



**TECNOFOAM G-2040 FR - SPRAY POLYURETHANE FOAM (SPF) SYSTEM FOR THERMAL INSULATION (APPLIED DENSITY  $\pm 40$  KG/M<sup>3</sup>). FIRE REACTION M1.**

TECNOFOAM G-2040 FR, (technically TECNOFOAM S-401) is a spray polyurethane foam system (SPF) for thermal insulation, is specifically formulated to apply foam with applied density around ( $\pm 40$ ~ $50$  kg/m<sup>3</sup>), and M1 fire reaction (according to UNE 23271:1990). Its application must be carried out by the specific reactor equipment by mixing Tecnofoam G-2040 FR (polyol side) and Tecnofoam G-2049.I (isocyanate side). The blowing agent is water.



## USES

The spray polyurethane foam system TECNOFOAM G-2040 FR can be used in these situations:

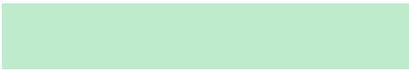
- It's specifically designed for thermal insulation in construction, industry, farming, or agricultural facilities.
- In applications where flat roofs, balconies, terraces, indoor floors and installations, indoor facades, all this with compression needs on the surface, and reaction to fire M1.

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

applied density	40~50 kg/m <sup>3</sup>
thermal conductivity	0,031 W/m.K
fire reaction	M1
application	spray equipment



## COLORS

	Salmon color
	Green color



## GENERAL FEATURES

- TECNOFOAM G-2040 FR is a product with high insulating capacity, easy to apply to cover all surfaces using our spray equipment TC2049 ([spray-equipment.tecnopolgroup.com](http://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 water
- it is free from harmful to the ozone layer, so do not promote the greenhouse effect (NOT contain HFCs, HCFCs, VOCs, etc ...); it does not emit any substance to the environment once installed
- TECNOFOAM G-2040 FR system is 100% recyclable by mechanical means friendly to the environment. , and no gas collection for recycling and/or destruction is required
- the thermal conductivity (?) coefficient remains unchanged from the application and along with the product life.
- the properties of this spray 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 each product (polyol and isocyanate)

## SHELF LIFE

POLYOL COMPOUND: 3 months (stir before the mixing)

ISOCYANATE COMPOUND: 6 months

Temperature within 5 °C ~ 35 °C, provided it is stored in a dry place, nondirect contact with the sun.

## APPLICATION METHOD

In general, you should take the following factors:

- the application of polyurethane foam system TECNOFOAM G-2040 FR should be performed under 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: 5°C
- 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 40-50°C
- TECNOFOAM G-2040 FR 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](http://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:  $\pm 40-45$  °C
- Heater amines temperature:  $\pm 40-50$ °C
- Hose temperature:  $\pm 40-50$ °C
- Pressure: 1.700-2.000 psi

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 as 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 2049 LV: pure low viscosity polyurea. Approximate consumption 1,5 kg/m<sup>2</sup>

DESMOPOL: single component polyurethane membrane for waterproof. Approximate consumption 1,5 kg/m<sup>2</sup>

TECNOTOP 1C/2C: two-component colored aliphatic polyurethane resin used to protect against UV rays, to use after DESMOPOL.



## COMPOUND CHARACTERISTICS

characteristic	POLYOL	ISOCYANATE(MDI)
N° OH DIN 53240-2	180 ~ 220 mgKOH/g	----
Viscosity at 25°C BROOKFIELD VISCOSIMETER	<600 mPa.s	210 mPa.s
Water content ISO 14897	3,4 ~ 3,6 %	----
NCO content ISO 14896	---	31 %
Specific weight at 25°C	1,07 g/cm³	1,23 g/cm³

## APPLIED SYSTEM CHARACTERISTICS (REACTION)

CHARACTERISTIC	VALUE
Stirring time at 20°C	2 ~5 seg
Gel time at 20°C	5 ~12 seg
Tack-free time at 20°C	12 ~15 seg
Density free rise at 20°C	30 ~35 kg/m³
Closed-cell content ASTM 2856	<80 %(CCC2)
Compressive strength	230 KPa
Thermal conductivity value t a20°C EN-12667	0,030 W/mK
GWP(Global Warming Potential)	1
ODP (Ozone Depletion Potential)	0
VOC (volatile organic compounds ) ISO 16000-6	Class C
Fire reaction UNE 23271:1990	M1
Range of temperatures (substrate/ambiance)	0 ~ 40°C
Max. relative humidity	90%
Max. substrate humidity (dew point)	0

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

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