



## TECNOCOAT CP-2049 - COLD POLYUREA MEMBRANE FOR WATERPROOFING AND COATING

TECNOCOAT CP-2049 is a two-component liquid made up of aromatic polyurea, once catalyzed forms a continuous, seamless, solid and elastic, watertight, and waterproof membrane. Its properties make it an excellent choice to be applied on a multitude of substrates of new buildings and especially in refurbishments. It is applied manually, using a squeegee in only one coat.

It has CE marking on the basis of a statement made DoP Declaration of Performance (DoP) conforms to the UE 305/2011 regulation.



## USES

Cold polyurea liquid membrane system, for waterproofing or coating:

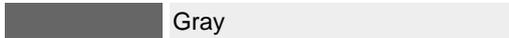
- ROOFING: walkable, flat, low or steep-slope roof, balconies, and overhangs
- Structural concrete slabs, and concrete walls and foundations
- Swimming pools, artificial lakes, and ponds. Near seawater
- IRMA roofing system
- Flat or sloped metal and asbestos roofs (used with TECNOFOAM spray polyurethane foam system)
- As a protection for SPF (TECNOFOAM, spray polyurethane foam system)
- Green roof
- To repair/recoating the hot-spray TECNOCOAT membranes range

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

density	1,40±0,05 g/cm <sup>3</sup>
minimum recommended thickness	± 1,5 mm
pot-life	± 20~25 min
tensile strength	±6~8 MPa
elongation at break	>500 %
hardness Shore A	>85
application method	by squeeze or roll



## COLORS



## GENERAL FEATURES:

- TECNOCOAT CP-2049 is a very strong and hard-wearing membrane that, once applied, offers great stability, durability, and a perfect waterproofing and seal.
- it holds an ETA 20/0253, issued by EOTA (European Organization for Technical Assessment). under the EAD 030350-00-0402 guide, specific approval for "**Liquid Applied Roof Waterproofing Kit, based on pure polyurea**" working life 25 years ( W3), at 1.2 mm thickness, ponding water admitted
- The application method is by the squeegee, trowel or roll, (do not apply with the airless machine)
- Thanks to its versatility and its drying time of between 20~25 minutes TECNOCOAT CP-2049 adapts to any surface, making it the ideal product for application on uneven surfaces and in areas of any shape, whether curved or squared.
- The TECNOCOAT CP-2049 system's properties enable it to bond to any surface, such as concrete, ceramic tiles, polyurethane foam, wood, metals, bituminous sheets, acrylic paints
- Applying TECNOCOAT CP-2049 saves in seals and any other kind of joins, as the finish is uniform and makes up a single layer, providing a surface with optimum maintenance and cleaning properties.
- it 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 in the TDS
- the system requires solar radiation protection (UV rays) to do not lose its physical and mechanical properties, given that it is an aromatic membrane is necessary to apply a protective polyurethane colored aliphatic resin, Tecnotop 2C, for use in the absence of other physical protection elements. You can apply too Tecnotop S-3000, Tecnotop 2CP or Tecnotop 1C.
- USe Desmothix on vertical and sloped surfaces
- Furthermore, due to its resistance, it can be walked on and it will accept a rough finish to make it non-slip (according to ENV 12633:2003)
- Ceramic flooring can be placed on top. In this case, we recommended spreading a well-distributed load of Silica Sand to improve mechanical anchorage, or if it has already catalyzed, spreading a layer of PRIMER PU-1050 (100-120 g/sqm), for anchoring the Silica Sand

## THICKNESS AND RECOMMENDED YIELD

The recommended minimum thickness is up to 1,5 mm, so the yield will be up to 2,3 kg/sqm (DFT) applied on only one coat. this consumptions may vary according to the substrate conditions and climate.

## PACKAGING

Metal tins in this format:

- SMALL KIT: 4,80 kg and 0,20 kg
- BIG KIT: 19,2 kg and 0,8 kg

## 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.



## APPLICATION METHOD

In general, you should take the following factors:

- Surface repairation ( fill the cracks and fissures, remove old existing waterproofing paints...).
- Clean up the surface, removing dust, oils and grasses, and existing chippings.
- Support will be strong and dry.
- The supports must be firm and dry. No moisture or humidity inside or by capillarity from the backfill.

You can apply Tecnocoat CP-2049 over several supports and materials. Below we set out some of the applications for the most common surfaces; for other surfaces not described, please call our technical department.

### Concrete substrate

- any depressions or voids should be repaired using a mix (ratio of  $\pm 1:4$ ) 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 up and eliminate all contaminants from the elements, such as dust or particles from the previous processes.
- apply the primer resin in the conditions and the parameters indicated in the technical specifications for these products. On concrete, we recommended the two-component resins PRIMER PU-1050 / PRIMER PU-1000 / PRIMER PUc-1050 / PRIMER EP-1010. See the TDS of each product before the application
- roll or squeeze application of the TECNOCOAT CP-2049 pure 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 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 our PRIMER EP-1040 or PRIMER EPw-1070, to improve surface bonding. See the technical specifications of this product, on his TDS.
- apply the TECNOCOAT CP-2049 polyurea membrane.
- apply TECNOTOP 2C to protect the membrane from the UV rays

### 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 CP-2049 polyurea membrane.
- apply TECNOTOP 2C to protect the membrane from the UV rays



### **Sheets substrate**

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

- existing joints or seals: remove the old material, clean up and fill with MASTIC PU and reinforced using TECNOMESH 100
- light sandblasting of the surface, to remove chips and dirt
- clean up, using a vacuum method.
- apply prior priming using our PRIMER EP-1040 or PRIMER EPw-1070, to improve surface bonding. See the technical specifications of this product, on his TDS.
- Apply the TECNOCOAT CP-2049 polyurea membrane.
- Apply TECNOTOP 2C to protect the membrane from the UV rays

Always consult the waiting and drying times and application conditions for all products in the TDS of each one.

## **REPAIR AND OVERLAPS PROCESSES**

### **REPAIR**

This cold membrane has very good adhesion on the substrates. To improve it In cases where the membrane must be repaired 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 (100-150 g/sqm) of polyurethane resin PRIMER PU-1050, PRIMER EPw-1070
- light spread SILICA SAND over the wet primer applied before
- wait for the total drying
- apply TECNOCOAT CP-2049
- 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 nap 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 (100-150 g/sqm) of polyurethane resin PRIMER PU-1050, PRIMER EPw-1070.
- light spread SILICA SAND over the wet primer applied before
- wait for the total drying
- apply TECNOCOAT CP-2049
- 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 nap roller type equipment "airless" (see the conditions of application in the product datasheet TDS)

## **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 product (MSDS)

## COMPLEMENTARY PRODUCTS

This 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-1010: 100% solids, two-component, fillerized epoxy resin, to fill in depressions in concrete surfaces, one coat application so, rapidly providing a firm and fast drying even base.
- PRIMER EP-1020: 100% solids, two-component, epoxy resin, improving the adhesion, in one coat application so, rapidly providing a firm and fast drying even base.
- PRIMER PU-1050/PUC-1050: these several resins are applied on the substrate beforehand to improve bonding and level the surface and regulate the humidity in the substrate (see permitted levels in their technical specifications).
- PRIMER EP-1040: epoxy resin for its previous application on metallic or ceramic supports, improving adhesion, absorbing resident moisture in the support, and regularizing the planimetry of the support.
- PRIMER EPw-1070: epoxy water-based resin for the application on concrete, asphalt sheets, metal, or ceramic, improving adhesion, absorbing resident moisture in the support.  
PRIMER WET: epoxy resin for the application on concrete or ceramic substrates, improving adhesion, absorbing resident moisture in the substrate.
- TECNOTOP 2C: dual-component, glossy, and colored aliphatic polyurethane resin, used to protect walkable and vehicular roofs and floors or ground against UV rays when there is no other protection.
- TECNOTOP 2CP: dual-component, satin and colored aliphatic polyurethane resin used to protect against UV rays and chlorinated/salted water for swimming pools, lakes, and aquariums waterproofing.
- TECNOTOP 1C: single component, glossy, and 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, coating for protection against UV rays, quick dry time, and excellent chemical and mechanical characteristics.
- 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).
- DESMOTHIX: the additive that provides thymotropic properties, specifically designed to be mixed with
- TECNOBAND 100: the cold bond deformable band is 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.
- TECNOMESH 100: fiberglass mesh to reinforce the solid membrane (joints, upstands...)
- MASTIC PU: polyurethane mastic for filling joints (use together with TECNOBAND 100 when necessary).



## MEMBRANE PROPERTIES

PROPERTIES		RESULT
Density	ISO 1675	1,40±0,05 g/cm <sup>3</sup>
Viscosity	ISO 2555	3.000 ~ 4.000 cps
Density components A/B	ISO 1675	1,45 ±0,05 g/cm <sup>3</sup> / 1,05 ±0,05 g/cm <sup>3</sup>
Viscosity components A/B	ISO 2555	3.000~4.500 cps / 250~500 cps
Pot-life		±20~25 minutes
Initial dry time		±3 hours
Total dry time		±1 day
Total cured time		±6 days
Elongation at break	ISO 527-3	>500 %
Tensile strength	ISO 527-3	>6~8 MPa
Hardness Shore A/D	DIN 53.505	>85 / >35
Environmental /support temperature range for application		+3°C ~ 35 °C
Max. environmental relative humidity		80 %
Solids content	ISO 1768	>85%
VOC content		250~275 g/l comp. A + 0 g/l comp. B
Adherence to concrete		>2,1 MPa
Fire reaction		NPA
Anti roots		ABLE (internal test)

*Results were performed in the laboratory at 23°C and 50% RH, under controllable conditions. These values may vary depending on the application, climatology, or substrate conditions.*

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