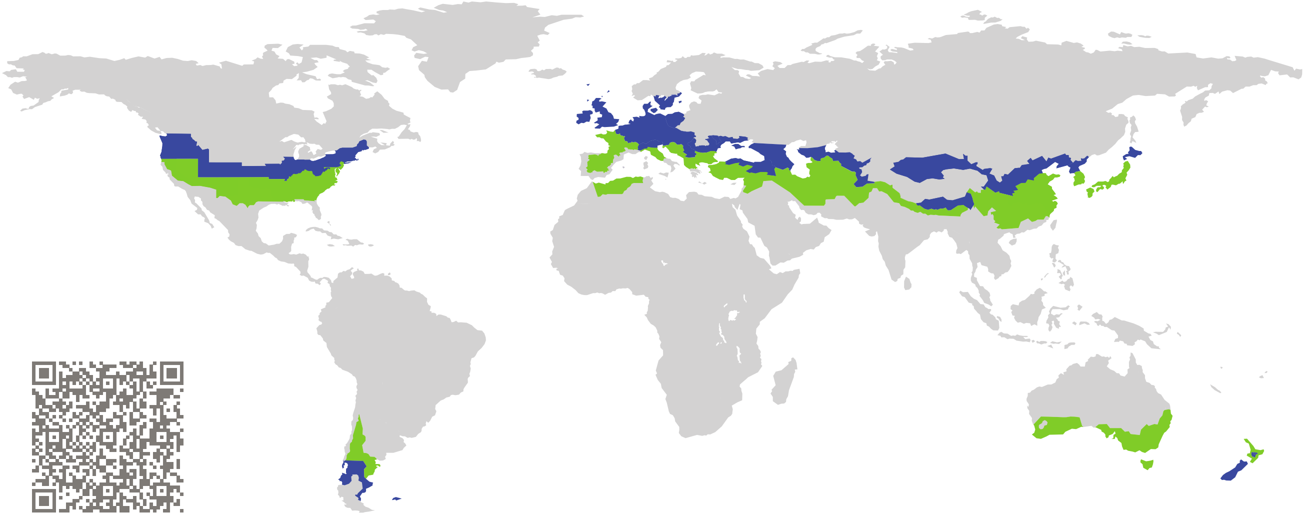
CERTIFICATE

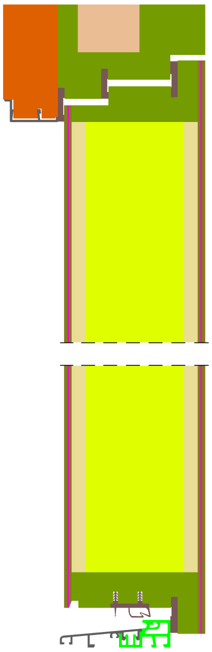
Certified Passive House Component

Component-ID 0835ed03 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category:	**Entry door(with glas section)**
Manufacturer:	**TSH System GmbH** **Munich** **Germany**
Product name:	**TSH Passivhaus-Außentür**



(Inward opening)

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

Comfort $U_D = 0.46 \leq 0.80\,\mathrm{W/(m^2\,K)}$

$U_{D,\mathrm{installed}} \leq 0.85\,\mathrm{W/(m^2\,K)}$

with $U_{\mathrm{door\ leaf}}$[1] $= 0.34\,\mathrm{W/(m^2\,K)}$

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

cool, temperate climate

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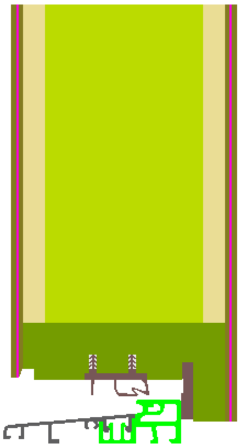
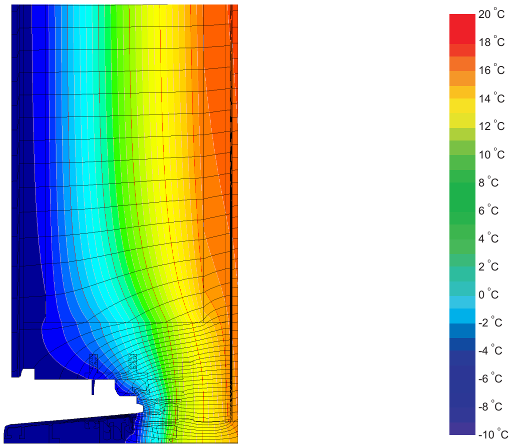
[1] U-value of the insulated area of door leaf



Calculation model



Isothermal

Description

Door frame made of wood profiles (spruce 0,11 W/(mK)) insulated with soft wood fiber insulation (0,040 or 0,050 W/(mK)); door leaf insulation: PU-foam 0.028 W/(mK), threshold: thermally separated aluminum 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.

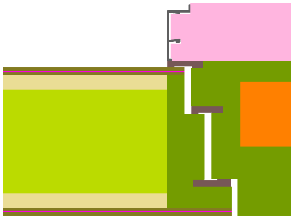
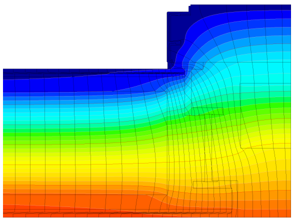
A detailed report of the calculations performed in the context of certification is available from the manufacturer.
Unless stated otherwise, the air tightness was determined according to EN 1026 with respect to the joint length under climate load in conjunction with EN 1121 for the closed, non-locked 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 and passipedia.org.

Frame values		Frame width b_f mm	*U*-value frame U_f W/(m² K)	Ψ edge Ψ_g W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Door hinge side	(DJ1)	86	0.71	0.005	-
Door lock side	(DL1)	110	0.71	0.005	-
Top	(OH1)	86	0.71	0.005	-
Threshold	(OT2)	55	1.77	0.005	-
		Spacer:	Secondary seal:		

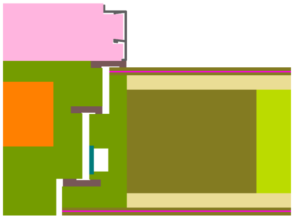
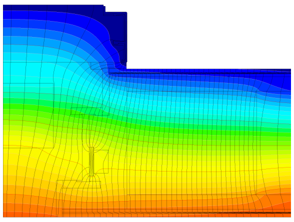
Door
hinge side

b_f = 86 mm
U_f = 0.71 W/(m² K)
Ψ_g = 0.005 W/(m K)
f_{Rsi} = -

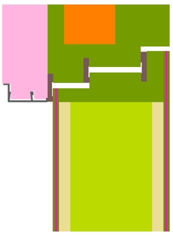
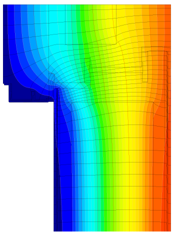
Door
lock side

b_f = 110 mm
U_f = 0.71 W/(m² K)
Ψ_g = 0.005 W/(m K)
f_{Rsi} = -

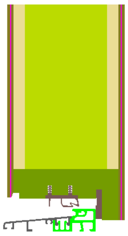
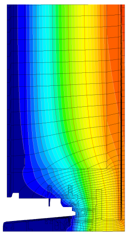
Top

b_f = 86 mm
U_f = 0.71 W/(m² K)
Ψ_g = 0.005 W/(m K)
f_{Rsi} = -

Threshold

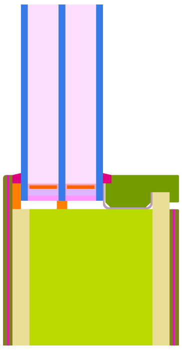
b_f = 55 mm
U_f = 1.77 W/(m² K)
Ψ_g = 0.005 W/(m K)
f_{Rsi} = -

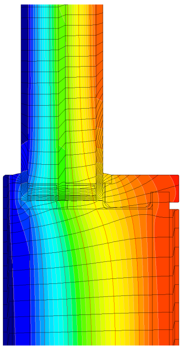



Door with glas section/infill

Glazing/Infill: 1

U_p= 0.54 W/(m^2 K)
Ψ = 0.039 W/(m K)
f_{Rsi} = -





Description:

Glazing (4/18Ar/4/18Ar/4) with Ug = 0.54 W/(m²K) in accordance with EN 673; spacer: ”Swisspacer V”

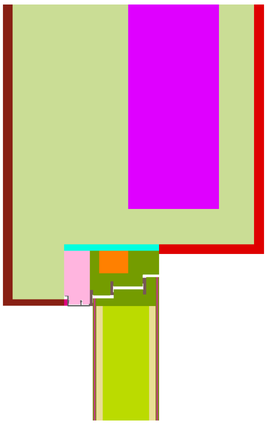
The comfort criterion limits the use of the infill element as follows:

Maximum area= 1.53 m^2
Maximum circumference= 5.44 m

Validated installations

Concrete wall

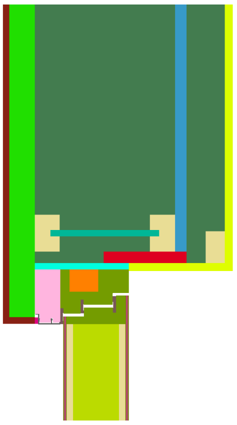
$U_1 = 0.14$ [W/(m^2 K)]



$\Psi_{\text{install}} = 0.00$ W/(m K)

Lightweight timber (operable)

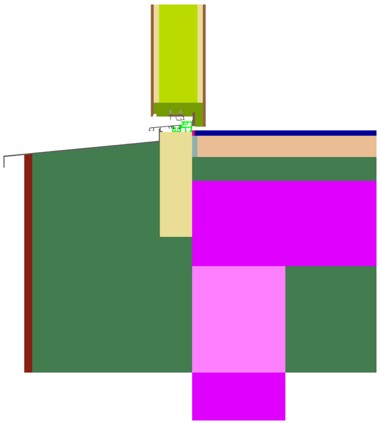
$U_1 = 0.13$ [W/(m^2 K)]



$\Psi_{\text{install}} = 0.02$ W/(m K)

Threshold entrance door

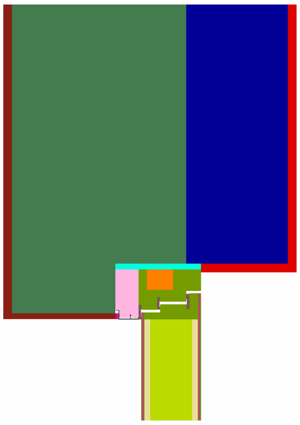
$U_1 = 0.13$ $U_2 = 0.15$ [W/(m^2 K)]



$\Psi_{\text{install}} = 0.08$ W/(m K)

Exterior insulation and finishing system (EIFS) (operable)

$U_1 = 0.13$ [W/(m^2 K)]



$\Psi_{\text{install}} = 0.01$ W/(m K)

www.passivehouse.com