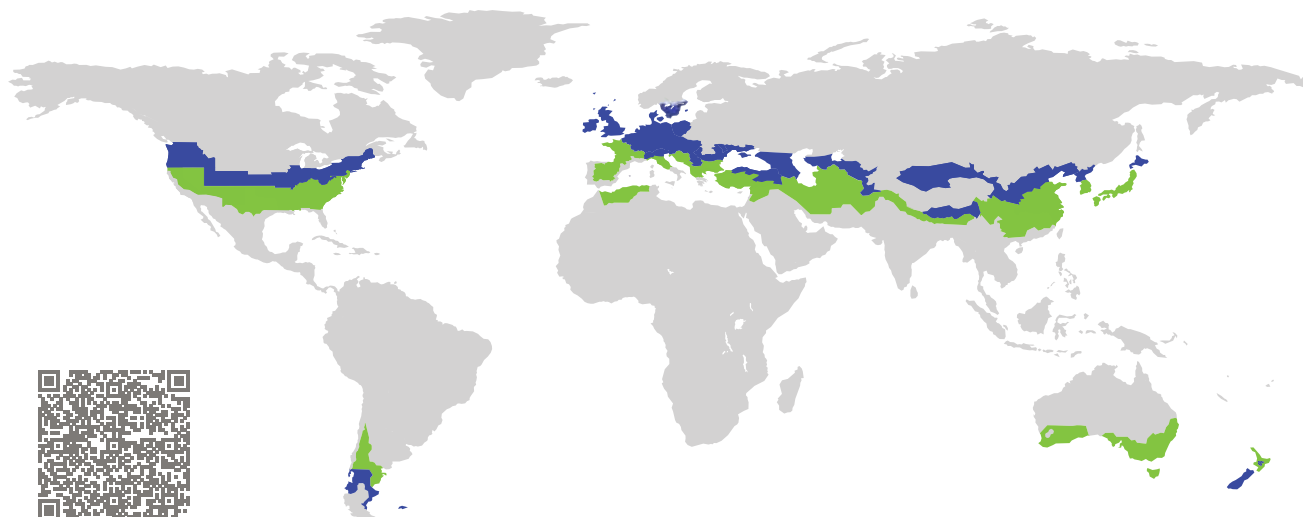


# CERTIFICATE

Certified Passive House Component

Component-ID 1137ed03 valid until 31st December 2023

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany



Category: Entry door (opaque)  
Manufacturer: REYNAERS ALUMINIUM NV/SA  
Duffel  
Belgium  
Product name: MasterLine 8 panel door inward opening

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

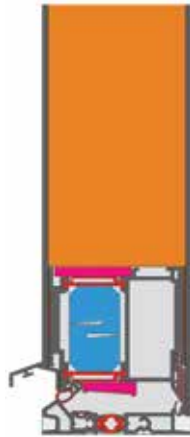
Comfort  $U_D = 0.73 \leq 0.80 \text{ W}/(\text{m}^2 \cdot \text{K})$   
 $U_{D, \text{installed}} \leq 0.85 \text{ W}/(\text{m}^2 \cdot \text{K})$   
with  $U_{\text{door leaf}}^1 = 0.28 \text{ W}/(\text{m}^2 \cdot \text{K})$

Hygiene  $f_{Rsi=0.25} \geq 0.70$



(Inward opening)

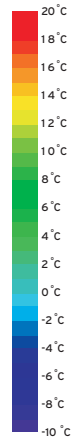
<sup>1</sup> U-value of the insulated area of door leaf



Calculation model



Isothermal



## Description

Aluminium door frame with thermal break, insulated by XPS 0.029 W/(mK) and XPE foam. Door panel composition: 3 mm aluminium, 70 mm insulation 0.021 W/(mK), 3 mm aluminium. Threshold: thermally separated aluminium profile. The temperature factor requirement is not met at the threshold.

## 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.

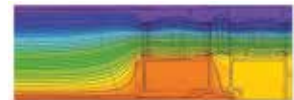
Further information relating to certification can be found on [www.passivehouse.com](http://www.passivehouse.com) and [passipedia.org](http://passipedia.org).

Frame values			Frame width $b_f$ mm	U-value frame $U_f$ $W/(m^2 \cdot K)$	$\Psi$ edge $\Psi_g$ $W/(m \cdot K)$	Temp. Factor $f_{Rsi=0.25}$ [-]
Door hinge side	(DJ1)		126	1.47	0.016	0.83
Door lock side	(DL1)		126	1.47	0.016	0.83
Top	(OH1)		126	1.47	0.016	0.83
Threshold	(OT2)		87	2.45	0.046	0.64
Spacer:			Secondary seal:			



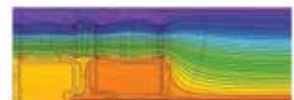
#### Door hinge side

$b_f = 126 \text{ mm}$   
 $U_f = 1.47 \text{ W/(m}^2 \cdot \text{K)}$   
 $\Psi_g = 0.016 \text{ W/(m} \cdot \text{K)}$   
 $f_{Rsi} = 0.83$



#### Door lock side

$b_f = 126 \text{ mm}$   
 $U_f = 1.47 \text{ W/(m}^2 \cdot \text{K)}$   
 $\Psi_g = 0.016 \text{ W/(m} \cdot \text{K)}$   
 $f_{Rsi} = 0.83$



#### Top

$b_f = 126 \text{ mm}$   
 $U_f = 1.47 \text{ W/(m}^2 \cdot \text{K)}$   
 $\Psi_g = 0.016 \text{ W/(m} \cdot \text{K)}$   
 $f_{Rsi} = 0.83$





## Threshold

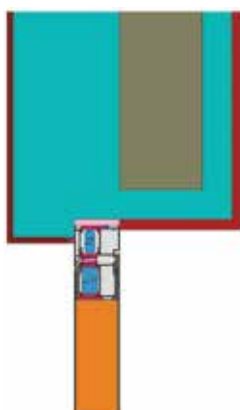
$$b_f = 87 \text{ mm}$$
$$U_f = 2.45 \text{ W}/(\text{m}^2 \cdot \text{K})$$
$$\Psi_g = 0.046 \text{ W}/(\text{m K})$$
$$f_{Rsi} = 0.64$$



## Validated installations

### Formwork blocks (operable)

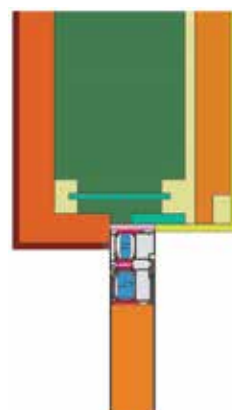
$$U_1 = 0.15 \text{ [W}/(\text{m}^2 \cdot \text{K})]$$



$$\Psi_{\text{install}} = 0.012 \text{ W}/(\text{m K})$$

### Lightweight timber (operable)

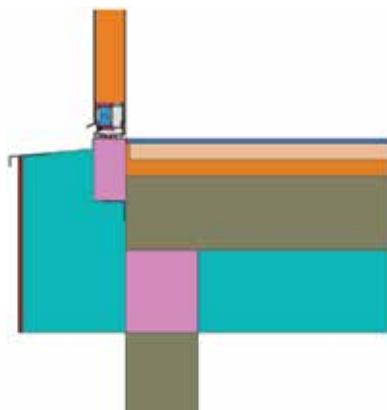
$$U_1 = 0.13 \text{ [W}/(\text{m}^2 \cdot \text{K})]$$



$$\Psi_{\text{install}} = 0.023 \text{ W}/(\text{m K})$$

### Threshold entrance door

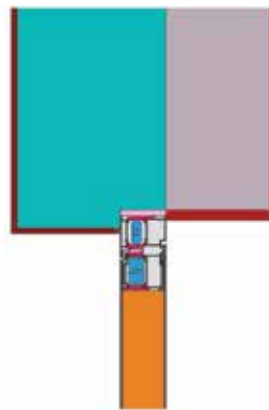
$$U_1 = 0.13 \quad U_2 = 0.15 \text{ [W}/(\text{m}^2 \cdot \text{K})]$$



$$\Psi_{\text{install}} = 0.050 \text{ W}/(\text{m K})$$

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

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



$$\Psi_{\text{install}} = 0.018 \text{ W}/(\text{m K})$$

