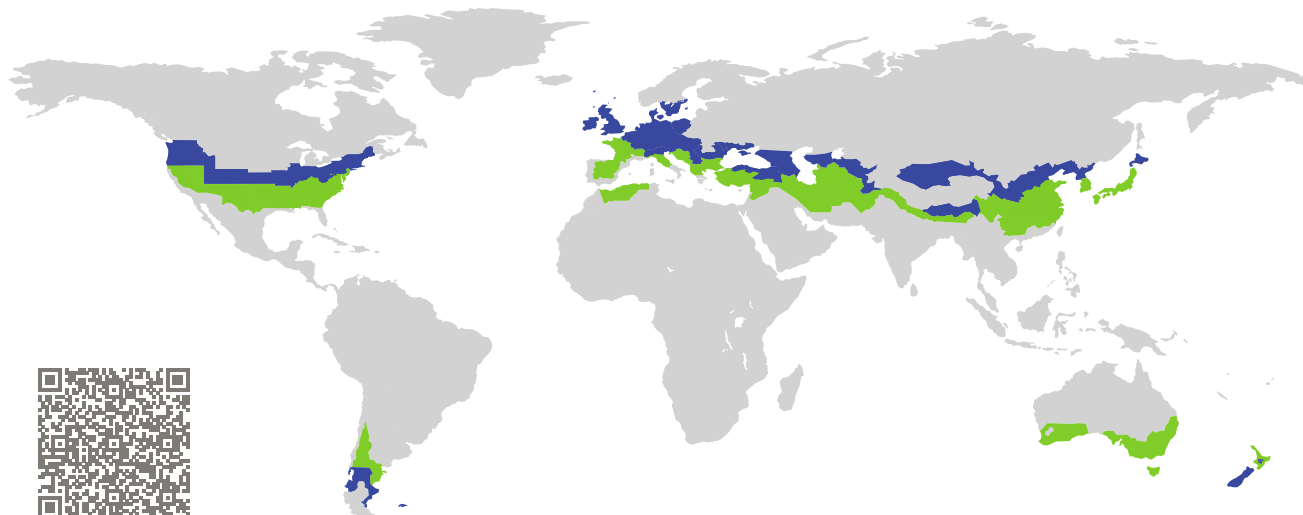


# CERTIFICATE

Certified Passive House Component

Component-ID 1237ds03 valid until 31st December 2021

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany



Category: **Entry door (with glas section)**  
Manufacturer: **Moralt AG**  
**Hausham**  
**Germany**  
Product name: **Moralt OutDoor FERRO Passiv**



(Inward opening)

**This certificate was awarded based on the following criteria for the cool, temperate climate zone**

Comfort  $U_D = 0.71 \leq 0.80 \text{ W}/(\text{m}^2 \text{ K})$   
 $U_{D,\text{installed}} \leq 0.85 \text{ W}/(\text{m}^2 \text{ K})$   
with  $U_{\text{door leaf}}^1 = 0.37 \text{ W}/(\text{m}^2 \text{ K})$

Hygiene  $f_{Rsi=0.25} \geq 0.70$   
Airtightness  $Q_{100} \leq 2.25 \text{ m}^3/(\text{h m})$

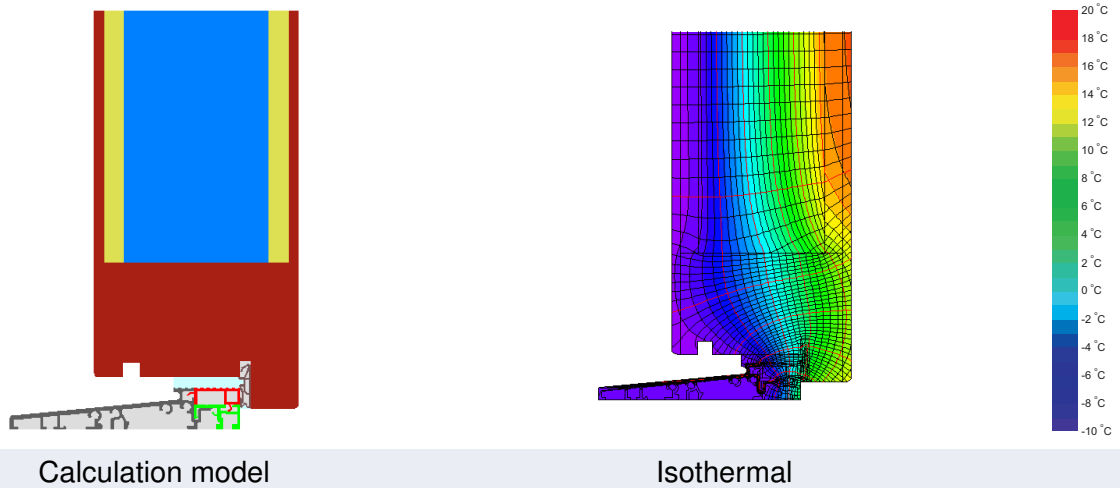
<sup>1</sup>U-value of the insulated area of door leaf

cool, temperate climate



**CERTIFIED  
COMPONENT**

Passive House Institute



## Description

Door frame made of hard-wood and timber-based materials; Door leaf insulation: PU-foam 0.030 W/(mK); Threshold: thermally separated aluminum profile, the temperature factor requirement is not met at the threshold. For head- and jamb- profiles, the temperature factor is achieved in combination with the installation situation.

## Explanation






The U-values of the door apply to a door 1.10 m wide by 2.20 m tall.


A detailed report of the calculations performed in the context of certification is available from the manufacturer.

Unless stated otherwise, the air tightness was determined according to EN 1026 with respect to the joint length under climate load in conjunction with EN 1121 for the closed, non-locked door. The result corresponds at least to air-tightness class 3 according to EN 12207.


The Passive House Institute has defined international component criteria for seven climate zones. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense to use a component of a higher thermal quality which has been certified for a climate zone with more stringent requirements.


Further information relating to certification can be found on [www.passivehouse.com](http://www.passivehouse.com) and [passipedia.org](http://passipedia.org).

Frame values			Frame width $b_f$ mm	$U$ -value frame $U_f$ W/(m <sup>2</sup> K)	$\Psi$ edge $\Psi_g$ W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Top	(to)		114	1.38	0.003	0.68
Threshold	(th)		80	1.96	0.003	0.46
Hinge side door	(hs)		114	1.38	0.003	0.68
Lock side Door	(ls)		199	1.12	0.001	0.67
Mullion flying	(fm)		248	1.01	0.001	0.72
			Spacer: -	Secondary seal: -		


 **Top**


$b_f = 114.00$  mm  
 $U_f = 1.38$  W/(m<sup>2</sup> K)  
 $\Psi_g = 0.003$  W/(m K)  
 $f_{Rsi} = 0.68$




 **Threshold**


$b_f = 80.00$  mm  
 $U_f = 1.96$  W/(m<sup>2</sup> K)  
 $\Psi_g = 0.003$  W/(m K)  
 $f_{Rsi} = 0.46$




 **Hinge side**  
door

$b_f = 114.00$  mm  
 $U_f = 1.38$  W/(m<sup>2</sup> K)  
 $\Psi_g = 0.003$  W/(m K)  
 $f_{Rsi} = 0.68$



 **Lock side**  
Door

$b_f = 199.00$  mm  
 $U_f = 1.12$  W/(m<sup>2</sup> K)  
 $\Psi_g = 0.001$  W/(m K)  
 $f_{Rsi} = 0.67$





## Mullion

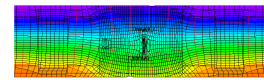
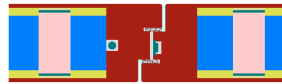
flying

$$b_f = 248.00 \text{ mm}$$

$$U_f = 1.01 \text{ W}/(\text{m}^2 \text{ K})$$

$$\Psi_g = 0.001 \text{ W}/(\text{m K})$$

$$f_{Rsi} = 0.72$$



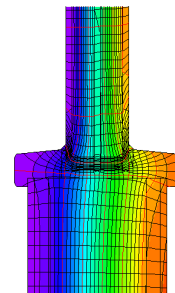
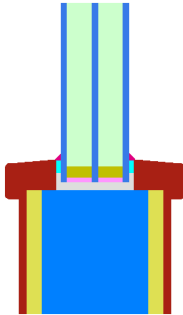
## Door with glas section/infill

### Glazing/Infill : 1

$$U_p = 0.60 \text{ W}/(\text{m}^2 \text{ K})$$

$$\Psi = 0.040 \text{ W}/(\text{m K})$$

$$f_{Rsi} = 0.72$$



Description:

Glazing: 4/16/4/16/4

The comfort criterion limits the use of the infill element as follows:

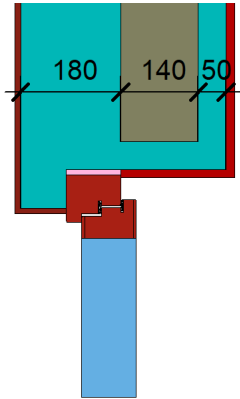
Maximum area = 0.50 m<sup>2</sup>

Maximum circumference = 3.00 m

## Validated installations

Formwork blocks top (operable)

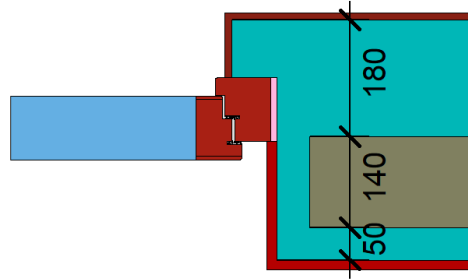
$$U_1 = 0.15 \text{ [W/(m}^2 \text{ K)]}$$



$$\Psi_{\text{install}} = -0.004 \text{ W/(m K)}$$

Formwork blocks side (operable)

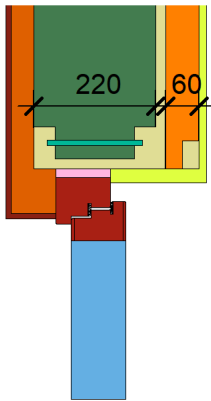
$$U_1 = 0.15 \text{ [W/(m}^2 \text{ K)]}$$



$$\Psi_{\text{install}} = -0.007 \text{ W/(m K)}$$

Lightweight timber top (operable)

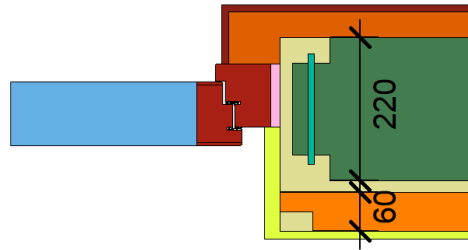
$$U_1 = 0.13 \text{ [W/(m}^2 \text{ K)]}$$



$$\Psi_{\text{install}} = 0.003 \text{ W/(m K)}$$

Lightweight timber side (operable)

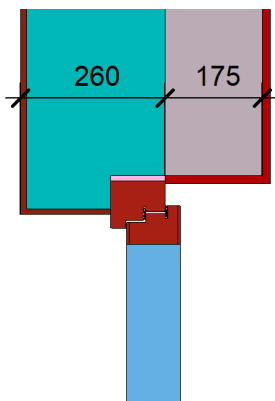
$$U_1 = 0.13 \text{ [W/(m}^2 \text{ K)]}$$



$$\Psi_{\text{install}} = 0.003 \text{ W/(m K)}$$

Exterior insulation and finishing s (EIFS) top (operable)

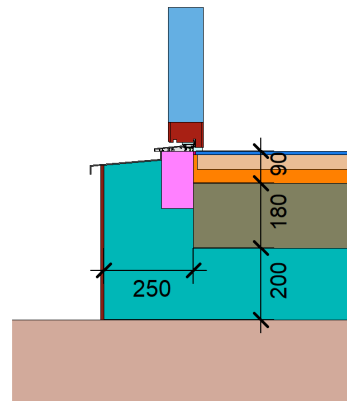
$$U_1 = 0.13 \text{ [W/(m}^2 \text{ K)]}$$



$$\Psi_{\text{install}} = -0.001 \text{ W/(m K)}$$

Ext. ins. a. finish. s. (EIFS) threshold floor slab (operable)

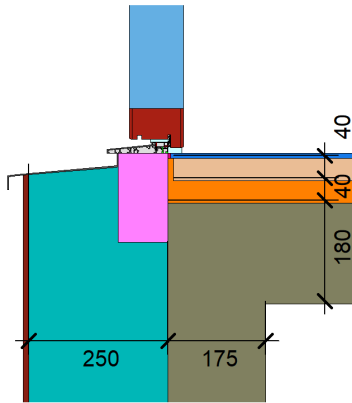
$$U_1 = 0.13 \text{ [W/(m}^2 \text{ K)]}$$



$$\Psi_{\text{install}} = 0.090 \text{ W/(m K)}$$

Exterior insulation and finishing s (EIFS)  
threshold (operable)

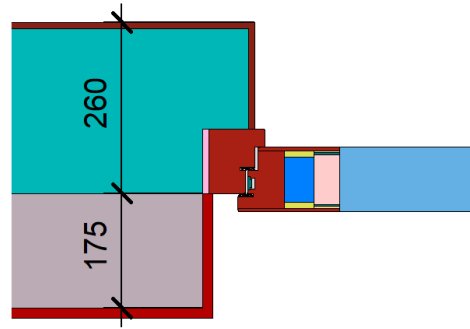
$$U_1 = 0.13 \quad U_2 = 0.14 \quad [\text{W}/(\text{m}^2 \text{K})]$$



$$\Psi_{\text{install}} = 0.114 \text{ W}/(\text{m K})$$

Exterior insulation and finishing system  
(EIFS) side (operable)

$$U_1 = 0.13 \quad [\text{W}/(\text{m}^2 \text{K})]$$



$$\Psi_{\text{install}} = -0.007 \text{ W}/(\text{m K})$$

