TECNOFOAM G-2060 HFO - SPRAY POLYURETHANE FOAM (SPF) SYSTEM FOR THERMAL INSULATION(APPLIED DENSITY ±60 KG/M³)

TECNOFOAM G-2060 HFO, spray polyurethane foam system (SPF) for thermal insulation is specifically formulated to apply foam with applied density around (±52~62 kg/m³). Its application must be carried out by the specific reactor equipment by mixing Tecnofoam G-2060 HFO (polyol side) and Tecnofoam G-2049.I (isocyanate side). The blowing agent is HFO gas.

It has CE marking on the basis of a statement made DoP Declaration of Performance (DoP) under the European Norm EN-14315-1:2031.

USES

The spray polyurethane foam system TECNOFOAM G-2060 HFO can be used in these situations:

- It's specifically designed for thermal insulation in construction, industrial, farming or agricultural facilities.
- In applications where flat roofs, interior floors, and installations with a floor heating system, all those with high compression needs on the surface. (including vehicular traffic)
- **It is specially designed to be coated with TECNOCOAT P-2049, without the appearance of bubbles, "pinholes" or other pathologies.**

NOTE: For other applications/situations, please, consult our technical department

applied density at 23ºC	52~62 kg/m³
initial thermal conductivity at 23ºC	0,022 W/m·K
stirring time at 20ºC	2 ~ 4 secs
gel time at 20ºC	4 ~ 11 secs
tack-free time at 20ºC	12 ~ 14 secs
close cell content	≥ 95 ≤ 98% (CCC4)
fire reaction	Euroclass E
mix ratio (vol.)	100/100
application method	spray equipment

COLORS

	Yellow

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GENERAL FEATURES

- TECNOFOAM G-2060 HFO is a product with high insulating capacity, easy to apply to cover all surfaces using our spray equipment TC2049 (spray-equipment.tecnopolgroup.com) or similar
- it forms a continuous coat without joints preventing the formation of "heat bridges" and providing an optimum thermal insulation surface with high thermal insulation parameters
- the blowing agent is HCFO-1233zd(E). This gas has a low rating GWP(=1)(Global Warming Potential)
- it doesn't contain HCFC, HFC.
- TECNOFOAM G-2060 HFO system is 100% recyclable by mechanical means friendly to the environment
- **It is specially designed to be coated with TECNOCOAT P-2049 pure polyurea, without the appearance of bubbles, "pinholes" or other pathologies.**
- it does not emit any substance to the environment once installed.
- the properties of this polyurethane foam system allow it to adhere to any surface such as concrete, ceramic, metal, polyurethane foam, wood, acrylic paints (checking the situation of areas recommended).
- the TECNOFOAM G-2060 HFO system, has a high-level closed-cell ratio (CCC4), therefore, it behaves satisfactorily for waterproofing.
- It is regulated under the European standard EN 14315-1: 2013 "Thermal insulating products for applications in buildings, rigid polyurethane foam (PUR) products", for which it has CE marking based on a DoP Declaration of Performance.

PACKAGING

Metal drums of 250 kg for the isocyanate and 230 kg for the polyol side

SHELF LIFE

POLYOL COMPOUND: 3 months

ISOCYANATE COMPOUND: 6 months

Always store the drums before use at a temperature between 5 ºC and 35 ºC, always in dry areas, without the possibility of humidity entry, and without direct contact with the sun or sources of heat. Very low temperatures increase the viscosity of the polyol which makes it difficult to mix and apply, and in the isocyanate, they can generate crystallisations, which can cause its mixing ratio to vary and the consequent internal problems in the mixing and application equipment.

Very high temperatures can modify polyols, causing loss of the blowing agent, increasing consumption, and producing the swelling of the metallic drum. To avoid these last situations, it is recommended to let the drums for a while before use, in a cool and ventilated place.

APPLICATION METHOD

In general, you should take the following factors:

- the application of polyurethane foam system TECNOFOAM G-2060 HFO should be performed under the non-presence of moisture or water from the support stand on which to apply either at the time of application as a posteriori.
- the substrate must be clean and free of dust
- minimum recommended surface temperature: 5ªC
- in applications with high-temperature gradients, a vapor barrier is placed on the warm side of the insulation to prevent condensation
- perform successive layers of a thickness 2~3 cm each one
- wait to apply the second layer, until minimum temperature on the first layer 40-50ºC

- TECNOFOAM G-2060 HFO adheres firmly to most common materials such as wood, plasterboard, steel, OSB, plywood, cement, inside masonry exterior plaster panels, and construction itself.
- no shrinkage after performing the expansion.
- reactivity times (in laboratory conditions):
    - REACTING TIME: 3-5 seconds
    - EXPANDING TIME: 9-12 seconds

APPLICATION REQUIREMENTS (SPRAY EQUIPMENT)

For the formation, it is necessary to mix the two initial liquid components, isocyanates and polyols with our spray equipment TC2049 (spray-equipment.tecnopolgroup.com) or similar (proper maintenance and cleaning it is recommended).

The general parameters for this material will be the following:

- Heater isocyanate temperature: ±40-45 ºC
- Heater polyol temperature:±52-57ºC
- Hose temperature:±40-50ºC
- Pressure:1.700-2.000 psi (120 to 140 bar)
- Mixing chamber (recommended): GU-07008-2

These temperature and pressure parameters have to be valued, ratified, or be varied by the applicator, depending on the conditions of each climate zone, weather situation, or projection equipment specifications.

HANDLING

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 the air.
- Waste: Waste generation should be avoided or minimized.
- Incinerate under controlled conditions in accordance with local laws and national regulations.

Anyway, consult the material and safety data sheet of the product.

COMPLEMENTARY PRODUCTS

The TECNOFOAM 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.

TECNOCOAT P-2049 LV: pure low viscosity polyurea. Approximate consumption 1,5 kg/m²

TECNOCOAT P-2049: pure polyurea. Approximate consumption 1,5 kg/m²

DESMOPOL: single component polyurethane membrane for waterproof. Approximate consumption 1,5 ~ 2 kg/m²

TECNOTOP 1C/2C: colored aliphatic resin used to protect against UV rays; to use after DESMOPOL or TECNOCOAT waterproofing membranes

COMPOUND CHARACTERISTICS

characteristic	POLYOL	ISOCYANATE(MDI)
Nº OH DIN 53240-2	180 ~ 220 mgKOH/g	----
Viscosity at 25ºC BROOKFIELD VISCOSIMETER	200 ~400 mPa.s	210 mPa.s
NCO content ISO 14896	---	31 %
Specific weight at 25ºC	1,20 g/cm³	1,23 g/cm³

APPLIED SYSTEM CHARACTERISTIC (REACTION)

CHARACTERISTIC	VALUE
Stirring time at 20ºC	2 ~4 secs
Gel time at 20ºC	4 ~11 secs
Tack free time at 20ºC	12 ~14 secs
Density free rise at 20ºC	40~50 kg/m³
Closed-cell content ASTM 2856	>95 %(CCC4)
Aged thermal conductivity value at 23ºC EN-12667	0,028 W/mK
GWP(Global Warming Potential)	1
ODP (Ozone Depletion Potential)	0
VOC (volatile organic compounds)emissions ISO 16000-6	Class C
VOC (volatile organic compounds)content	75g/l
Compression strength	>300 KPa
Fire reaction EN-13501	Euroclass E

To obtain more information, consult the full document Declaration of Performances of a particular system (consult our technical department).

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