

Certificate

Certified Passive House component

for cool, temperate climate, valid until 31.12.2022

Category: **Facade anchor**
 Manufacturer: **SFS Group Fastening Technology Ltd.**
Leeds, UNITED KINGDOM
 Product name: **SFS NVELOPE® NVS + Thermal**

The following criteria were used in awarding this certificate:

Efficiency Criterion

In a typical application*, the construction fulfills the requirements of

$$\text{Eff. fa} \leq 0.200 \text{ W/(kNK)}$$

Comfort Criterion

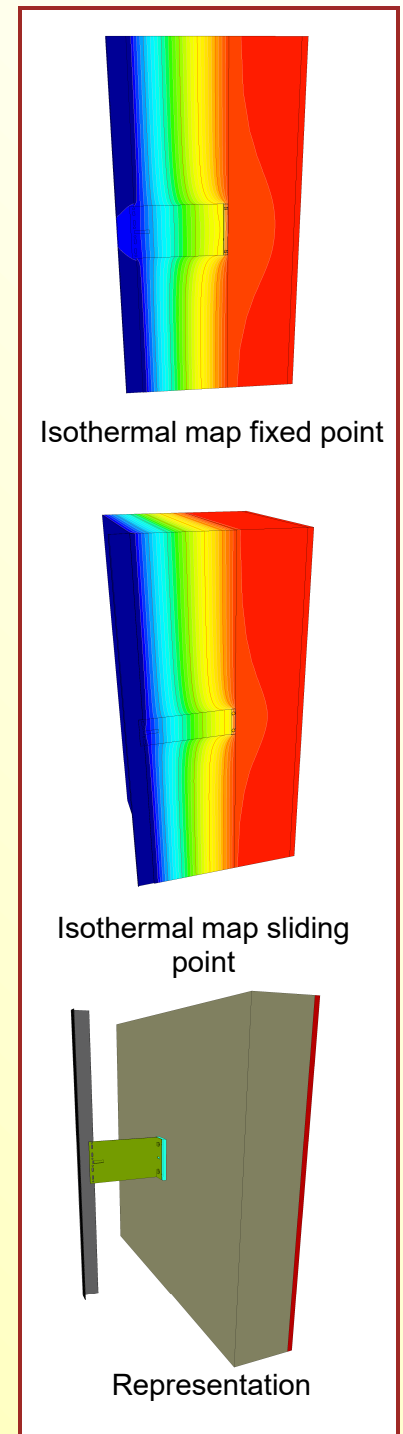
The inner surface must be warm enough to prevent mold as well as uncomfortable down-drafts and radiation losses.

$$\theta_{i,\min} \geq 17^\circ\text{C}$$

Thermal data of the certified component

SFS NVELOPE® NVS + Thermal - stainless steel	Thermal bridge coefficient	Minimum interior surface temperature
	χ [W/K]	$\theta_{i,\min}$ [°C]
Fixed point	0.0157	19.14
Sliding point	0.0082	19.23

* The criterion has been validated with a representative facade of a school building



Data sheet

SFS Group Fastening Technology, SFS NVELOPE® NVS + Thermal

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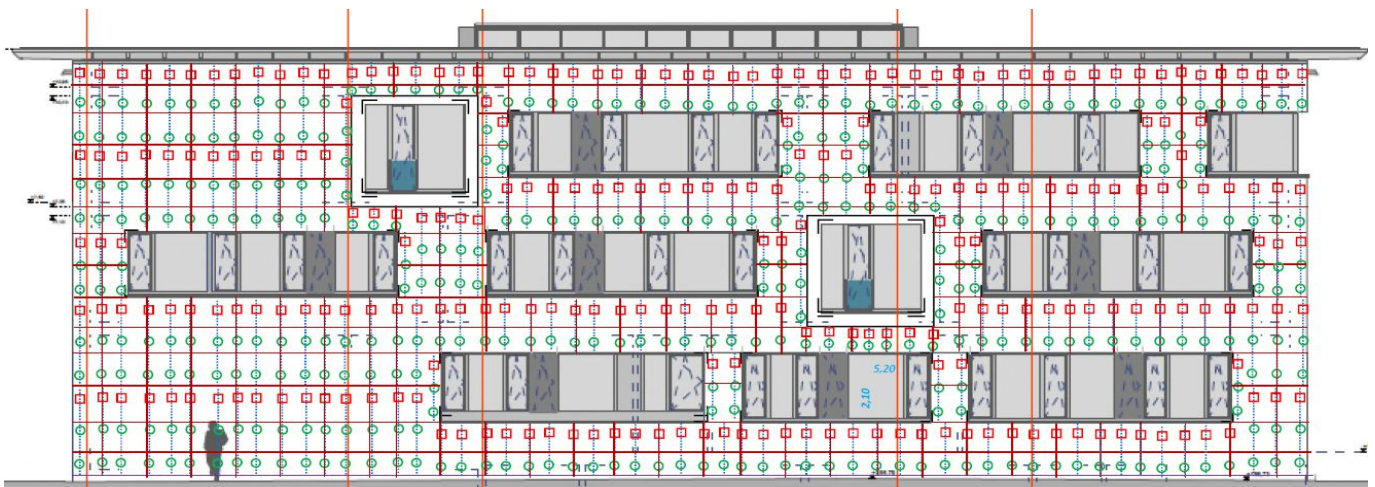
Criteria validated based on reference facade	Δ_U [W/m²K]
LC VI	0.0230

In order to validate the suitability, the manufacturer provides a static calculation and an associated installation plan for the reference facade.

The calculations are carried out for a reference facade with 24 cm insulation (0.035 W/(mK)). To achieve a heat transfer coefficient of $U_{\text{effective}} = 0.15 \text{ W / m}^2\text{K}$, an additional insulation thickness of 1 cm is necessary.

Load class / Facade weight		Thermal bridge coefficients [W/K]	
LC / Material	[kN/m ²]	X_{FP}	X_{SP}
6 / Stone	0.5	0.0157	0.0082

Quantity / m ²		[W/m ² K]	[W/(kNK)]
FP	SP	Δ_U	Eff. fa
0.84	1.20	0.023	0.046



Installation-plan reference facade of the certified component (LC VI)

Load-class (LC)	Facade cladding	Facade weight [kN/m ²]	Efficiency criterion fulfilled?
I	Aluminium laminated	0.10	no
II	Plastic	0.15	yes
III	Fiber-cement plates	0.20	yes
IV	Acrylic glass	0.25	yes
V	Ceramics	0.30	yes
VI	Stone	0.50	yes

The classification criteria and the load class allocation can be found in the current criteria "Certified Passive House components – Facade anchors, Version 2.1, 27.05.2021".