

DESCRIPTION

ECOFOAM BIO-8 is an open cell, low density, semi rigid polyurethane foam, suitable for thermo-acoustic insulation in construction and industrial applications, with good fire behavior.

OPERATING INSTRUCTIONS

ECOFOAM BIO-8 polyol is a formulated one made of a mix of substances that must be processed with the isocyanate in high pressure dosing and mixing equipment, and projected over the substrate, to create the semi rigid polyurethane foam. This resulting foam has a free density of 8,5 to 10 kg/m³, a thermal conductivity of 0,036 to 0,040 W/mK, and is easily machinable. Suggested application thickness go from 50 to 200 mm per layer. It provides a layer of protection against air currents, and in highly humid environments with high temperatures, the placement of a water vapor barrier on the warm side of the insulation is recommended.

ECOFOAM BIO-8 polyol has a suggested usage period of 3 months from its manufacturing, when kept in its sealed original packaging at temperatures between 10 and 20°C. Components may separate during storage, hence it is necessary the homogenization of the product through intense mechanic shacking before usage.

APPLICATION

ECOFOAM BIO-8 system does not need the addition of additives for use. The machine used for **ECOFOAM BIO-8** system processing has to be capable of dosing components (polyol and isocyanate) in equal proportions by volume (+ / - 2%) and mixing at pressures between 60 and 120 kg/cm².

The temperature of the machine, heaters and hoses should be set between 25°C and 60°C. These control temperatures and pressures are variable parameters depending on environmental conditions, and the responsibility of the precise calibration corresponds the applicator.

In addition of changing ostensibly product performance, weather conditions, has influence on the quality of the foam in the spraying works. Therefore, it is important that the temperature and the substrate surface, has to be between 5 °C and 40 °C, otherwise there may be areas with poor compliance, or dimensional changes more than expected. The substrate must be clean and dry and the humidity should be below 80%, because a high humidity can cause density alterations of the final product, and less adhesion to the substrate. Wind speed during the application must not exceed 30 km/h to avoid high consumption of materials; the irregular surface spraying could train particles that can cause serious problems of dirt surrounding the job place. During favorable environmental conditions, the adhesion of the foam, on the commonly used substrate, is excellent, provided they are clean, dry and free of rust.

In all cases, before applying the foam is needed to perform an adhesion small test to ensure good fixation. In applications with high temperature gradients place a vapor barrier on the warm side of insulation system to prevent condensation. Smooth metal surfaces must be protected by an anti-corrosion primer before being covered with foam. On smooth surfaces without pores, galvanized steel, polypropylene, etc., should be primed for better adhesion and union of insulation system.

PRESENTATION FORMATS

Steel drums of 250 kg each component (isocyanate and polyol).

STORAGE REQUIREMENTS

Storage temperature should be between 10 and 25 °C. Containers (full or empty) should not be exposed to direct sunlight or heat sources such as stoves, radiators, etc. because they can generate pressure inside and make dangerous its handling or manipulation.

The components are moisture sensitive, so they must always be kept in airtight containers and be protected against the ingress of moisture, in order to prevent disruptions in the final product or rendering it useless for treatment.

HANDLING AND TRANSPORTATION

These safety recommendations for handling, are necessary for the implementation process as well as in the pre-and post, on exposure to the loading machinery.

- **Respiratory Protection:** When handling or spraying use an air-purifying respirator.
- **Skin protection:** Use rubber gloves, remove immediately after contamination. Wear clean body-covering. Wash thoroughly with soap and water after work and before eating, drinking or smoking.
- **Eye / Face:** Wear safety goggles to prevent splashing and exposure to particles in air.
- **Waste:** Waste generation should be avoided or minimized. Incinerate under controlled conditions in accordance with local laws and national regulations.

For further information on this matter, you may request the safety data sheet of the product.

COMPLEMENTARY PRODUCTS

The ECOFOAM BIO-8 system may be complemented with the following products as a means of protection or to improve its physical-mechanical properties depending on its exposure, the desired finish or the type of substrate.

- **EPOPRIMER-BV:** This primer, epoxy based, improves bonding and level the surface, and helps regulating the humidity in the substrate (see permitted levels in their technical specifications).
- **ACE ART-7052 HE – ACE PU-100:** polyurea waterproofing systems.
- **ART-373 – ALIFLEX:** dual-component coloured aliphatic polyurethane varnishes used to protect roofs and floors or ground against UV rays when there is no other protection.
- **MONOPUR:** single-component polyurethane membrane. You can use as a waterproofing system or as a UV sunrays protection.

USAGE CONDITIONS

Mix Ratio (Polyol : Isocyanate)	100 : 100 in volume
Temperature of the components	25 - 60 °C
Work pressure	60 - 120 Bar
Ambient operating temperature	0 to +40 °C
Air relative humidity	< 80 %
Wind speed	< 30 km/h
Support temperature	0 - 40 °C
Support humidity	Without superficial condensations

REACTIVITY

Cream time	4 +/-1 seconds	(UNE-92.120-1)
Rise time	11 +/-1 seconds	(UNE-92.120-1)
Free density in glass	8,5 - 11 grams/liter	(UNE-92.120-1)

FOAM PROPERTIES AND CE MARKING

Applied density	10 - 15 grams/liter	(UNE EN 1602)
Thermic conductivity	0,036 ± 2 W/mK in all thickness. See performance chart	(UNE-EN 12.667)
Fire performance	E Class (valid for all thickness)	(UNE-EN 13823:2002)
Dimensional stability	< 0,5 % volume	(UNE-EN 1604)
Acoustic absorption	0,5	(UNE-EN 29053:1993)

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