Certificate

Certified Passive House Component
for cool, temperate climates; valid until 31.12.2015

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Window Frame**

Manufacturer: **Aluprof S.A.**
43-300 Bielsko-Biała, POLAND

Product name: **MB-104 Passive Aero**

Passive House Efficiency Class

ph A advanced component
ph B basic component
ph C certifiable component
not suitable for Passive Houses

This certificate was awarded based on the following criteria:

Given a Ug value of 0.70 W/(m²K) and a window size of 1.23 m by 1.48 m,

$$U_W \quad = \quad 0.76 \quad W/(m^2K) \quad \leq \quad 0.80 \; W/(m^2K)$$

Taking into account the installation based thermal bridges and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the window meets the following criterion.
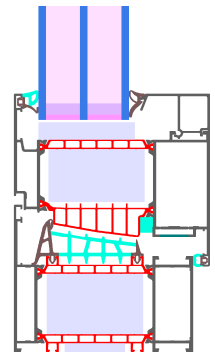
$$U_{W,installed} \quad \leq \quad 0.85 \; W/(m^2K)$$

Thermal data

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			ULTIMATE Swisspacer*	
Bottom	0.71	150	0.024	0.78
Side/top	0.71	150	0.024	

*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

For further information, please see the data sheet
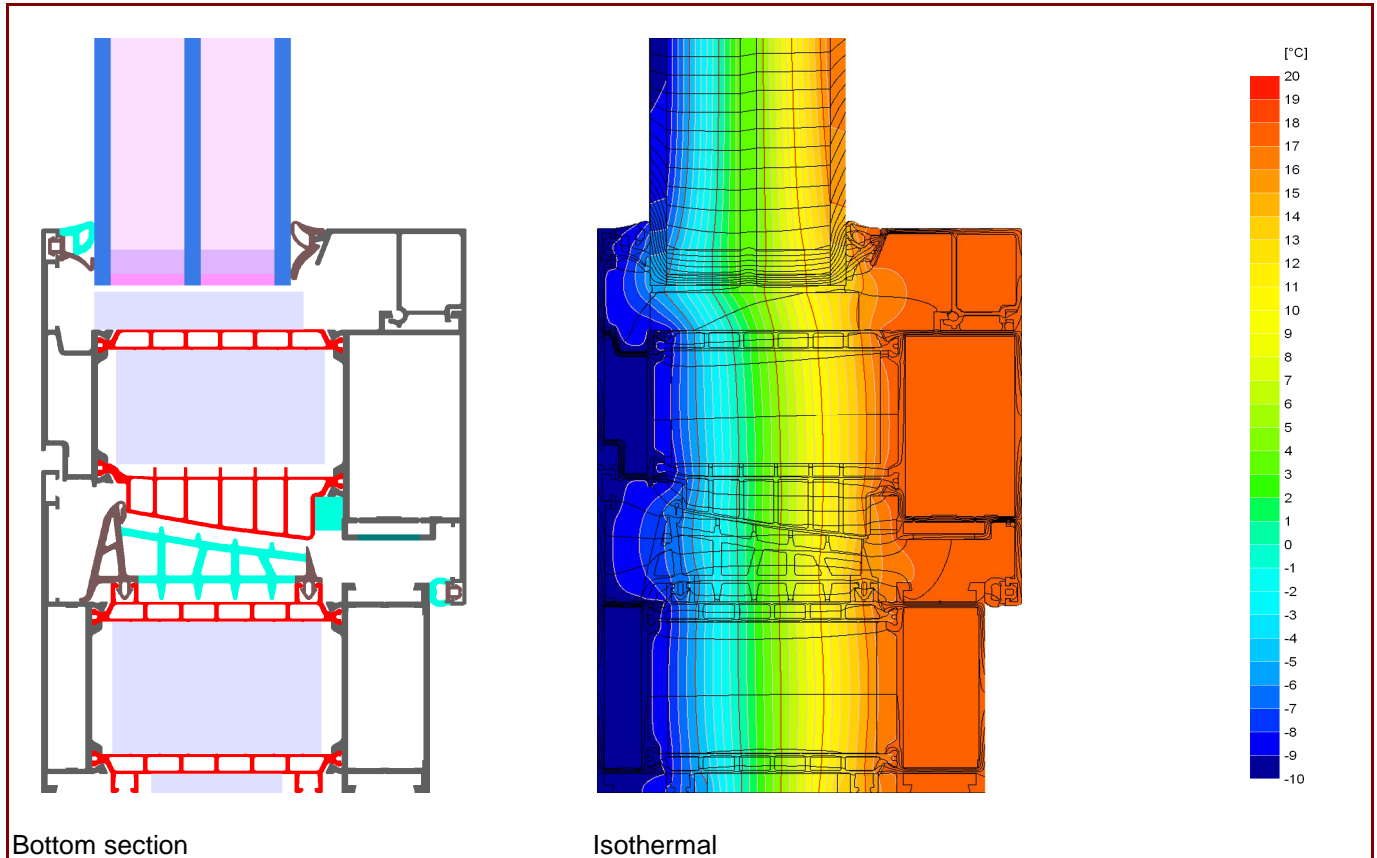
www.passivehouse.com

0655wi03

ph B

CERTIFIED COMPONENT
Passive House Institute

Data Sheet Aluprof S.A., MB-104 Passive Aero

Manufacturer Aluprof S.A.
Warszawska 153, 43-300 Bielsko-Biała, POLAND
Tel.: +48 33 8195300
Email: aluprof@aluprof.eu, http://www.aluprof.eu/
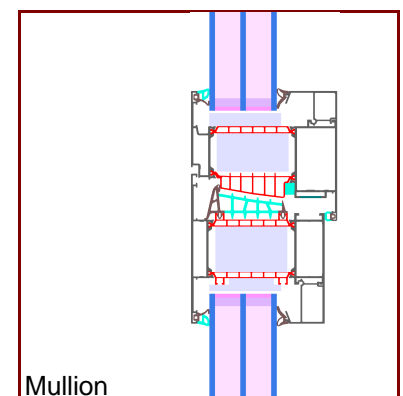

Bottom section

Isothermal

Description

Aluminiumframe with lower emissivity in closed chambers with thermal separation and rebate insulation of aerogel (λ=0.016 W/(mK)). Secondary sealing made of silicone (λ=0.35 W/(mK)). Pane thickness: 48 mm (4/18/4/18/4), Rebate depth: 15 mm.

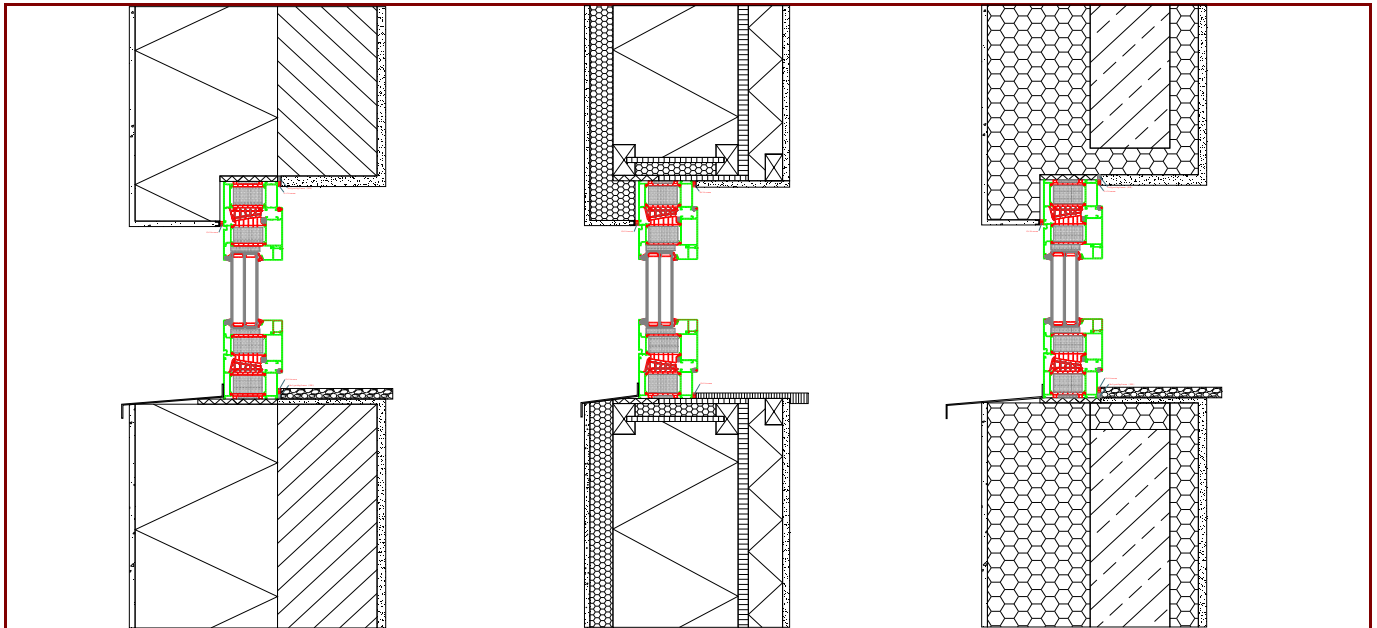## Thermal data for the window frame

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			ULTIMATE Swisspacer*	
Bottom	0.71	150	0.024	0.78
Side/Top	0.71	150	0.024	0.78
Mullion	0.67	180	0.023	0.78

Mullion

* Spacers of lower thermal quality lead to higher thermal losses and lower glass edge temperatures.

Data Sheet Aluprof S.A., MB-104 Passive Aero

Installation

Installation based thermal bridge Ψ$_{instal.}$
in Passive House suitable walls

Position		EIFS	Timber construction wall	Insulated formwork blocks
Bottom	[W/(mK)]	0.019	0.036	0.016
Side/Top	[W/(mK)]	0.009	0.031	0.007
U$_{W,instal.}$	[W/(m²K)]	0.79	0.85	0.78

Explanatory notes

The window U-values were calculated based on a 1.23 m by 1.48 m window U$_g$ = 0.70 W/(m²K).
If better glazing is used, the window U-values decrease as follows:

U Glazing	**U$_g$** [W/(m²K)]	0.64	0.58	0.54
U Window	**U$_W$** [W/(m²K)]	0.72	0.69	0.66

Depending on the thermal losses through opaque elements, transparent components are categorised according to efficency classes. These thermal losses include the losses through the frame, the frame width, the thermal bridge at the glass edge as well as the length of the glass edge. Certificates for arctic regions are too valid vor cold, certificates for cold regions are too valid for cool, temperate zones.
Please ask the manufacturer for a detailed report containing all calculations and results.
For further information, please visit www.passivehouse.com or www.passipedia.org.