

NEW GENERATION MEMBRANE OF
LONG DURATION FOR
WATERPROOFING AND SURFACE
PROTECTION

POLYUREA P-2049



Wat is the POLYUREA P-2049?

- High quality polymeric finish
- Composed by two components A + B
- Applied by spray at 75 °C
- Nominal thickness of 1,6 to 2 mm.
- Have a exceptional physical and chemical properties
- Fast reaction and cure time
- Flexible
- Waterproof
- It applies only with machine
- 100 % sólids and free of VOC



Basic requirements

Required equipment:

- Projection machine capable of:
- High pressure 240 bar (24.0 Mpa, 3.500 psi)
- Working temperature aprox. 75°C
- Maximum hose length 94 mts.






Utility:

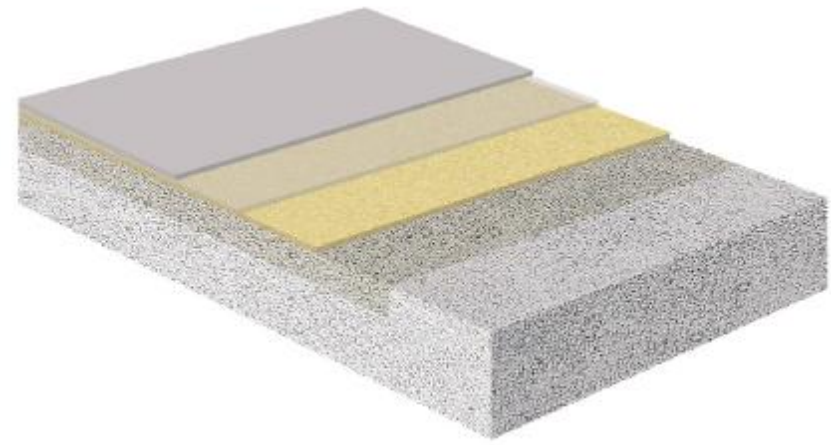
- Most of the waterproofing projects
- Big volume of application over 1.000 sqm per day

Key points:

- Fast application
- Gel Time 3 to 5 seconds
- Possibility of diferents formulations



-  Sustrate
-  Sustrate preparation
-  Primer
-  Continous membrane (P2049.1)
-  Finish layer (optional)



TECNOLOGIA EN **TECNO**

URETANO



Sustrate:

- The substrate to implement the p-2049 Polyurea must be consistent and with the sufficient compressive strength (minimum 25 N/msqm) and a minimum resistance to uprooting of 1.5 N/msqm.

The substrate must be clean, dry and free of contaminants such as dirt, oil, grease, paint and other surface treatments.

When in doubt, do tastings of the substrate first.





Sustrate preparation:

- The concrete supports must be prepared mechanically to lift the grout surface and to achieve a textured surface open pore. Remove the weak concrete surface defects such as cracks and holes. Make a sustrate preparation filling the cracks and holes with Desmoseal. The concrete supports must be sprayed with Desmopol Primer and regularize up to achieve the desired surface.



 Primer:

- In most cases used a two component epoxy primer Desmopol to provide a better grip and prevent the formation of pores, should be applied with brush or roller, and if necessary, sprinkle lightly with quartz sand of 0.3 to 0.8 mm.
- It is essential that surfaces are structurally sound and fully cured for 28 days (200 psi or greater in accordance with ASTM D 4541
- You must have low moisture vapor transmission (less than 3 lb/24/h./1.000 ft / 2 test method RMA)



Continuous POLYUREA p-2049 Membrane

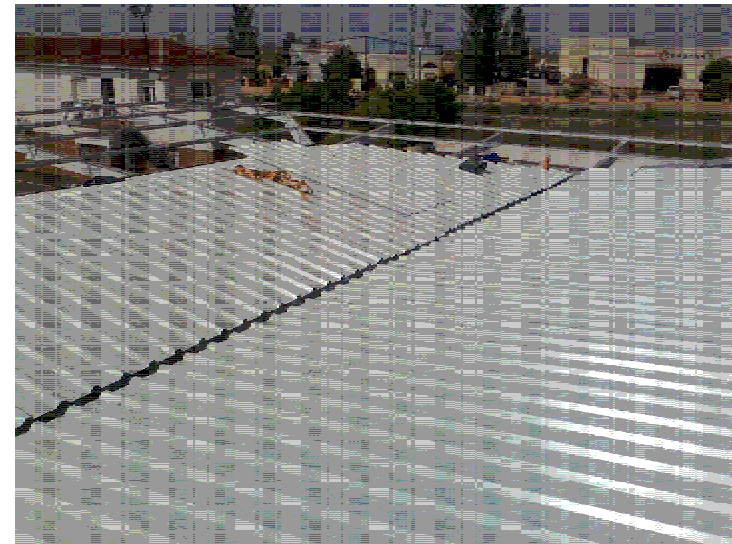
• The **POLYUREA P-2049** is a structural membrane of polyurethane and polyurea spray rapid curing, 100% solid, formulated to have an outstanding balance of resistance to:

- Cold / heat
- Impact
- Rigidity
- Acids
- Solvents
- Gasolines
- Residual waters
- Potable water
- Sea water
- Etc.



■ **Finish layer** (optional)

- Once the application of the **POLYUREA p-2049** is recommended to give one or two coats of an aliphatic polyurethane finish **DESMOPOL ADY** to ensure stability of the desired color.
- It is advisable to give one or more coats of finish before 76h **DESMOPOL ADY** the application of the **POLYUREA p-2049**
- To give as finishing in the pools was used **DESMOPOL ADY 2C**



Basic uses

For waterproofing and corrosion protection for applications on steel, concrete and many other supports

- Protective coatings
- Tanks coatings (CERTIFICATE OF POTABILITY)
- Bridges coatings
- Roof coatings
- Walkways and balconies
- Paving and parking deks
- Industrial plants and production
- Power plants
- Farms
- Treatment plants
- Petrochemicals
- Shipbuilding market
- Etc.



Features / Benefits

- Quick reaction and cure time
- Time of entry into service almost immediately
- Applicable at temperatures between -30°C to +70°C
- It behaves stable temperatures between -30 °C and + 120 °C
- 100 % solids and VOC-free
- Excellent crack bridging properties
- High resistance to solvents, acids and bases
- U.V resistance
- Excellent corrosion protection
- scratch resistance
- System layer



Conditions of application

- **Substrate temperature:**

-30 °C to + 70 °C

- **Ambient temperature:**

-30 °C to + 70 °C

- **Moisture content of support :**

-6% parts by weight in moisture content, should be no moisture capillary rise by the ASTM (polyethylene film)

- **Dew point:**

Beware of condensation!

Support and uncured membrane must be at least 3 ° C above dew point to reduce the risk of condensation and prevent damage to the termination of the membrane.



Application method

Prior to application, confirm the moisture content of the medium, the relative humidity and dew point.

Primer:

Primer is needed on the surface, already prepared with **DESMOPOL PRIMER** applied by brush roller or airless spray

• Membrane:

Spray polyurea p-2049 with adequate equipment of two components at high temperature and pressure (Reactor E-XP2) polyurea membrane

Finish :

Once the application of the membrane **p-2049** it is advisable to give one or two coats of an aliphatic polyurethane finish **DESMOPOL ADY** to ensure stability of the desired color.

Waiting times between coats

- Before to apply **POLYUREA p-2049** above **DESMOPOL PRIMER**

Support temperature	Minium	Maxium
+ 10 °C	8 hours	7 Days
+ 20 °C	3 hours	
+ 30 °C	2 hours	
+ 45 °C	1 hours	

- Before to apply **POLYUREA p-2049** above **POLYUREA p-2049**

Support temperature	Mínium	Maxium
+ 10 °C	6 hours	76 Hours
+ 20 °C	5 hours	
+ 30 °C	4 hours	
+ 45 °C	3 hours	

Given that it has removed any remaining dust and other contaminants, otherwise they must open pore.

- Before to apply **DESMOPOL ADY** above **POLYUREA p-2049**

Support temperature	Minium	Maxium
+ 10 °C	6 hours	76 Hours
+ 20 °C	5 hours	
+ 30 °C	4 hours	
+ 45 °C	3 hours	

Curing details

Applied product ready for use

Temperature	Resistance to rain after	Resistance to pedestrian traffic	Resistance to road traffic
+ 10 °C	2 minutes	8 minutes	12 hours
+ 20 °C		5 minutes	
+ 30 °C		4 minutes	
+ 45 °C		3 minutes	


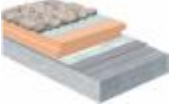
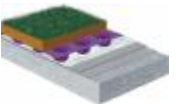




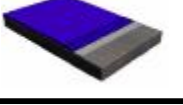
POLYUREA p-2049 Technical data

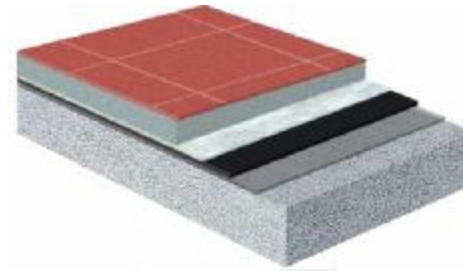
Chemical base	PURE polyurea
Density at 23 °C	Component A: - 1.05 kg/Lts. Component B: - 1.12 kg/Lts.
Gel time	Aprox. 3 or 5 seconds
Time to loss of stickiness	Aprox. 60 to 120 seconds
Posterior cure time	12 hours
Content in solids	> 100%
Viscosity	Component A: 720 a 880 mPas Component B: 720 a 880 mPas
Compressive strength	> 15 N/msqm
Hardness	Shore A 90 / Shore D 50
Elongation at break	342 %
Abrasion resistance	< 15 mg (CS 17/1000/1000) " Taber Abrader"
Fire resistance	Self- extinguishing
Chemical resistance	Resistance a lot of chemicals "see table"
Thermal resistance	Behaves consistently with temperatures between -30 °C a + 120 °C
<p>NOTE: Technical properties and behavior of the p-2049 polyurea not affected by exposure to UV radiation. It is resistant to UV radiation, but the color is not stable under UV radiation</p>	

Comparison of Epoxy and Polyurethane

PROPERTIES	POLYURETHANE	EPOXI	POLYUREA P-2049
Work times	Slow	Slow	Extremely fast (3 seconds)
Moisture Sensitivity	Yes	Yes	100% Insensitive to Moisture
Elongation	80%	Tend to be fragile	342%
Colour stability	Average, yellowing	Average, yellowing	On average, aromatics
Abrasion resistance	Average	Good	Very good
Superior tensile strength	Good	Good	Excelent
Chemical resistance	Good	Good	Excelent
Suitable for food use	No	Yes	Yes
Temperature resistance	-30 °C to +140 °C	-20 °C to +110 °C	-50 °C to +150 °C
Fire resistance	---	---	Self-extinguished
Duration	Good	Normal	Excelent
COV Free	No	No	Yes

- View support system as:

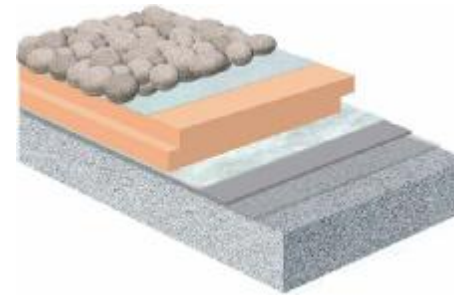
SYSTEMS	SYSTEMS DESCRIPTION	
PT-1 System		Conventional roof under tile
PT-2 System		Cover inverted
PT-3 System		Conventional indoor garden
PT-4 System		Cover boulder conventional
PT-5 System		Flat walkable roof
PT-7 System		Polyurethane foam roof
PT-8 System		Cover sheet
PT-9 System		Swiming pools, artificial lakes, fountais, sewage treatments...



PT-1 System

- Conventional roof under tile

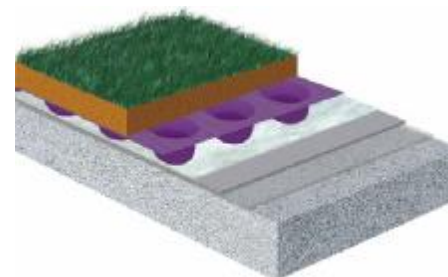
Substrate	System Creation	Approx. consumption
Concrete Mortar Cement glue Thinned concrete Tile Resille	Repair of joints and cracks DESMOSEAL MASILLA PU , applied locally in the expansion joints and cracks with a spatula and leveled gun.	depends on the application
	Primer DESMOPOL PRIMER , Applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	1.5 to 2 Kg/sqm
	Separation Layer GEOTEXTILE PP , First quality Polipropilene	250 gr/sqm
	Compression sheet MORTAR , applied locally in the expansion joints and cracks with a spatula and leveled gun.	1,5 to 2 cm/sqm
	Ceramic finish INDIFERENT , Placed directly in the compression plate	



PT-2 System

- Cover inverted

Sustrate	System creation	Approx. consumption
Concrete Mortar Cement glue Thinned concrete Tile Resille	Repair of joints and cracks DESMOSEAL MASILLA PU , applied locally in the expansion joints and cracks with a spatula and leveled gun.	depends on the application
	Primer DESMOPOL PRIMER , applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	1.5 to 2 Kg/sqm
	Separation Layer GEOTEXTILE PP , First quality Polipropilene	250 gr/sqm
	Thermal insulation POLIESTIRENE , extruded EST each other machambrado placed above the geotextile layer.	1,5 to 2 cm/sqm
	Finish recording REGARDLESS , placed directly on the insulating plate	2 a 4 cm Boulder



PT-3 System

- Conventional indoor garden

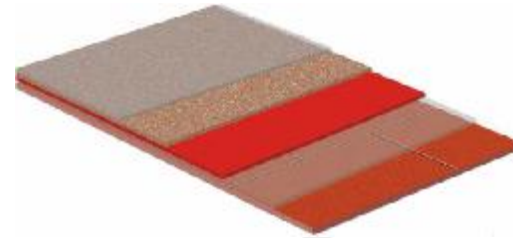
Sustrate	System creation	Approx. consumption
Concrete Mortar Cement glue Thinned concrete Tile Resille	Repair of joints and cracks DESMOSEAL MASILLA PU , applied locally in the expansion joints and cracks with a spatula and leveled gun.	depends on the application
	Primer DESMOPOL PRIMER , applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	2.5 to 3 Kg/sqm
	Separation Layer GEOTEXTILE PP , First quality Polipropilene	250 gr/sqm
	Drainage POLYETHYLENE , Plate embossed polyethylene drainage least 500 g/sqm	500 gr/sqm
	Vegetal earth REGARDLESS , placed directly on the plate draining	



PT-4 System

- Cover boulder conventional

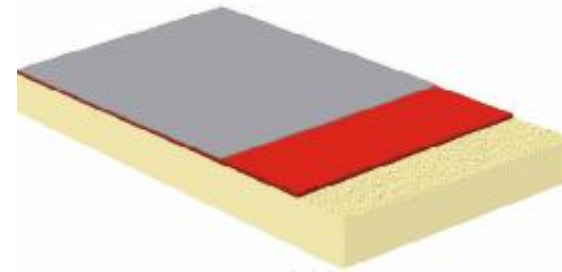
Sustrate	System creation	Approx. consumption
Concrete Mortar Cement glue Thinned concrete Tile Resille	Repair of joints and cracks DESMOSEAL MASILLA PU , applied locally in the expansion joints and cracks with a spatula and leveled gun.	depends on the application
	Primer DESMOPOL PRIMER , applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	1.5 to 2 Kg/sqm
	Separation Layer GEOTEXTILE PP , First quality Polipropilene	250 gr/sqm
	Finish layer Boulder, from 2 to 4 cm placed over the non- punched layer	



PT-5 System

- Flat walkable roof

Sustrate	System creation	Approx. consumption
Concrete Mortar Cement glue Thinned concrete Tile Resille	Repair of joints and cracks DESMOSEAL MASILLA PU , applied locally in the expansion joints and cracks with a spatula and leveled gun.	depends on the application
	Primer DESMOPOL PRIMER , applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	2 Kg/sqm
	Adhesion layer Desmopol Ady applied over the entire medium to be treated.	0,250 Kg/sqm
	Separator system QUARTZ or COLOR QUARTZ applied to saturation	2 to 3 Kg/sqm
	Finish layer DESMOPOL ADY , applied directly to rubber roller or drag on the entire surface	0,400 to 0,500 Kg/sqm



PT-7 System

- Polyurethane foam roof

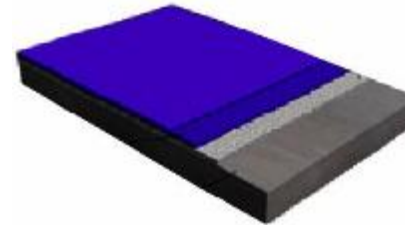
Sustrate	System creation	Approx. consumption
Poliurethane foam	<p>Surface drainage</p> <p>Cleaning and degreasing of the entire surface.</p>	
	<p>Thermal insulation</p> <p>F-2091.1 FOAM applied with high pressure reactor equipment to 3 cm. Thickness and density D/50</p>	1,5 Kg/sqm
	<p>Waterproofing Membrane</p> <p>p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).</p>	1 Kg/sqm
	<p>Finished Layer (Optional)</p> <p>DESMOPOL ADY, applied directly to rubber roller or drag on the entire surface</p>	0,150 Kg/sqm



PT-8 System

- Cover sheet

Sustrate	System creation	Approx. consumption
Sheet metal Galvanized Lacquered veneer Cement plate	Surface drainage Cleaning and degreasing of the entire surface.	
	Primer EPOXI ZINC FOSFATE applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	1 Kg/sqm
	Finished Layer (Optional) DESMOPOL ADY, applied directly to rubber roller or drag on the entire surface	0,150 Kg/sqm



PT-9 System

- Swimming pools, artificial lakes, fountains...

Sustrate	System creation	Approx. consumption
Concrete Mortar Cement glue Thinned concrete Tile Resille	Repair of joints and cracks DESMOSEAL MASILLA PU , applied locally in the expansion joints and cracks with a spatula and leveled gun.	depends on the application
	Primer DESMOPOL PRIMER , applied with spray machine or roller	0,250 Kg/sqm
	Waterproofing Membrane p-2049 POLYUREA applied with high pressure and temperature reactor equipment (240 bar and 75 ° C).	2.5 to 3 Kg/sqm
	Finish layer DESMOPOL ADY-2C , applied directly to roller or airless spray gun on the whole surface	0,250 a 0,300 Kg/sqm

The information given, serve as a recommendation and information, based on laboratory testing and our current knowledge, the different conditions of work may have variations in the information given, so our warranty is limited to the product supplied. For questions, contact our technical department.