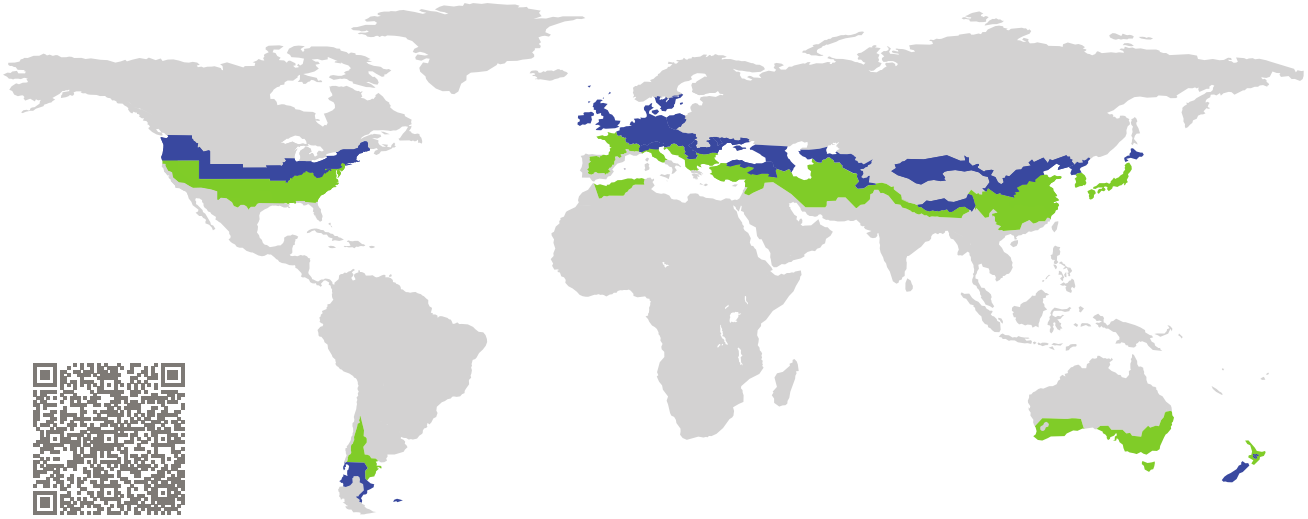
CERTIFICATE

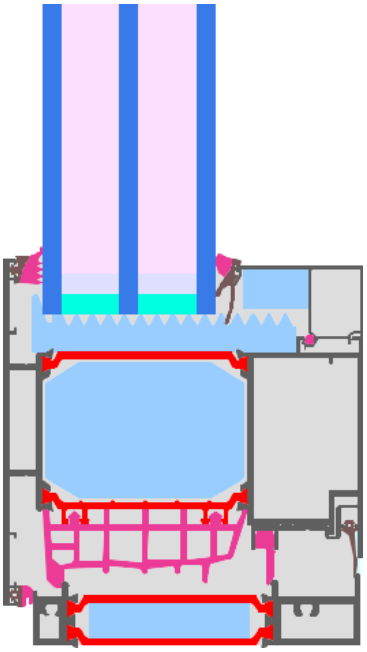
Certified Passive House Component

Component-ID 2044ed02 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category:	**Entry door**
Manufacturer:	**Shandong Nanshan Aluminium Co., Ltd. Shandong/Longkou China**
Product name:	**SPT112**



(Outward open)

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

Comfort	U_D= 0.75	≤	0.80 W/(m² K)
	$U_{D,installed}$	≤	0.85 W/(m² K)
	with U_g[1]	=	0.52 W/(m² K)
Hygiene	$f_{Rsi=0.25}$	≥	0.70

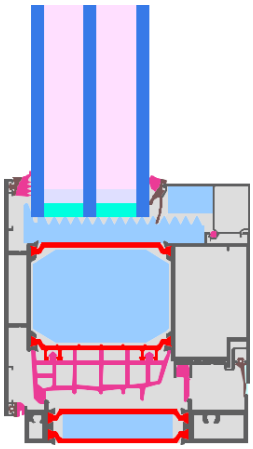
[1] Fully glazed door

cool, temperate climate

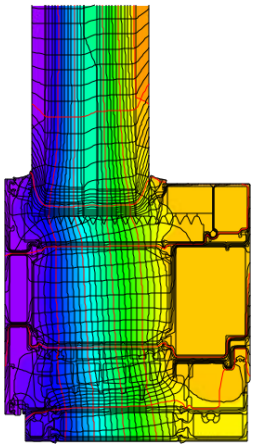
CERTIFIED COMPONENT

Passive House Institute

Shandong Nanshan Aluminium Co., Ltd.
Nanshan Industry Region, 265706 Shandong/Longkou, China
☎ +8615854598688 | ✉ yuyang8@nanshan.com.cn | http://www.nanshan.com.cn |



Calculation model



Isothermal

Description

Aluminium door frame, thermally separated with polyamide (25% glass fiber) and insulated with polyethylene foam (0,038 W/(mK)). The airtightness requirement is deemed to be met due to the gasket configuration and the fact that the door is fully glazed, meaning the potential for deflection due to climate load is reduced, compared to a metal-faced door. Glazing configuration: 54mm (6/18/6/18/6mm); glazing intersection: 17mm. Spacer: Technoform-Spacer SP16 with 6mm butyl secondary seal.

Explanation

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

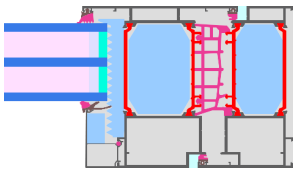
A detailed report of the calculations performed in the context of certification is available from the manufacturer.
Unless stated otherwise, the air tightness was determined according to EN 1026 with respect to the joint length under climate load in conjunction with EN 1121 for the closed, non-locked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

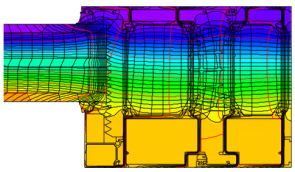
Further information relating to certification
can be found on www.passivehouse.com and passipedia.org.

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)	146	0.97	0.029	0.77
Door lock side	(DL1)	146	0.97	0.029	0.77
Top	(OH1)	146	0.97	0.029	0.77
Threshold	(OT2)	120	0.99	0.030	0.76
Spacer: Technoform-Spacer SP16			Secondary seal: Hotmelt Butyl		

Door
hinge side

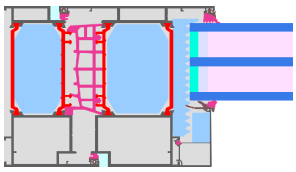
b_f = 146 mm
U_f = 0.97 W/(m² K)
Ψ_g = 0.029 W/(m K)
f_{Rsi} = 0.77

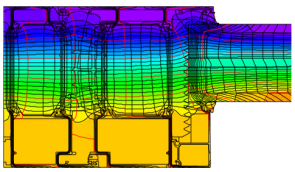




Door
lock side

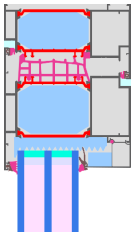
b_f = 146 mm
U_f = 0.97 W/(m² K)
Ψ_g = 0.029 W/(m K)
f_{Rsi} = 0.77

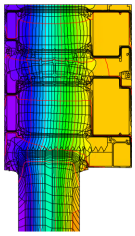




Top

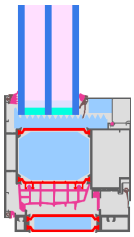
b_f = 146 mm
U_f = 0.97 W/(m² K)
Ψ_g = 0.029 W/(m K)
f_{Rsi} = 0.77

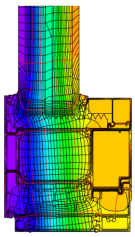




Threshold

b_f = 120 mm
U_f = 0.99 W/(m² K)
Ψ_g = 0.030 W/(m K)
f_{Rsi} = 0.76

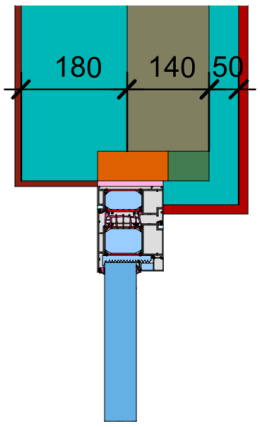




Validated installations

Formwork blocks top (operable)

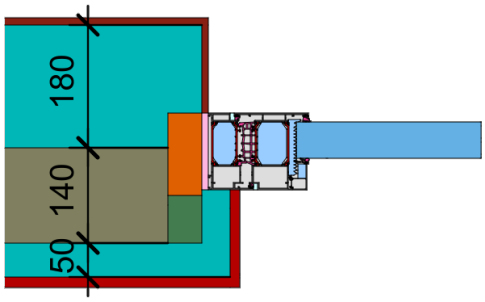
U_1 = 0.15 [W/(m² K)]



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

Formwork blocks side (operable)

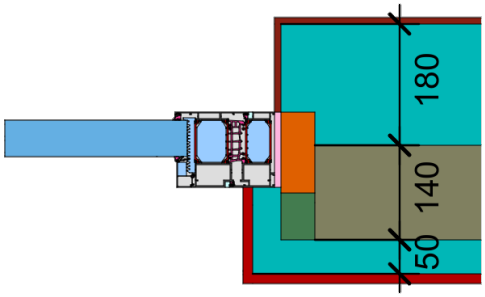
U_1 = 0.15 [W/(m² K)]



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

Formwork blocks side (operable)

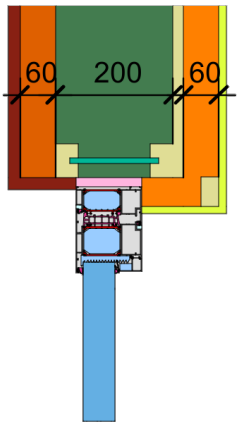
U_1 = 0.15 [W/(m² K)]



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

Lighthweight timber top (operable)

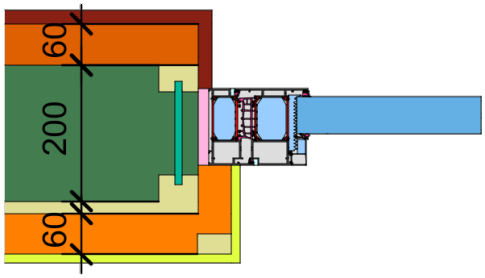
U_1 = 0.13 [W/(m² K)]



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

Lighthweight timber side (operable)

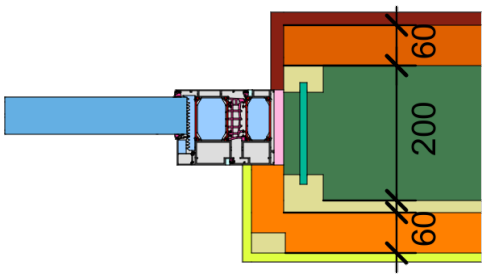
U_1 = 0.13 [W/(m² K)]



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

Lighthweight timber side (operable)

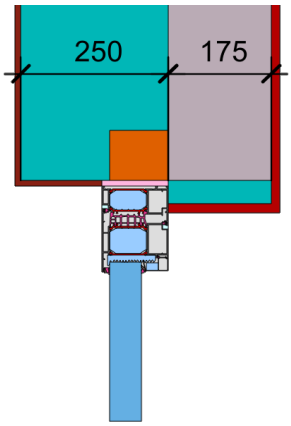
U_1 = 0.13 [W/(m² K)]



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

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

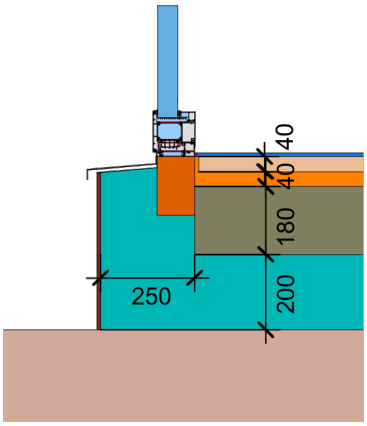
U_1 = 0.13 [W/(m² K)]



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

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

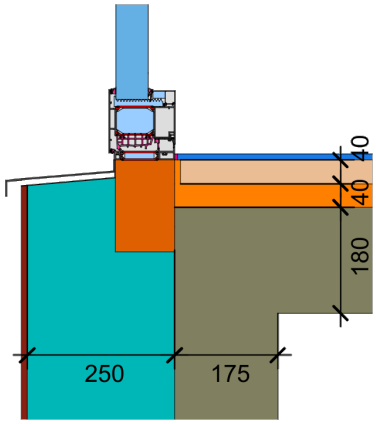
U_1 = 0.13 [W/(m² K)]



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

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

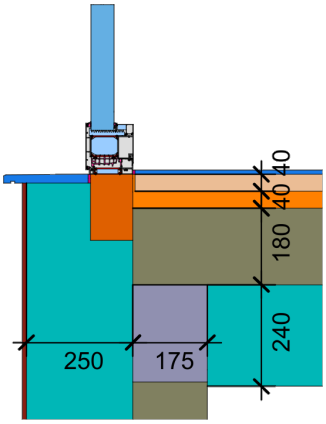
U_1 = 0.14 [W/(m² K)]



$\Psi_{install}$ = 0.04 W/(m K)

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

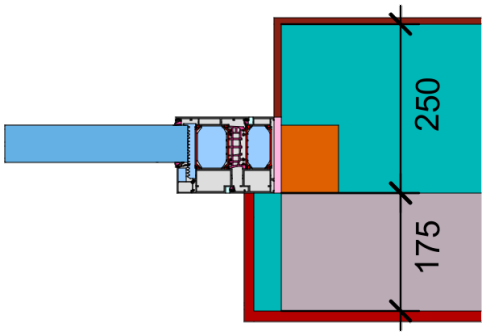
U_1 = 0.14 U_2 = 0.12 [W/(m² K)]



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

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

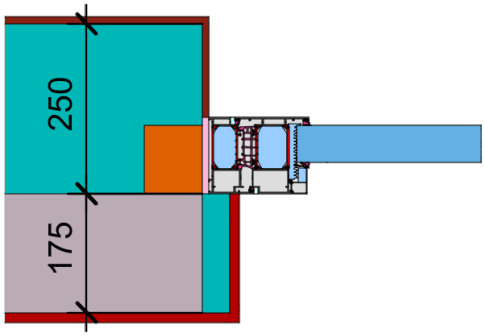
U_1 = 0.13 [W/(m² K)]



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

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

U_1 = 0.13 [W/(m² K)]



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