TECNOFOAM G-2008 PLUS - SPRAY POLYURETHANE FOAM (SPF) SYSTEM FOR THERMAL AND ACOUSTIC INSULATION(APPLIED DENSITY ±8 KG/M³)

It is a water-borne spray polyurethane open-cell foam system (SPF) for and thermal and acoustic insulation, is specifically formulated to apply low-density foam (8~10 kg/m³). Its application must be carried out by the specific equipment by mixing Tecnofoam G-2008 PLUS (polyol side) and Tecnofoam G-2049.I (isocyanate side). The blowing agent is water.

USES

For application in the following situations:

- Thermal insulation systems in residential buildings, businesses or industries
- Indoor applications ceilings, interior chambers facade, internal side of roofs, made with wood structure, or other material (see compatibility)

NOTE: call our technical department about the application to other supports or situations

Applied density	±8 kg/m³
Thermal conductivity	0.038 W/m·K
Cream/stirring time	2~6 secs
Gel time	6~10 secs
Tack-free time	10~14 secs
Fire reaction	Euroclass E
Close-cell content	<20% (CCC1)
Application	Spray equipment

COLORS

	Yellow

Tecnopol
Finlàndia, 33 · 08520 Les Franqueses del Vallès · Barcelona (Spain)
(+34) 93 568 21 11 · info@tecnopol.es · www.tecnopol.es

GENERAL SPECIFICATIONS

- It is an open-cell spray polyurethane foam (SPF), for thermal and acoustic insulation, easy to apply and to protect all the internal surfaces of the building
- The application and training is done by our spray equipment TC2049 (spray-equipment.tecnopolgroup.com) or similar
- The expansion agent is water. The gas ocluded in the internal cells of the product formed by CO2, proceeds from the reaction between the water contained in the polio and the isocianato. The agent of expansion is water. It is free from harmful substances for the ozone layer, so it does not promote its winter effect (NO contains HFCs, HCFCs, VOCs, etc.) and does not emit environmental substances that have been installed. The system is 100% recyclable by the media Mechanics respect the environment. No gas capture is required for recycling and/or destruction.
- Do not apply on terraces, balconies, roofs, or in situations of exposure to the outside
- The properties of the polyurethane foam system allow it to adhere to any surface such as concrete, ceramics, metals, polyurethane foam, wood, acrylic paints, plywood, fiber cement, interior masonry, exterior drywall (checking on another type of surfaces).
- 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
- Foam applied without allowing for cooling may result in excess heat build-up and result in fire or the generation of offensive odors that may not dissipate with time.
- The thermal conductivity coefficient remains unchanged from the application and along with the product life.
- The applicator/contractor must know and respect the local regulations according to the use, taking into account the physical and chemical characteristics of the polyurethane foam system to be used and comply with all applicable and appropriate guidelines for processing and handling guidelines.
- 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.

YIELD

The performance is around 1kg/sqm at 10 cms of thickness.

PACKAGING

Metal drums of 215 kg for the polyol, and 250 kg for the isocyanate.

SHELF LIFE

- POLYOL COMPOUND: 4 months (we recommend stirring before use and also during the application)
- ISOCYANATE COMPOUND: 6 months

Always store the drums before use at a temperature between 5 and 35 ºC *(41-95 ºF)*, always in dry areas, without the possibility of moisture entering, and without direct contact with the sun or heat sources, otherwise they may be affected its reactivity and performance. Low ambiance temperature increase the viscosity of the polyol, which makes it difficult to mix and apply, and can generate crystallization in the isocyanate, which can cause its mixing ratio to vary and the consequent internal problems in the mixing and application equipment .

APPLICATION METHOD

In general, you should take the following factors:

- The application of this spray polyurethane foam system 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, oils or greases.
- In applications with high-temperature gradients a vapor barrier is placed on the warm side of the insulation to prevent condensation
- Metal surfaces should be protected with an anti-corrosive primer before being coated with foam. On smooth surfaces without pores, galvanized steel, polypropylene, etc ... a secure grip primer should be applied
- To apply in one direction to achieve the expansion which is about 10 ~ 12 cm. per coat. If necessary, and once fully expanded, apply a second layer on the already initially applied. Wait for the temperature of the first layer to drop to 35-40ºC *(95ªF-104ªF)* before applying the second layer.
- Total thickness will be defined by the project specifications under the Local Rules.
- Its great expansion causes sometimes have to cut the excess with the help of a saw
- The ideal drum temperature for processing Tecnofoam (Polyol and isocyanate) is 20-30°C.
- To achieve optimum parameters, you must mix, before use, the polyol minimum 10 minutes or more depending on the age of the material.
- Is highly recommended to keep mixing the polyol drum, during the application process to maintain a uniform blend and an optimum consumption.
- Mechanical stirrer should be run at low/medium speed but not fast enough to cause frothing and get not homogeneous liquid polyol.

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:

- Isocyanate heater temperature: 40-55º *(104ºF to 113ºF)*
- Polyol heater temperature:40-55ºC *(104ºF to 113ºF)*
- Hose temperature:40-50ºC *(104ºF to 122ºF)*
- Working pressure:1.200-1.750 psi *(80 -120 bar)*

These temperature and pressure parameters must be valued, ratified or slightly varied by the applicator, depending on the conditions of each climatic zone, weather situation or according to the specifications of the projection equipment. It is the responsibility of the owner / applicator of the equipment to keep it in perfect condition in order to maintain the correct mixing ratio of the two components that Tecnopol delivers separately, by periodically updating its maintenance controls. During the execution of the application, it may be necessary to correct these parameters according to changing external conditions, as well as to verify the correct operation of the machine (pressure and temperature).

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.
- Re-occupancy of the work site without respiratory equipment is minimum 24 hours providing the correct ventilation for the area sprayed.
- Contractors and applicators must comply with all applicable and appropriate guidelines for storage and safety guidelines.

Consult the material and safety data sheet of the products of the system.

COMPOUND CHARACTERISTICS

CHARACTERISTIC	POLYOL	ISOCYANATE(MDI)
Viscosity	700 mPa.s	210 mPa.s
NCO content ISO 14896	---	31 %
Specific weight	1.08 g/cm³	1.23 g/cm³
Mix ratio(volume)	100	100
Mix ratio (weight)	100	110

Results performed in the laboratory at 25ºC (77ºF) and 50% RH, under controllable conditions. These values may vary depending on the application, climatology, or substrate conditions.

APPLIED SYSTEM CHARACTERISTICS (REACTION)

CHARACTERISTIC	VALUE
Cream / Stirring time EN-14315-1	2~6 secs
Gel time EN-14315-1	6~10 secs
Tack-free time EN-14315-1	10~14 secs
Free rise density / Applied density	7~9 kg/m³ / ±8 kg/m³
Closed-cell content ISO-4590	<20% (CCC1)
Thermal conductivity value EN-12667	0.038 W/mK
Water absortion by partial inmersion EN-1609	<0.50 Kg/sqm
Water vapor transmission EN-12086	μ ≥**3**
Reation to fire EN-13501-1	Euroclass E
Dimensional stability (-20ºC/-% , 70ºC/ 90%) EN-1604:2013	DS (TH) 3 DS (TH) 4
Compressive strength (internal test)	±8 KPa
Acoustic test (internal test)	-40db in 195mm (thickness)

Results performed in the laboratory at 23ºC (68ºF) and 50% RH, under controllable conditions. These values may vary depending on the application, climatology, or substrate conditions.

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