



TECNOCOAT H-2049 LV - HYBRID POLYUREA MEMBRANE FOR WATERPROOFING AND COATING

The hybrid polyurea TECNOCOAT H-2049 LV system was developed as a single coating suitable for waterproofing, protection and sealing in general. TECNOCOAT H-2049 LV membrane is made up of high reactive liquid components, isocyanates polyol and amines, which are mixed together using spray equipment.

USES

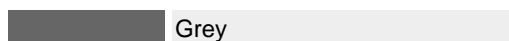
For waterproofing and protection of:

- Sloped roofs, terraces, balconies and overhangs.
- Retaining walls and foundations
- Roofs
- To protect spray foam (TECNOFOAM G-2050)
- Asbestos roofs

recommended thickness	±2 mm
tack free time at 23°C	±13~17 seconds
tensile strength at 23°C	±13 MPa
elongation at 23°C	>250%
Shore A hardness at 23°C	>85
application method	high pressure reactor



COLORS



GENERAL FEATURES

- TECNOCOAT H-2049 LV is a hard-wearing product that; once applied, offers great stability and durability.
- Thanks to its versatility and its drying time of between 13 and 17 seconds TECNOCOAT H-2049 LV adapts to any surface, making it the ideal product for application on uneven surfaces and in areas of any shape, whether curved or squared.
- Applying TECNOCOAT H-2049 LV saves in seals and any other kind of joints, as the finish is uniform and makes up a single layer, providing a surface with optimum maintenance and cleaning properties.
- The TECNOCOAT H-2049 LV system should be applied in dry conditions avoiding the presence of humidity or coming from the surface to be coated or the substrate, whether at the time of application or subsequently (pressure from phreatic water level).
- In the event there is humidity in the substrate at the time of application, consult the technical specifications of our primers where the maximum humidity ranges are specified,
- It requires solar radiation protection (UV rays) to ensure it does not lose its properties, given that it is an aromatic membrane. So you can apply a protective polyurethane resin TECNOTOP 2C/2CP over, for use in the absence of other physical protection elements.



- TECNOCOAT H-2049 LV is immune to temperature changes of between -20° and +120°, conserving its elastic properties without becoming cracked or soft.
- The fast reaction upon application provides great stability in a few seconds and it may be walked on and guarantees waterproofing in less than 3 hours. This polyurea reaches its optimum conditions after approximately 24 hours.
- The TECNOCOAT H-2049 LV system's properties enable it to bond to any surface, such as cement, concrete, polyurethane, wood, metal, etc. Furthermore, due to its resistance it can be walked on and it will accept a rough finish to make it non-slip

PACKAGING

Metal drums of 225 kg each component

SHELF LIFE

12 months at temperatures between 5° C and 25° C, provided it is stored in a dry place. Once the tin has been opened, the product must be used immediately. Once opening drum, slightly mix mechanically component B (amines), for good mixing of their components.

APPLICATION METHOD

For the formation of the solid membrane TECNOCOAT H-2049 LV, it is necessary to mix the two initial liquid components through a specialized reactor equipment. (Proper maintenance and cleaning it is recommended).

- repair the surface (fill in depressions, eliminate unevenness, eliminate any old waterproofing, etc.)
- singular points preparation(perimeter, sinks / evacuations, expansion joints or structural)
- clean up the surface or substrate, removing any dust, dirt, grease or efflorescence.
- the surface has to be enough compressive strength of adhesion of the membrane. If it were not so, we will proceed to apply our primers resins to achieve this target
- the pull off strength of the membrane will be minima 1,5 N/mm² (MPa)
- in case of dubt of all above, apply before in a restricted area and to check

The TECNOCOAT H-2049 LV pure poliurea system can be applied to many different surfaces and the procedure will vary depending on its nature or state.

Below we set out some of the application for the most common surfaces; for other surfaces not described, please contact our technical department.

Concrete substrate

- any depressions or voids should be repaired using a mix (ratio of ±1:4) of our epoxy resin PRIMER EP-1020 mixed with silica sand.
- the concrete should be completely cured (concrete curing takes 28 days) or, in any case, the maximum level of humidity allowed for the substrate should be verified, depending on the primer used.
- any concrete laitance or release agents should be eliminated and an open pore surface achieved by grit blasting, milling or sanding.
- next, clean and eliminate all contaminants from the elements, such as dust or particles from the previous processes.
- apply the primer in the conditions and with the parameters indicated in the technical specifications for these products. In general, the dual component polyurethane PRIMER PU-1050 should be used.
- apply the TECNOCOAT H-2049 LV polyurea membrane
- application of the polyurethane resin TECNOTOP 2C, in consumption and desired thicknesses in the case of no protection against UV rays. This application can be done by short hair roller type equipment "airless" (see the conditions of application in the product data sheet TDS)



Metal substrate

- metal surfaces should be prepared using sand-blasting, in order to improve the surface's mechanical fixation properties.
- check the seals and overlaps and where necessary seal with MASTIC PU mastic or TECNOBAND 100, in combination.
- for rapid and efficient cleaning of the surface use a ketene based solvent.
- apply prior priming using a water-based epoxy type primer, our PRIMER EPw-1070, to improve surface leveling and bonding. Consult the technical specifications of this product.
- apply the TECNOCOAT H-2049 LV polyurea membrane.
- application of the polyurethane resin TECNOTOP 2C, in consumption and desired thicknesses in the case of no protection against UV rays. This application can be done by short hair roller type equipment "airless" (see the conditions of application in the product data sheet TDS)

Ceramic substrate

- ceramic surfaces should not have empty joints or loose elements or parts. These should be filled with MASTIC PU mastic, complemented with TECNOBAND 100 on the joints if necessary.
- for rapid and efficient cleaning of the surface use pressurized water and check that it evaporates completely. Also verify that all dust and other physical contaminants have been eliminated.
- next apply the required primer; in these cases of non-porous surfaces use the water-based epoxy PRIMER EPw-1070.
- apply the TECNOCOAT H-2049 LV polyurea membrane.
- application of the polyurethane resin TECNOTOP 2C, in consumption and desired thicknesses in the case of no protection against UV rays. This application can be done by short hair roller type equipment "airless" (see the conditions of application in the product data sheet TDS)

Sheets: substrate:

The existing sheet surfaces (bitumen, EPDM, PVC ...) must not show surface areas raised or not in good condition. He withdrew in poor areas.

- there shall be cleaned with water, ensuring complete evaporation.
- next apply the required primer; in these cases of non-porous surfaces use the water-based epoxy PRIMER EPw-1070.
- apply the TECNOCOAT H-2049 LV polyurea membrane.

Always consult the waiting and drying times and application conditions for all products in the Specification Sheets(TDS or MSDS) for each product.

APPLICATION REQUIREMENTS (REACTOR EQUIPMENT)

For the formation of the solid membrane TECNOCOAT H-2049 LV, it is necessary to mix the two initial liquid components, isocyanates and amines through a specialized reactor equipment. (Proper maintenance and cleaning it is recommended).

- Heater isocyanate temperature: ± 75 °C
- Heater amines temperature: ± 65 ~ 67 °C
- Hose temperature: ± 70 ~ 73 °C
- Pressure: 2.700 ~ 2.900 psi (180 ~ 200 bar)
- Recomendado Mixing chamber: AR 2929 / AR3737

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 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 TECNOCOAT H-2049 LV 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.

- PRIMER EP-1020: mixed with silica sand in a ratio of $\pm 1:4$, or calcium carbonate in ratio $\pm 1:2$, this is used to fill in depressions in concrete surfaces, rapidly providing a firm and fast drying even base.
- PRIMER PU-1050/PRIMER EPw-1070/PRIMER PUc-1050/PRIMER PU-1000: these several resins are applied on the substrate beforehand to improve bonding and level the surface, as well as regulating the humidity in the substrate (see permitted levels in their technical specifications). Consumption may vary depending on the type of support, nature or surface texture. Consult the technical specifications of each product or our technical department.
- TECNOCOAT CP-2049: pure cold polyurea for manual application, self-leveling for small applications on TECNOCOAT H-2049 LV, repairs or application in areas of difficult access
- TECNOTOP 2C: dual-component colored aliphatic polyurethane resin, used to protect roofs and floors or ground against UV rays when there is no other protection.
- TECNOTOP 2CP: dual-component colored aliphatic polyurethane resin used to protect against UV rays and chlorinated water when waterproofing swimming pool, lakes and aquariums.
- TECNOPLASTIC F/C: this plastic powder, once mixed with TECNOTOP 2C/2CP, forms a rough surface, conforming even to norm ENV 12633:2003 (floors slipperiness), to achieve Class 3 (>45 slip resistance), depending on dosage (consult our technical department).
- TECNOBAND 100: cold bond deformable band made up of an upper layer of non-woven textile and lower layer of viscoelastic self-adhesive coating, which together allow it to adapt to the shape of the substrate. This band is ideal when dealing with structural joints and overlapping metal materials.
- MASTIC PU: polyurethane mastic for filling joints (use together with TECNOBAND 100 when necessary).



COMPONENTS TECHNICAL DATA

PROPERTIES	COMPONENT A	COMPONENT B
Specific gravity at 23°C	1,11±5%/cm ³	1,12 ±5%/cm ³
Dry extract at 105 °C (% weight) EN 1768	100	100
Viscosity (S63, 30 rpm) at 23°C EN ISO 2555	450±50 cps	650±50 cps

MEMBRANE TECHNICAL DATA

PROPERTIES	RESULTS	METHOD
Density at 23°C	1.100 kg/m ³	BS 4370 PART 1 METH 2
Elongation at break at 23°C	>250%	ISO 527
Tensile Strength at 23°C	>13 MPa	EN ISO 527-3
Hardness (Shore A)	>85	DIN 53.505
Hardness (Shore D)	>45	DIN 53.505
Minimum thickness	1,4 mm	
Recommended thickness	2 mm	
Surface temperatures	-20°C~90°C	
Roof slope	zero slope	
Fire reaction	Euroclass F	
Gel time at 23°C	±13~17 seconds	
Cured time at 23°C	±12 hours	
Solids (VOC zero)	100%	
Thermal resistance	It behaves consistently with temperature range of: -20°C ~+120°C	

These values in this table are approximate, and can vary depending on the situation of the carrier or application methodology employed

