TECNOFOAM G-2040 HFO - SPRAY POLYURETHANE FOAM (SPF) SYSTEM FOR THERMAL INSULATION(APPLIED DENSITY ±40 KG/M³)

TECNOFOAM G-2040 HFO, spray polyurethane foam system (SPF) for thermal insulation is specifically formulated to apply foam with applied density around (±40~46 kg/m³). Its application must be carried out by the specific reactor equipment by mixing Tecnofoam G-2040 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-2040 HFO can be used in these situations:

- a complete and continuous system of thermal insulation in construction, industrial, farming, or agricultural facilities.
- in applications where flat roofs, interior floor
- installations with floor heating system, all those with high compression needs on the surface

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

applied density	40 ~ 46 kg/m³
initial thermal conductivity	0,022 W/m·K
stirring time	3 ~5 secs
gel time	9 ~ 10 secs
tack-free time	12 ~ 14 secs
close cell content	>95% (CCC4)
fire reaction	Euroclass E
mix ratio (vol.)	100/100
application method	spray equipment

COLORS

	Yellow

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GENERAL FEATURES

- TECNOFOAM G-2040 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.
- the blowing agent is HCFO-1233zd(E). it doesn't contain HCFC, HFC, according to the European rules.
- 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
- TECNOFOAM G-2040 HFO system is 100% recyclable by mechanical means friendly to the environment. 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).
- 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 side, 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-2040 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
- surface temperatures range recommended: 5ªC - 40ºC
- in applications with high-temperature gradients, a vapor barrier is placed on the warm side of the insulation to prevent condensation
- metal surfaces must be protected with an anticorrosive primer before being coated with the system PU foam. On smooth surfaces without pores, galvanized sheet, polypropylene, etc ..., a primer must be applied to ensure adhesion
- a waterproofing coating is highly recommended
- perform successive layers of a thickness of 2~3 cm each one
- the thickness that can be made per layer is 2 ~ 3 cm each until the desired total thickness is achieved as successive layers are applied. For spraying the next coat, the temperature of the first coat should be

approximately 40-50ºC.
- the total applied thickness will be defined by the project specs.
- the applicator must respect the local regulations according to the use, taking into account the physical and chemical characteristics of the polyurethane foam system to be used
- this polyurethane foam system bonds firmly to most common building materials such as wood, plasterboard, steel, OSB, plywood, fiber cement, interior masonry, exterior drywall, and onto itself.
- this system PU foam 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.

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: ±40-50 ºC
- Heater polyol temperature:40-45ºC
- Hose temperature:±40-50ºC
- Pressure: 1.450-1.750 psi (100 - 120 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. Is under the responsibility of the owner/applicator of the equipment to have it in perfect condition in order to keep the correct mixing ratio of the two components that Tecnopol delivers separately, through periodically updating the maintenance checks.

HEALTH AND SAFETY

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 products of the system.

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 2049 LV: pure low viscosity 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 membranes

COMPOUND CHARACTERISTICS

characteristic	POLYOL	ISOCYANATE(MDI)
Nº OH DIN 53240-2	280 mgKOH/g	----
Viscosity BROOKFIELD VISCOSIMETER	<600 mPa.s	210 mPa.s
Water content ISO 14897	1,8 %	-----
NCO content ISO 14896	---	31 %
Specific weight at 22ºC	1,20 g/cm³	1,23 g/cm³

Results performed in the laboratory at 25 ºC and 50% RH, under controllable conditions. These values may vary depending on the application, climatology, or substrate conditions.

APPLIED SYSTEM CHARACTERISTICS (REACTION)

CHARACTERISTIC	VALUE
Stirring time	3 ~5 secs
Gel time	9 ~10 secs
Tack-free time	12~14 secs
Density free rise	32 ~36 kg/m³
Applied density	40 ~46 kg/m³
Closed-cell content	>95% (CCC4)
Compressive strength	>300 KPa
Aged thermal conductivity value EN-12667	0,028 W/mK
GWP(Global Warming Potential)	1
ODP (Ozone Depletion Potential)	0
Fire reaction EN-13501	Euroclass E

Results performed in the laboratory at 20ºC and 50% RH, under controllable conditions. These values may vary depending on the application, climatology, or substrate conditions. Public values shown in the Declaration of Performance issued under the European standard EN 14315-1: 2013 "Thermal insulating products for applications in buildings, rigid polyurethane foam (PUR) products".

and storage procedures, and comply with all applicable safety and environmental standards.
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