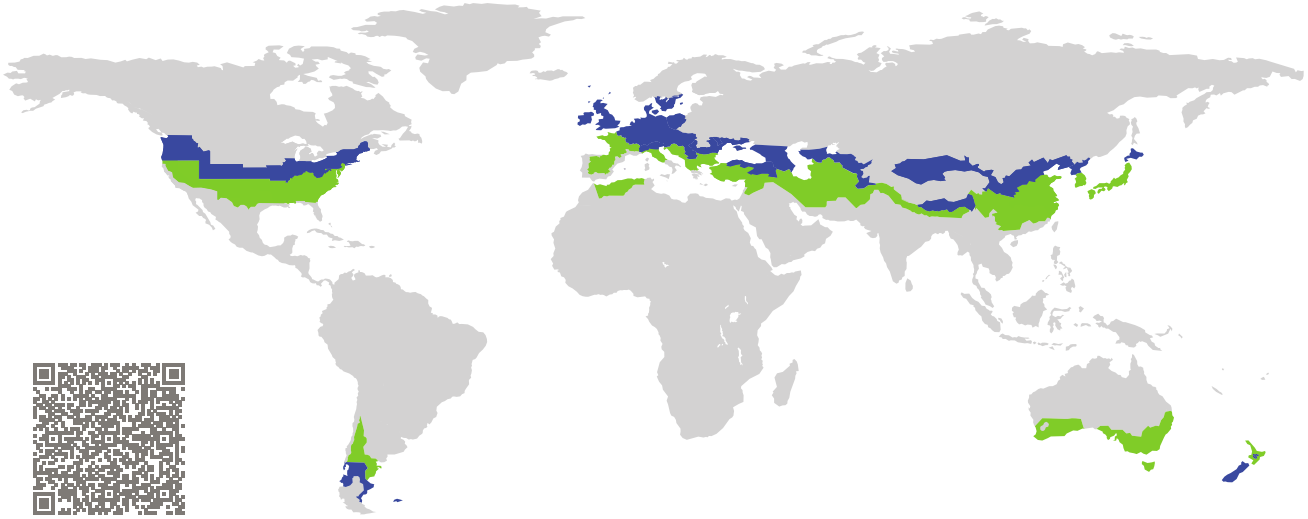
CERTIFICATE

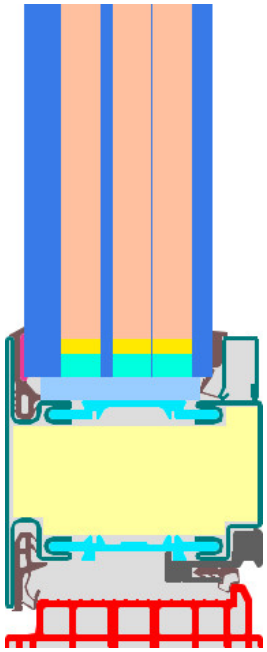
Certified Passive House Component

Component-ID 1706ds03 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category:	**Entry door**
Manufacturer:	**NEOS Protect Ltd.** **Newcastle** **United Kingdom**
Product name:	**NEOS HI Entrance Door (Pilot Certification)**



(Outward open)

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

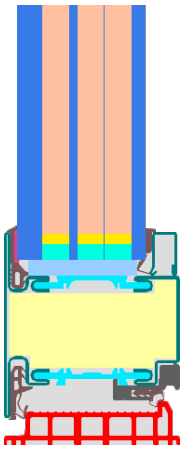
Comfort	U_D= 0.77	≤	0.80 W/(m² K)
	$U_{D,\text{installed}}$	≤	0.85 W/(m² K)
	with U_g[1]	=	0.33 W/(m² K)
Hygiene	$f_{Rsi=0.25}$	≥	0.70
Airtightness	Q_{100} = 2.25	≤	2.25 m³/(h m)

[1] Fully glazed door

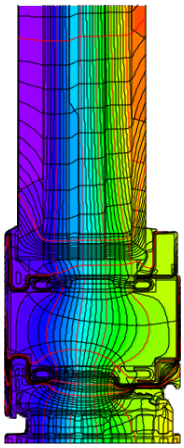
cool, temperate climate

CERTIFIED COMPONENT
Passive House Institute

NEOS Protect Ltd.
Green Lane, NE10 0JS Newcastle, United Kingdom
☎ +44 (0) 191 438 0226 | ✉ sales@neosprotect.com | http://www.neosprotect.com |



Calculation model



Isothermal

Description

Steel frame security door with phenolic foam insulation (Kingspan Kooltherm, 0,022 W/(mK)). The door is certified using quadruple glazing with Ug = 0,33 W/(m²K) with 11,5 mm LSG / 12 mm kr90 / 4 mm toughened glass / 12 mm kr90 / CUIN low-e transparent film / 12 mm kr90 / 6,4 mm LSG. Spacer: SuperSpacer Premium with butyl secondary seal. Airtightness class 4 according to EN 12207 is achieved. Pilot certification; the Ud-value depends on the use of a very low Ug-value IGU with a proprietary coated film, the service life of which is yet to be fully demonstrated.

Explanation

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

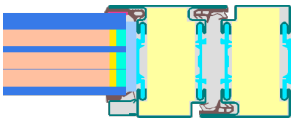
A detailed report of the calculations performed in the context of certification is available from the manufacturer.
Unless stated otherwise, the air tightness was determined according to EN 1026 with respect to the joint length under climate load in conjunction with EN 1121 for the closed, non-locked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

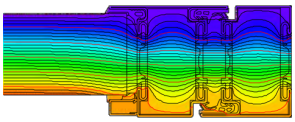
Further information relating to certification
can be found on www.passivehouse.com and passipedia.org.

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)	130	1.38	0.035	0.75
Door lock side	(DL1)	130	1.64	0.030	0.70
Flying Mul-lion	(FM4)	220	1.34	0.018	0.71
Top	(OH1)	130	1.38	0.035	0.75
Threshold	(OT2)	97	1.57	0.033	0.72
Spacer: Super Spacer® Premium				Secondary seal: Butyl	

Door
hinge side

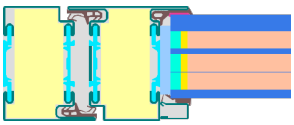
b_f = 130 mm
U_f = 1.38 W/(m² K)
Ψ_g = 0.035 W/(m K)
f_{Rsi} = 0.75

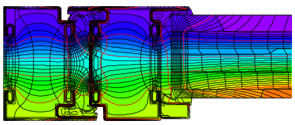




Door
lock side

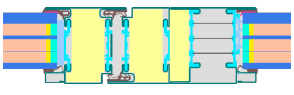
b_f = 130 mm
U_f = 1.64 W/(m² K)
Ψ_g = 0.030 W/(m K)
f_{Rsi} = 0.70

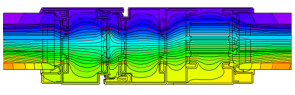




Flying Mullion

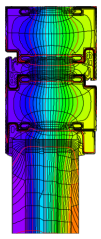
b_f = 220 mm
U_f = 1.34 W/(m² K)
Ψ_g = 0.018 W/(m K)
f_{Rsi} = 0.71





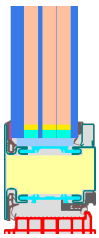
Top

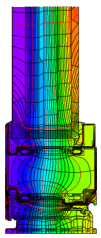
b_f = 130 mm
U_f = 1.38 W/(m^2 K)
Ψ_g = 0.035 W/(m K)
f_{Rsi} = 0.75



Threshold

b_f = 97 mm
U_f = 1.57 W/(m^2 K)
Ψ_g = 0.033 W/(m K)
f_{Rsi} = 0.72

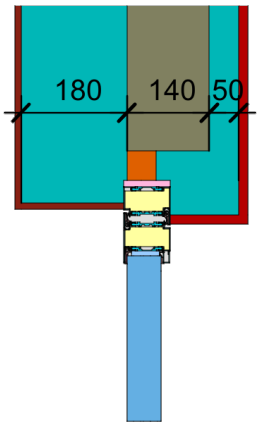




Validated installations

Formwork blocks top (operable)

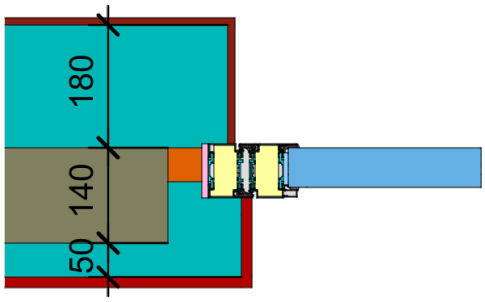
U_1 = 0.15 [W/(m² K)]



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

Formwork blocks side (operable)

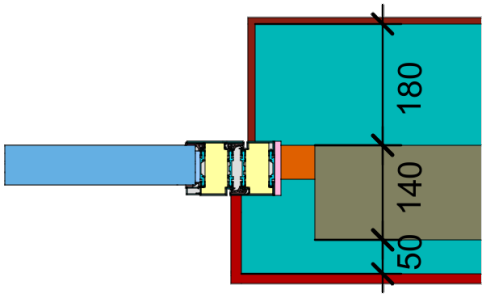
U_1 = 0.15 [W/(m² K)]



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

Formwork blocks side (operable)

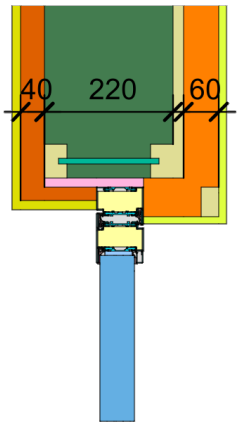
U_1 = 0.15 [W/(m² K)]



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

Lighthweight timber top (operable)

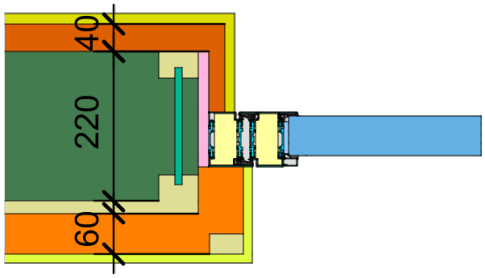
U_1 = 0.13 [W/(m² K)]



$\Psi_{install}$ = –0.00 W/(m K)

Lighthweight timber side (operable)

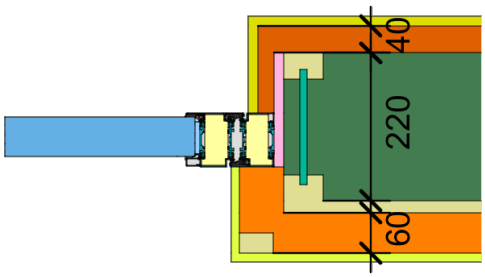
U_1 = 0.13 [W/(m² K)]



$\Psi_{install}$ = –0.01 W/(m K)

Lighthweight timber side (operable)

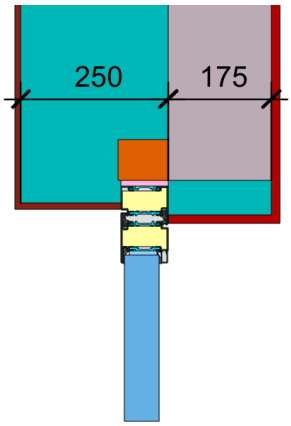
U_1 = 0.13 [W/(m² K)]



$\Psi_{install}$ = –0.00 W/(m K)

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

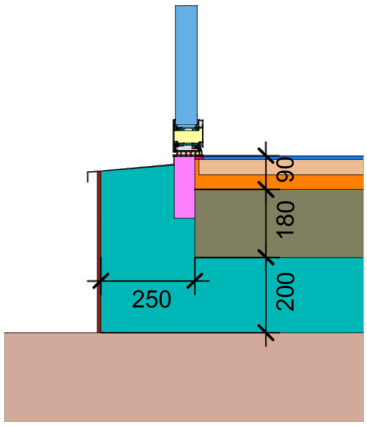
U_1 = 0.13 [W/(m² K)]



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

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

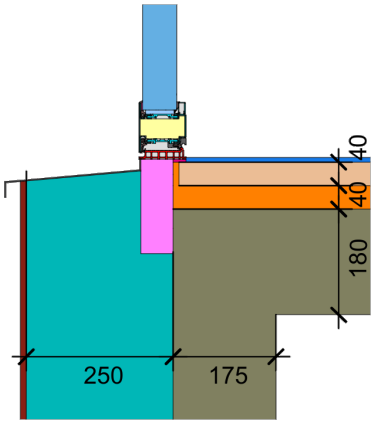
U_1 = 0.13 U_2 = 0.14 [W/(m² K)]



$\Psi_{install}$ = 0.05 W/(m K)

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

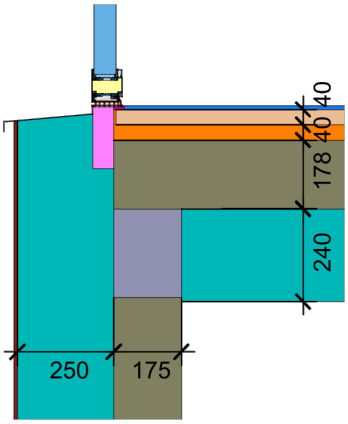
U_1 = 0.14 [W/(m² K)]



$\Psi_{install}$ = 0.07 W/(m K)

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

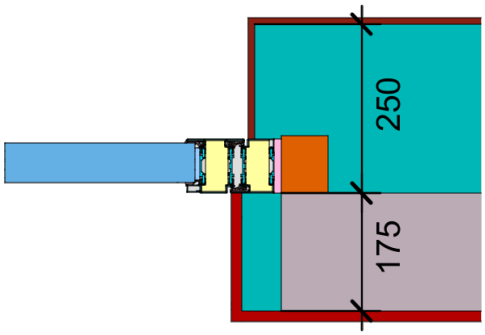
U_1 = 0.13 U_2 = 0.12 [W/(m² K)]



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

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

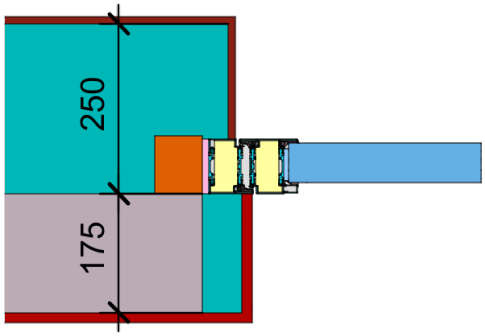
U_1 = 0.13 [W/(m² K)]



$\Psi_{install}$ = 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)