



## TECNOCOAT H-2049 LV - LOW VISCOSITY POLYUREA MEMBRANE

The 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 and resins, which are mixed together using spray equipment.

### USES

For waterproofing and protection of:

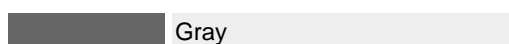
- Sloped or flat roofs, terraces, balconies, and overhangs.
- Retaining walls and foundations
- Concrete slabs
- To protect spray foam (TECNOFOAM G-2060HFO)
- Asbestos roofs

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

recommended minimum thickness	±1,5 mm
tack-free time at 23°C	13~17 secs
tensile strength at 23°C	±13 MPa
elongation at 23°C	>250 %
shore A hardness at 23°C	>85
application method	spray equipment
VOC(volatile organic compounds)	0



### COLORS



### GENERAL FEATURES

- TECNOCOAT H-2049 LV is a hard-wearing product that; once applied, offers great stability and durability.
- The application and training is done by our spray equipment TC2049 ([spray-equipment.tecnopolgroup.com](http://spray-equipment.tecnopolgroup.com)) or similar
- 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.



- 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 aliphatic resin TECNOTOP S-3000/ 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 to waterproof 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 35° 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 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 minimal 1,5 N/mm<sup>2</sup> (MPa)
- in case of doubt of all above, apply before in a restricted area and to check

The TECNOCOAT H-2049 LV pure polyurea 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 applications 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 open the 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 aliphatic resin TECNOTOP S-3000/2C/2CP/1C, 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 datasheet 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 using a ketone-based solvent.
- apply prior priming using PRIMER EP-1040 or PRIMER EPw-1070, to improve surface leveling and bonding. Consult the technical specifications of these products.
- apply the TECNOCOAT H-2049 LV polyurea membrane.
- application of the aliphatic resin TECNOTOP S-3000/2C/2CP/1C, 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 datasheet 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 aliphatic resin TECNOTOP S-3000/2C/2CP/1C, 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 datasheet TDS)

#### Sheets:

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.
- application of the aliphatic resin TECNOTOP S-3000/2C/2CP/1C, 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 datasheet TDS)

#### Notes:

- Consult in all cases the waiting times, drying time, singular points treatment, conditions of application of all the products through the technical data sheets of each product or consult our technical department.
- For other types of supports/substrates, for further information on the execution application procedure, for any additional questions, please, consult the technical data sheets (TDS) of these products, or our technical



department.

- These guidelines are valid although they can be modified, according to the situation of the supports, conditioning of the bearing structures of the elements to be waterproofed, external climatology or situation at the time of application

## REPAIR AND OVERLAPS PROCESSES

### REPAIR

In cases where the membrane repair by accidental causes, or assembly procedures not covered installations, shall be as follows:

- cut, removal of the affected area and/or damaged surface
- sanding this area extending about 20~30 cm. around the perimeter, for overlapping security
- cleaning (vacuuming) of waste generated (powder, dust...); if it's possible don't use water, and if used, support humidity value; ketones applicability based solvents for reducing this type of surface cleaning
- apply a thin layer (50-100 g/m<sup>2</sup>) of polyurethane resin PRIMER PU-1000
- light spread SILICA SAND over the wet primer applied before
- wait for the total drying
- apply TECNOCOAT H-2049 LV, TECNOCOAT CP-2049 or DESMOPOL(adding DESMOPLUS, using by roll, squeegee or trowel)
- apply TECNOTOP S-3000/2C/2CP/1C, 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 datasheet TDS)

### OVERLAPS

In cases has been exceeded recoat time (24~48 hours), so the waiting time between jobs is prolonged, proceed as follows:

- sanding strip longitudinal overlap of about 20~30 cm. wide
- cleaning (vacuuming) of waste generated (powder, dust...)or existing dust; if it's possible, do not use water, and if it's used, check the support humidity value; ketones applicability based solvents for conducting this type of surface cleaning
- apply a thin layer (50-100 g/m<sup>2</sup>) of polyurethane resin PRIMER PU-1000.
- light spread SILICA SAND over the wet primer applied before
- wait for the total drying
- apply TECNOCOAT H-2049 LV, TECNOCOAT CP-2049 or DESMOPOL(adding DESMOPLUS, using by roll, squeegee or trowel)
- apply TECNOTOP S-3000/2C/2CP/1C, 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 datasheet TDS)

## APPLICATION REQUIREMENTS (SPRAY EQUIPMENT)

For the formation, it is necessary to mix the two initial liquid components, isocyanates and amines by 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: ±65 °C
- Heater amines temperature:±65°C
- Hose temperature:±65°C
- Pressure:± 1.800 psi/130 Bar
- Recommended Mixing chamber: GU-07008-1 or 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.

## 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. Always read the MSDS before use and handling the product.

- 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.
- Vapor and atomized liquids are harmful
- Use only in ventilated areas, wear approved respirators when necessary
- Keep out of reach of children
- Do not use near high heat or open flame

Anyway, consult the material and safety data sheet (MSDS) of the product. To obtain an MSDS, please call +34935682111 or send an email to [dpont@tecnopol.es](mailto:dpont@tecnopol.es)

## 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 EP-1040 |PRIMER EPw-1070 |PRIMER PUc-1050 |PRIMER PU-1000 | PRIMER EP-1020: 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 coating 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 walkable and vehicular roofs and floors or ground against UV rays when there is no other protection. (according to ETA 11/0357 and BBA 16/5340)
- TECNOTOP 2CP: dual-component colored aliphatic polyurethane resin used to protect against UV rays and chlorinated water when waterproofing swimming pools, lakes, and aquariums.
- TECNOTOP 1C: single component colored aliphatic, used to protect non-walkable roofs or only for maintenance, against UV rays when there is no other protection
- TECNOTOP S-3000: (polyaspartic resin) two-component, aliphatic, colored, cold polyurea coating for protection against UV rays, in situations of decks or floors without additional protection. Excellent for vehicular cover applications, quick-drying and setting up.
- TECNOPLASTIC: this plastic powder, once mixed with TECNOTOP 2C/2CP/S-3000/1C, 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: the cold bond deformable band made up of an upper layer of non-woven textile and a 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).



## MEMBRANE TECHNICAL DATA

PROPERTIES	RESULTS
Density at 23°C ISO 1675	1,15 g/cm <sup>3</sup>
Isocyanate viscosity at 23°C UNE-EN ISO 2555	±900 cps
REsines viscosity at 23°C UNE-EN ISO 2555	±650 cps
Tack free time at 23°C	±13-17 sec
Cured time at 23°C	±12 hours
Elongation at break at 23°C ISO 527-3	>250%
Tensile Strength at 23°C ISO 527-3	>13 MPa
Max. tensile strength ISO 37 at 7 days internal test	29 MPa
Max. elongation ISO 37 at 7 days internal test	420%
Modulus 100% ISO 37 at 7 days internal test	10,3 MPa
Hardness ( Shore A ) DIN 53.505	>85
Hardness ( Shore D ) DIN 53.505	>45
Surface temperatures	-20°C~90°C
Roof slope	zero slope
Fire reaction	NPA
VOC(volatile organic compounds)	0
Adherence to concrete	> 2 MPa
Thermal resistance	It behaves consistently with a 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

## TECHNICAL DATA OF COMPONENTS

PROPERTIES	COMPONENT A	COMPONENT B
Specific gravity at 23°C ISO 1675	1,11±5%/cm <sup>3</sup>	1,09-1,12 ±5%/cm <sup>3</sup> *
Viscosity (S63, 30 rpm at 23 °C) ISO 2555	900±50 cps	650±50 cps *
Mix ratio – in weight	100	102
Mix ratio – in volume	100	100

\*: these data only in a neutral color; for other colors, this data may vary, please check COA

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are only intended for sale to



industrial and commercial customers. The customer assumes full responsibility for quality control, testing, and determination of the suitability of products for its intended application or use.

We warrant that our products will meet our written liquid component specifications. We make no other warranty of any kind, either express or implied, by fact or law, including any warranty of merchantability or fitness for a particular purpose since Tecnopol Sistemas S.L.U. does not control the execution, since Tecnopol Sistemas S.L.U. does not control the execution. Our total liability and customers' exclusive remedy for all proven claims is the replacement of the nonconforming product and in no event shall we be liable for any other damages. While descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, they are provided for guidance only. Because many factors may affect processing or application/ use, Tecnopol Sistemas S.L.U. recommends that the reader make tests to determine the suitability of a product for a particular purpose prior to use.

No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be sued without infringing the intellectual property rights of others. In no case shall the descriptions, information, data or designs provided be considered a part of Tecnopol Sistemas S.L.U. terms and conditions of sale. Further, the descriptions, designs, data, and information furnished by Tecnopol Sistemas S.L.U. hereunder are given gratis and Tecnopol Sistemas S.L.U. assumes no obligation or liability for the description, designs, data or information is given or results obtained, all such being given and accepted at the reader's risk.

All data furnished refers to standard production using manufacturing testing tolerances. The product user, and not Tecnopol Sistemas S.L.U., is responsible for determining the suitability and compatibility of our products for the final user's intended use.

The liability of Tecnopol Sistemas S.L.U. and its affiliates for all claims is limited to the purchase price of the material.

Products may be toxic and require special precautions in handling. Users should obtain detailed information on toxicity, together with proper shipping, handling and storage procedures, and comply with all applicable safety and environmental standards.

No freedom from any patents or other industrial or intellectual property rights is granted or to be inferred.

