Applications

- Thermal insulation of walls, roofs, and floors.
- Filling of cavities and renovation of existing envelopes.
- Acoustic and thermal insulation for industrial buildings.
- Suitable for new construction and refurbishment projects requiring high airtightness and moisture control.

BIOPURETHANE® SPRAY FOAM

Product description

BIOPURethane® Spray Foam is a high-performance bio-based Polyurethane insulation foam developed for advanced thermal and acoustic applications in the building envelope. The formulation is based on aromatic isocyanates and renewable polyols obtained from vegetable sources, providing a balanced combination of mechanical strength, thermal efficiency, and sustainability.

Its closed-cell microstructure ensures excellent dimensional stability, very low water absorption, and outstanding insulation capacity. Depending on the targeted application, the foam can be adjusted in density, reactivity, and expansion to fit spray, injection, or sandwich processes.
bioPUR offers fast installation, excellent adhesion to most construction substrates, and durability compatible with the service life of high-performance façades (30–40 years).

Safety data

bioPUR insulation foams are based on aromatic polyurethane chemistry, produced from reactive components (isocyanates and polyols) that fully react during foaming, forming an inert solid material free from volatile monomers. Once cured, the foam is non-toxic, emits very low VOCs, and complies with REACH and RoHS regulations.

Standard handling precautions should be followed when processing the liquid components before foaming: use of gloves, goggles, and adequate ventilation is recommended to avoid exposure to isocyanate vapours. After curing, no specific hazards are expected under normal service conditions.

In case of fire, degradation of aromatic polyurethane may release carbon monoxide (CO), carbon dioxide (CO_2), and nitrogen oxides (NO). bioPUR residues and offcuts can be mechanically recycled or chemically depolymerised into polyols for reuse, supporting circularity and reducing landfill waste.

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Technical data

Property	Test/Standard	Value
Thickness	EN 822, EN 823, EN 824, EN 825	Variable (10–200 mm per application)
Density	EN 1602	35–45 kg/m³
Content of biobased	Based on providers declarations	60-70% (considering mass balance isocyanate)
Compression properties	UNE-EN 826	Compression at 10% relative deformation 166 ± 16 kPa
		279 ± 4 kPa*
Compressive stress or compressive strength	ASTM C 365 03	Elastic modulus 2400 kPa
Thermal properties	UNE EN 12667:2002	Thermal conductivity 0.029 W/mK (25 ºC)
		Thermal conductivity 0.041 W/mK (25 ºC)*
		Thermal resistance 3.74 m2K/W (25 ºC)
		Thermal resistance 1.77 m2K/W (25 ºC)*
		Specific Heat Capacity 0.422 J/g·K (20 ºC)
		Specific Heat Capacity 1.951 J/g·K (20 ºC)*
Water absorption	UNE-EN ISO 29767:2020	1.6 ± 0.06 %
		2.2 ± 0.08 %
Calorimetric cone test	ASTM E1354	Self-ignition Temp. 527.75 ºC
Flammability	UL 94	V0

* Obtained values after accelerated aging tests applying cycles of 5 days at 70ºC and 60% RH, 1 day at 70ºC dry and 1 day at 70ºC dry for one month.

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