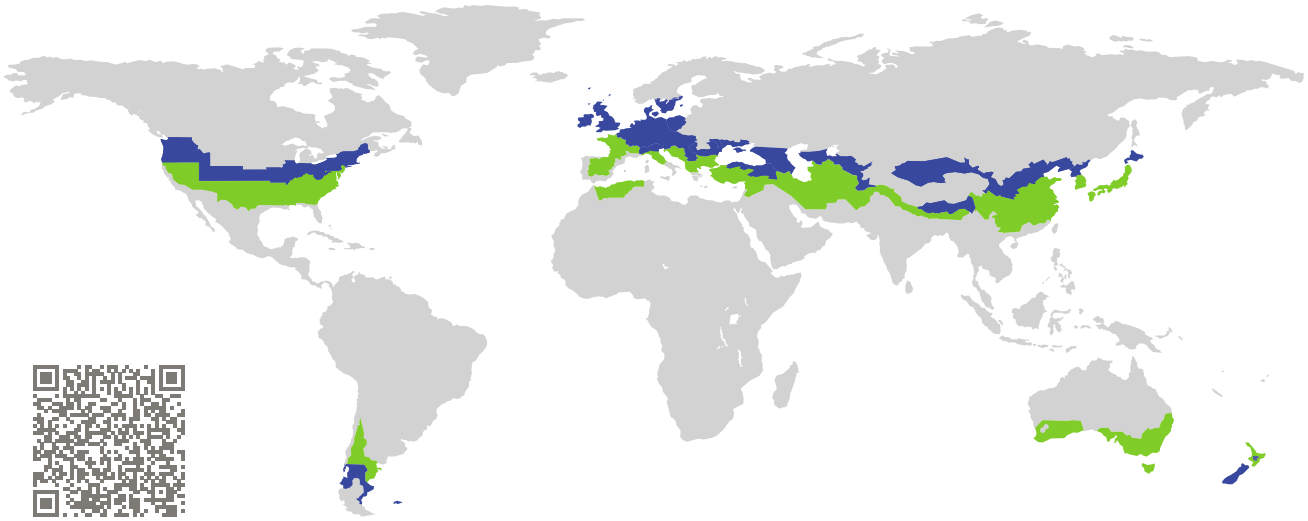
CERTIFICATE

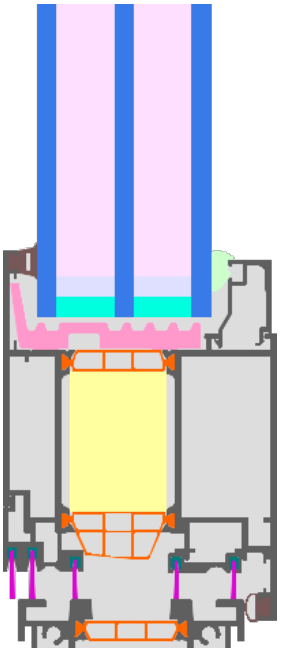
Certified Passive House Component

Component-ID 1944ed03 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category:	**Entry door**
Manufacturer:	**Metal Technology Ltd.** **Antrim** **United Kingdom**
Product name:	**System 5-35D**



(Inward opening)

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

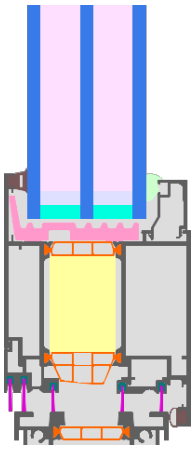
Comfort	U_D= 0.80	≤	0.80 W/(m² K)
	$U_{D,installed}$	≤	0.85 W/(m² K)
	with U_g[1]	=	0.50 W/(m² K)
Hygiene	$f_{Rsi=0.25}$	≥	0.70
Airtightness	Q_{100} = 2.25	≤	2.25 m³/(h m)

[1] Fully glazed door

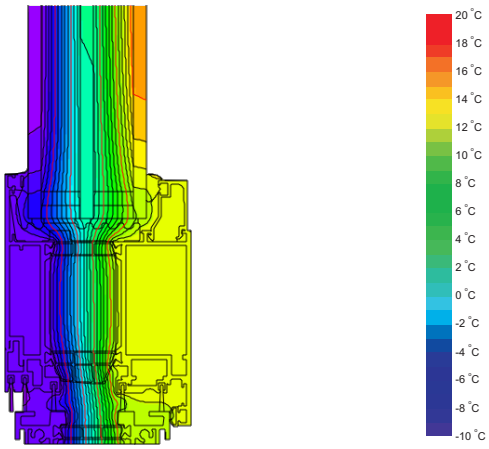
cool, temperate climate

CERTIFIED COMPONENT

Passive House Institute



Calculation model



Isothermal

Description

Aluminium door frame, thermally separated with Technoform Low Lambda PA 66 GF 25 (0,21 W/(mK)) and insulated with Kingspan Kooltherm K103 (0,022 W/(mK)). The required temperature factor at the threshold is met in the door's installed state. The airtightness requirement is deemed to be met due to the use of flag hinges, which means the internal gasket is continuous and uninterrupted. The door is also fully glazed, meaning the potential for deflection due to climate load is reduced compared to a metal-faced door. Glazing configuration: 54 mm (6/18/6/18/6), glazing intersection: 21 mm.

Explanation

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

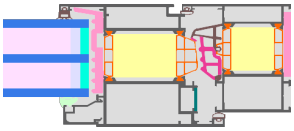
A detailed report of the calculations performed in the context of certification is available from the manufacturer.
Unless stated otherwise, the air tightness was determined according to EN 1026 with respect to the joint length under climate load in conjunction with EN 1121 for the closed, non-locked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

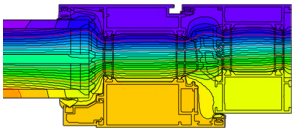
Further information relating to certification
can be found on www.passivehouse.com and passipedia.org.

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)	161	1.04	0.030	0.76
Door lock side (DL1)	161	1.04	0.030	0.76
Top (OH1)	161	1.04	0.030	0.76
Threshold (OT2)	124	1.46	0.029	0.71
Spacer: TGI-Spacer Precision		Secondary seal: Butyl		

Door
hinge side

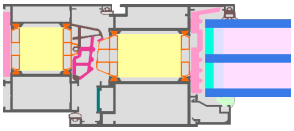
b_f = 161 mm
U_f = 1.04 W/(m² K)
Ψ_g = 0.030 W/(m K)
f_{Rsi} = 0.76

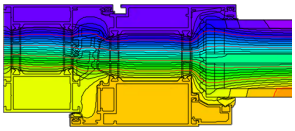




Door
lock side

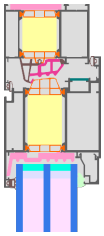
b_f = 161 mm
U_f = 1.04 W/(m² K)
Ψ_g = 0.030 W/(m K)
f_{Rsi} = 0.76





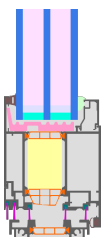
Top

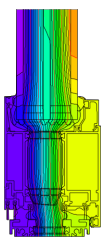
b_f = 161 mm
U_f = 1.04 W/(m² K)
Ψ_g = 0.030 W/(m K)
f_{Rsi} = 0.76



Threshold

b_f = 124 mm
U_f = 1.46 W/(m² K)
Ψ_g = 0.029 W/(m K)
f_{Rsi} = 0.71

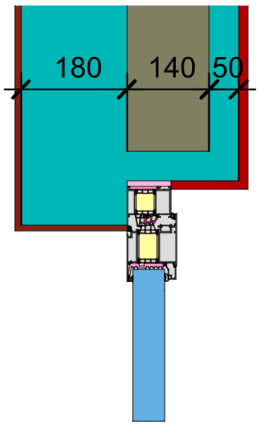




Validated installations

Formwork blocks top (operable)

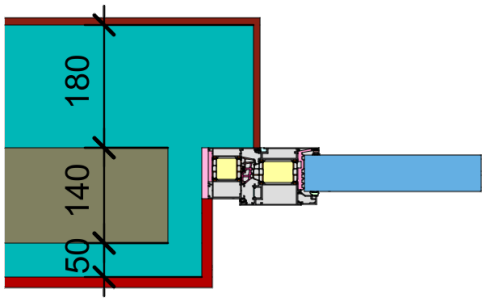
U_1 = 0.15 [W/(m² K)]



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

Formwork blocks side (operable)

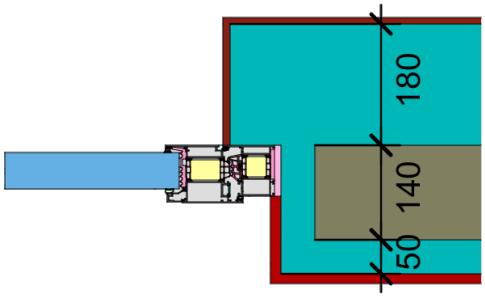
U_1 = 0.15 [W/(m² K)]



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

Formwork blocks side (operable)

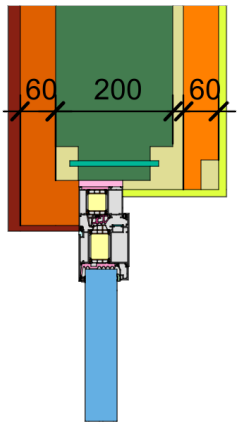
U_1 = 0.15 [W/(m² K)]



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

Lighthweight timber top (operable)

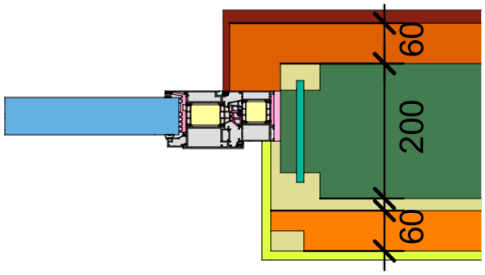
U_1 = 0.13 [W/(m² K)]



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

Lighthweight timber side (operable)

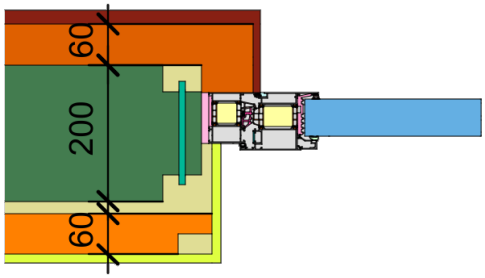
U_1 = 0.13 [W/(m² K)]



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

Lighthweight timber side (operable)

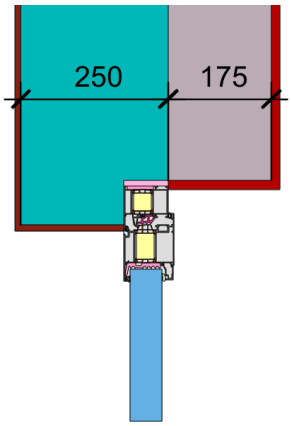
U_1 = 0.13 [W/(m² K)]



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

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

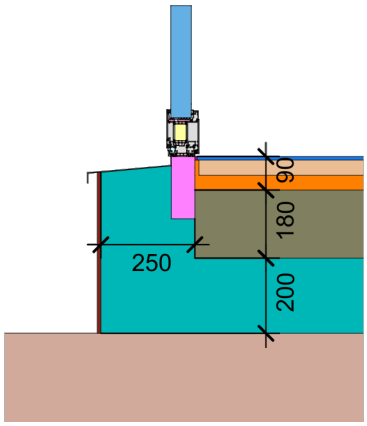
U_1 = 0.13 [W/(m² K)]



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

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

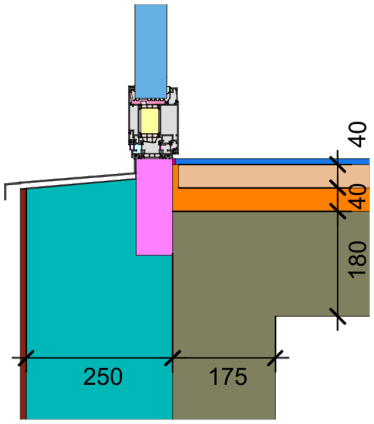
U_1 = 0.13 U_2 = 0.14 [W/(m² K)]



$\Psi_{install}$ = 0.06 W/(m K)

Ext insulation a. finish. s. (EIFS) threshold ceiling (operable)

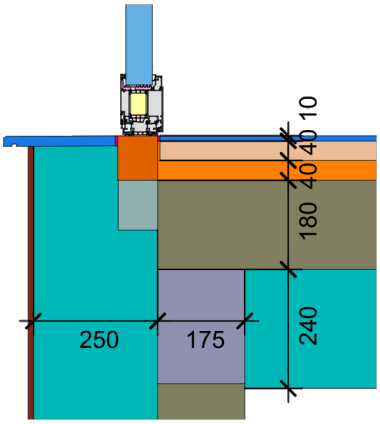
U_1 = 0.14 [W/(m² K)]



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

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

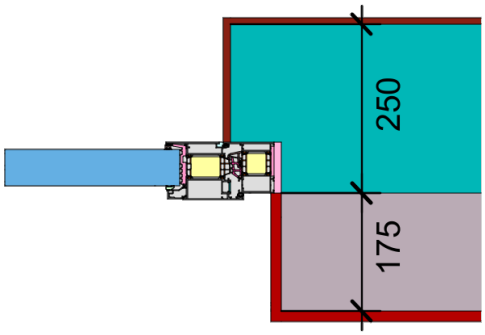
U_1 = 0.14 U_2 = 0.12 [W/(m² K)]



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

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

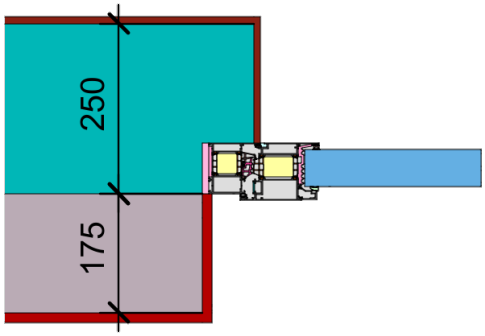
U_1 = 0.13 [W/(m² K)]



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

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

U_1 = 0.13 [W/(m² K)]



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