

CERTIFICATE

Certified Passive House Component

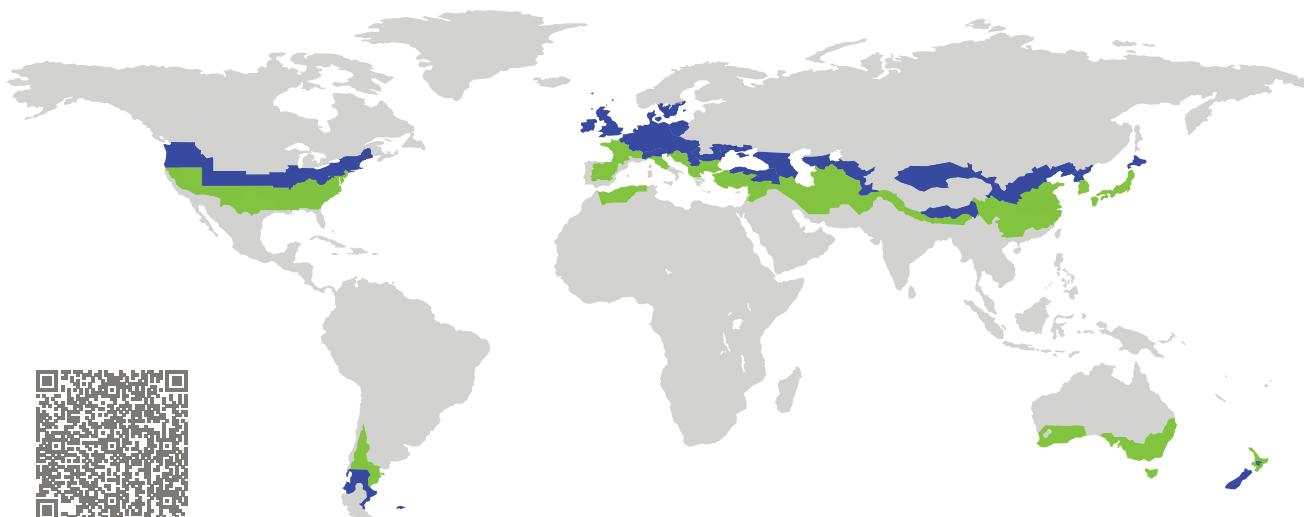
Component-ID 1138ed03 valid until 31st December 2023

Passive House Institute

Dr. Wolfgang Feist

64283 Darmstadt

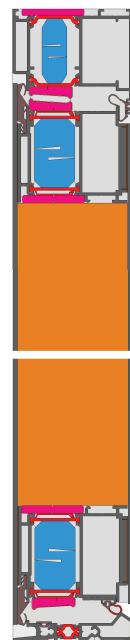
Germany



Category: Entry door (opaque)

Manufacturer: REYNAERS ALUMINIUM NV/SA
Duffel
Belgium

Product name: MasterLine 8 panel door outward opening



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

Comfort $U_D = 0.72 \leq 0.80 \text{ W}/(\text{m}^2 \cdot \text{K})$
 $U_{D,\text{installed}} \leq 0.85 \text{ W}/(\text{m}^2 \cdot \text{K})$
with $U_{\text{door leaf}}^1 = 0.28 \text{ W}/(\text{m}^2 \cdot \text{K})$

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

(Outward open)

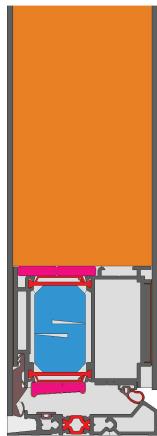
¹ U-value of the insulated area of door leaf

cool, temperate climate

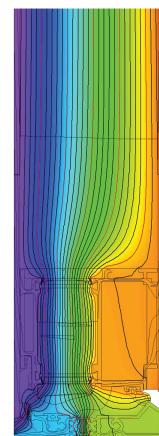


CERTIFIED
COMPONENT

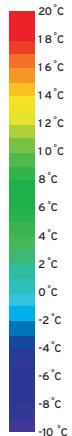
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Calculation model



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.

Explanation

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

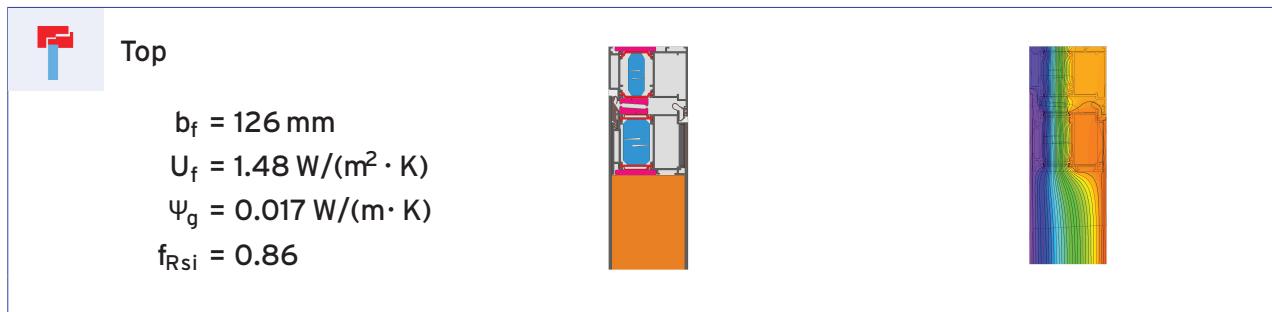
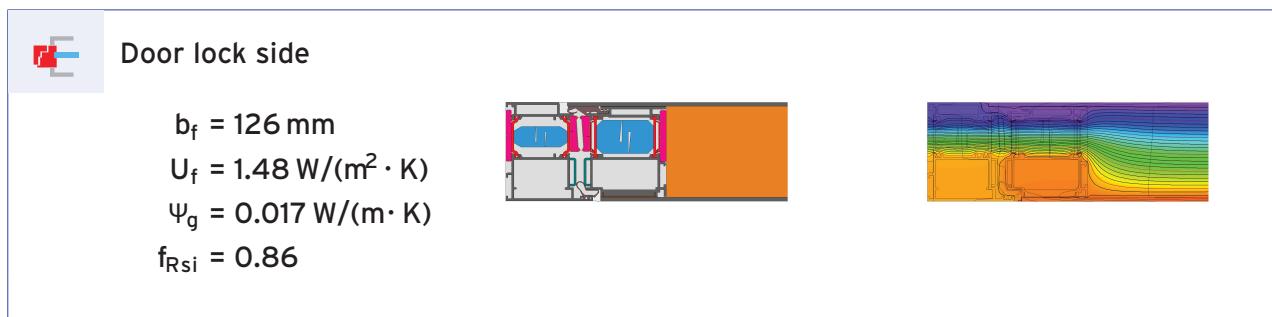
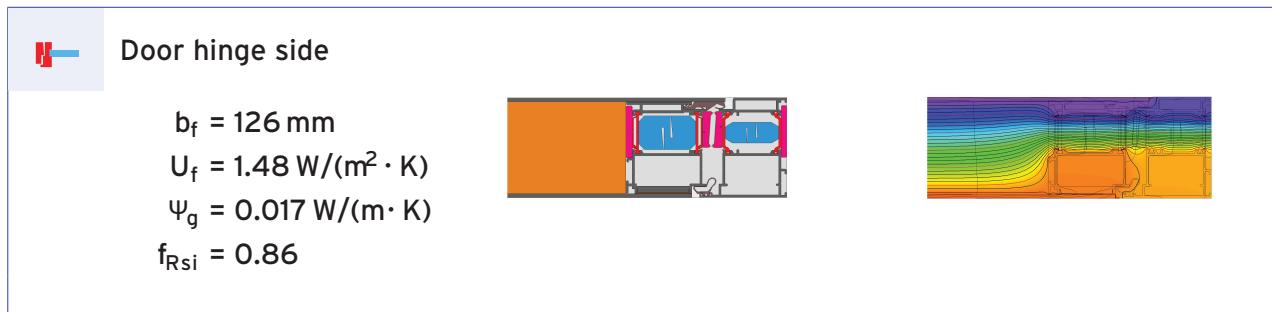
A detailed report of the calculations performed in the context of certification is available from the manufacturer.

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 and [passipedia.org](http://www.passipedia.org).

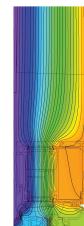
Frame values	Frame width b_f mm	U-value frame U_f W/(m ² · K)	Ψ edge Ψ_g W/(m · K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Door hinge (DJ1) 	126	1.48	0.017	0.86
Door lock (DL1) 	126	1.48	0.017	0.86
Top (OH1) 	126	1.48	0.017	0.86
Threshold (OT2) 	87	2.34	0.035	0.70
Spacer:		Secondary seal:		





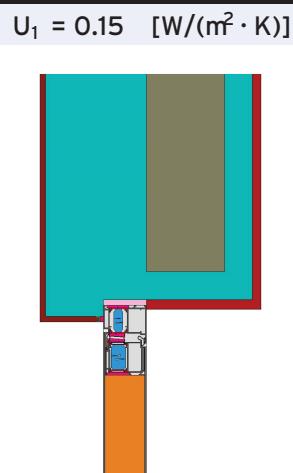
Threshold

$$\begin{aligned}
 b_f &= 87 \text{ mm} \\
 U_f &= 2.34 \text{ W/(m}^2 \cdot \text{K)} \\
 \Psi_g &= 0.035 \text{ W/(m K)} \\
 f_{Rsi} &= 0.70
 \end{aligned}$$



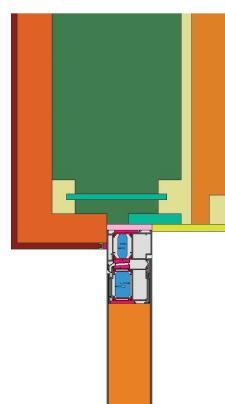
Validated installations

Formwork blocks (operable)



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

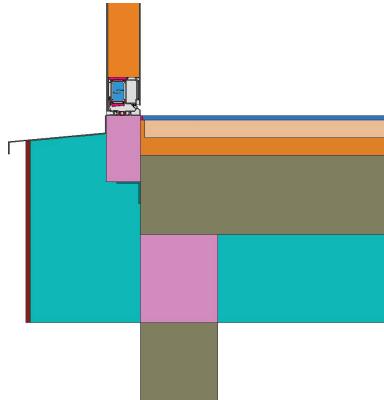
Lightweight timber (operable)



$$\Psi_{install} = 0.016 \text{ W/(m} \cdot \text{K)}$$

Threshold entrance door

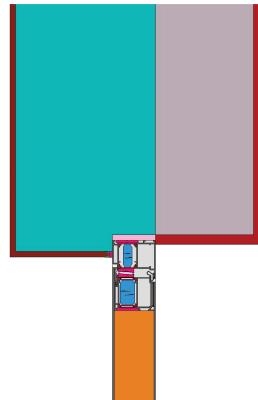
$$U_1 = 0.13 \quad U_2 = 0.15 \text{ [W/(m}^2 \cdot \text{K)}]$$



$$\Psi_{install} = 0.075 \text{ W/(m} \cdot \text{K)}$$

Exterior insulation and finishing system (EIFS) (operable)

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



$$\Psi_{install} = 0.015 \text{ W/(m} \cdot \text{K)}$$

