



KLIMA-PUR® WINDOW SYSTEM

Product description

KLIMA-PUR® is a high-performance window system made of bioPolyurethane (BioPUR), designed for energy-efficient and sustainable construction. The material combines outstanding thermal insulation ($U_f \leq 0.8 \text{ W/m}^2\text{K}$) with excellent acoustic damping and high dimensional stability, outperforming traditional PVC, aluminium, and timber frames.

Its dense microcellular structure and low thermal conductivity result in superior envelope performance and long-term durability (30–40 years), while maintaining a lightweight design. KLIMA-PUR® profiles are fully recyclable, enabling circular manufacturing and reducing embodied carbon compared to fossil-based alternatives.

Applications

Passive-House and nZEB buildings in residential and tertiary sectors.

Retrofit projects aiming to reduce heating and cooling demand.

New constructions requiring lightweight, highly insulating frames.

Façade systems and curtain-wall modules using prefabricated or hybrid envelopes.

The material's resistance to weathering, humidity and UV exposure allows outdoor installation in diverse European climates, ensuring high performance in both cold and warm-temperate regions.



Safety data

KLIMA-PUR® profiles are made of bioPolyurethane (BioPUR) material free from hazardous substances such as foaming agents, plasticizers, or heavy metals. The product is manufactured using aromatic isocyanates and renewable polyols, resulting in a low-VOC formulation that ensures safe indoor air quality and compliance with REACH and RoHS regulations.

During handling and installation, no particular hazards are expected under normal conditions. Standard personal protective equipment (gloves and safety glasses) is recommended when cutting or machining the profiles.

In case of fire, carbon monoxide (CO) and carbon dioxide (CO₂) may be released as with any organic polymer. Firefighting measures should use foam, CO₂, or dry chemical extinguishers.

Waste and offcuts can be mechanically recycled or chemically reprocessed into new BioPUR components, contributing to circularity and minimising landfill disposal.

Technical data

Property	Test/Standard	Value
Dimensions	EN 822, EN 823, EN 824, EN 825	69x70 mm (WxH)
Density	EN 1602	450-500 Kg/m ³
Content of biobased	Based on providers declarations	60-70% (considering mass balance isocyanate)
Content of recycled material	Based on % w/w	Up to 15%
Tensile properties	ISO 527-2:2012	Elasticity modulus 188 Mpa
		Tensile Resistance 4.61 MPa
		Deformation 3.1 %
		Stress at break 4.61 MPa
		Elongation at break 3.1 %
Impact resistance	UNE-EN ISO 179-1:2024	0.987 kJ/m ²
		0.693 kJ/m ² *
Thermal Properties	UNE EN 12667:2002	Thermal conductivity 0.04919 W/mK (25 °C)
		Thermal resistance 0.3391 m ² K/W (25 °C)
		Specific Heat Capacity 1.452 J/g·K (20 °C)
Calorimetric cone test	ASTM E1354	Self-ignition Temp. 451°C
Reaction to fire of the product as is placed on the market	EN 13501-1, EN 15715	Self-extinguishing
Flammability	UL 94	Vertical - V0 Class Horizontal - HB
Heat reversion	UNE EN 479:2018	Max: 0.13% Min 0.08 %
Heat behaviour	UNE EN 478:2018	No significant changes in profile section
Sound absorption	EN ISO 354	--10 dB

* Obtained value after accelerated aging tests for one month according to UNE-EN 12608-1.

CE marking window testing (window 2-leaf)



Property	Test/Standard	Value
Air permeability	UNE-EN 1026:2017. UNE-EN 12207:2017	Class 4
Water tightness	UNE-EN 1027:2017. UNE-EN 12208:2000	Class E750
Wind load resistance	UNE-EN 12211:2017. UNE-EN 12210:2017	Class C3
Acoustic Damping	Anex B. UNE-EN 14351:2006+A2:2017	40(-2;-6) dB
Thermal Transmittance	UNE-EN ISO 10077-1:2020	1.1 W/m ² K

Glass type: LamiGlass 44.2sp. ClimaGuard Premium 2/ 18 Argón/ Float 4

CE marking window testing (balcony door 1-leaf)

Property	Test/Standard	Value
Air permeability	UNE-EN 1026:2017. UNE-EN 12207:2017	Class 4
Water tightness	UNE-EN 1027:2017. UNE-EN 12208:2000	Class E1200
Wind load resistance	UNE-EN 12211:2017. UNE-EN 12210:2017	Class C5
Static Torsion Resistance	UNE-EN 14609:2004. UNE-EN 14609 ERRATUM:2010	Class C4 (350N)
Burglar resistance	UNE-EN 1627:2021. UNE-EN 1628:2021. UNE-EN 1629:2021. UNE-EN 1630:2021.	RC2 Grade
Thermal Transmittance	UNE-EN ISO 10077-1:2020	1.1 W/m ² K

* Glass type: LamiGlass 44.2sp. ClimaGuard Premium 2/ 18 Argón/ Float 4

- CE marking window testing (balcony door 2-leaf)



Property	Test/Standard	Value
Air permeability	UNE-EN 1026:2017. UNE-EN 12207:2017	Class 4
Water tightness	UNE-EN 1027:2017. UNE-EN 12208:2000	Class 0A
Wind load resistance	UNE-EN 12211:2017. UNE-EN 12210:2017	Class C1 / A2
Thermal Transmittance	UNE-EN ISO 10077-1:2020	1.1 W/m ² K

* Glass type: LamiGlass 44.2sp. ClimaGuard Premium 2/ 18 Argón/ Float 4