TECHNICAL DATA

PUR UREA FLEX

DESCRIPTION

Hardwearing self-levelling product for continuous paving, self-levelling systems, comfortable soundproofing.

ADVANTAGES

PUR UREA FLEX is a two-component flexible polyvalent self-levelling product based on modified "MDI" resins. Continuous flooring suitable for various installations such as automotive, pharmaceutical, sports, geriatric centres, etc. Tough and sound adsorbent self-levelling in EPDM rubber flooring.

RECOMMENDED USES

Floors for the chemical and food industry, HA, pharmaceuticals, laboratories, road traffic and commercial areas, Floors with high traffic flow. Easy to clean and disinfect.
The main fields of use of cold polyurea, PUR UREA FLEX, are in the protection of pavements and waterproofing:

Construction and civil engineering:

- Coating for concrete.
- Continuous paving.
- Ceramic
- Tiles
- Rubber
- Preformed.

Maintenance:

- Metallurgical industry.
- Food industry HA.
- Automotive
- Chemical plans.
- Pharmacist.
- Fish farm.
- Refrigerated truck platforms.
- Waste water tanks.
- Sports, children's and geriatric comfort.

TECHNICAL CHARACTERISTICS

- High fluidity and covering power for easy and fast application.
- Versatility in finishing. Can be applied as a multi-layer, paint or self-levelling system.
- Ease of maintenance, cleaning and decontamination.
- Solvent-free, odourless (100% solids).
- Hardwearing surface, chemical resistance and slightly flexible.
- Good adhesion to concrete and ceramic surfaces.
- Aromatic resin, do not apply outdoors. In this case, apply a coat of (PUR FLEX 70 - PUR UREA FLEX ALIPHATIC).
- Do not add water or solvents under any circumstances.
- The application of PUR UREA FLEX must be carried out in conditions where there is no moisture or water coming from the substrate, either at the time of application or afterwards (pressure due to water table...). In the case of existing humidity in the substrate at the time of application, consult the technical data sheets of our primers where the maximum humidity ranges are specified. Both the substrate temperature and the ambient temperature must be at least 3ºC higher than the dew point at the moment of application. This reduces the risk of condensation.
- It is highly recommended to use the same production batch numbers in each area of application.
- Total cure 7 days, avoid contact with water or other reagents until this time.

ADVANTAGES

- Self-levelling.
- Fast drying at temperatures from 10 to -0ºC.
- Easy application (notched trowel, rubber squeegee, roller or airless spray gun).
- UV stable.
- Non-yellowing.
- Once applied it creates a continuous membrane without filtration.
- Waterproof.
- It maintains its mechanical properties between -40ºC and +90ºC.
- Ice resistant.
- Fully adhesive.
- Open to traffic: 3/4 hours at 20°C.
- Polymerisation: 4/5 days.

PRESENTATION

PUR UREA is available in two formats:
Metal can: Comp. A: 16.5Kg. Comp. B: 4.5kg.

STORAGE CONDITIONS

12 months.
12 months from the date of manufacture, in original packaging, well closed and undamaged. Keep in a dry place at temperatures between +5ºC and +30ºC.

CONSUMPTION

The approximate consumption of PUR UREA is 1 - 2 kg/m2 per coat. Consumption may vary depending on the texture, porosity and conditions of the substrate, as well as the method of application.	
Multilayer	2 mm at 1.6 kg/m2
Self-levelling	2 mm to 2.0 kg/m2
Painted	600 gr/m2 recommended for roller application add 2% to -% thinner for polyurea.

TECHNICAL CHARACTERISTICS

		COMPONENT A	COMPONENT B
APPEARANCE		RAL	Transparent Beige Liquid
DENSITY (20ºC)		1.35 kg/l	1.23 kg/l
VISCOSITY A (23ºC) (R2 at 20rpm) A+B		2000-2500 mPas	600-700 mPas
MIXED RELATIONSHIP		• Mixing ratio 4.1.	
Comp A	With pigment	1kg	
MIXED RATIO			
Comp B	With pigment	0.282kg	

Painting:
Apply PUR UREA FLEX with a short nap roller in at least two successive coats according to drying times. The approximate consumption in this type of application is 300 g/m2/per coat, depending on the roughness of the substrate.

Multilayer:
PUR UREA-P using a notched trowel. Consumption approx. 1kg /m2. The surface is then saturated with silica quartz. With this system an anti-slip surface is achieved in order to provide the system with a degree of slip resistance, reinforcing the system against impacts, compression and 1.5 mm screed. Remove excess aggregate by vacuuming, lightly sand the surface and then vacuum the residue. Finish using a rubber blade with an approximate consumption: 0.600 kg/m2, depending on the roughness of the substrate.

Self-levelling:
Pour PUR UREA FLEX on the substrate, then distribute it with a 5mm notched trowel to control thickness and consumption. After 5 minutes, pass a spiked roller over to allow air to escape from the inside of the material. The minimum thickness for the material to be able to self-levelling will be 1mm. Approx. consumption: 2 kg/m2. Thickness of 2mm.

PROPERTIES

Gel Time*	Approx. 25 to 30 minutes
Loss of Stickiness Time*.	Approx. 2-3 hours
Curing time 20°C	3-4 hours
Membrane density	1.35 +- 0.05 g/l
Solids content	100%
Elongation at break	30%
Breaking strength	170 kg/cm2
Shore hardness (7 Days).	90

APPLICATION

Media temperature	From -5ºC to +30ºC
Ambient temperature	From -5ºC to +25ºC
Moisture Content of the Support	≤ 6% parts by weight in moisture content. Shall be free of moisture by capillary rise according to ASTM standard (polyethylene film).
Dew point	Beware of condensation! The substrate and uncured membrane must be at least 3°C above the dew point to reduce the risk of condensation and to avoid deterioration of the membrane termination.

TECHNICAL CHARACTERISTICS: / PROPERTIES VALUE.

- Density ISO 1675 1,20 g/cm3.
- Viscosity ISO 2555 1.500+-500 cps.
- Density comp. A/B ISO 1675 1.30 g/cm3 / +-1,10 g/cm3.
- Viscosity comp. A/B ISO 2555 2.000 - 2.500 cps / 600-700 cps.
- **Mixing ratio 3.5:1.**
- Solids content ISO 1768 100% **VOC (volatile organic compounds) 0 g/l comp. A + 0 g/l comp.B.**
- Elongation at break ISO 527-3 **>75%**.
- Tensile strength ISO 527-3 15 MPa.
- Shore hardness A at 7 days DIN 53.505 >90 Shore hardness D at 7 days DIN 53.505 >65.
- Adhesion on concrete >2 MPa **Pot life 25 minutes.**
- **Drying 2~4 hours**.
- Full cure +-7 days.
- Recoat time 5~24 hours.
- Times of use: pedestrian / vehicular +-24 hours / 7 days.
- Adhesion to concrete >2 MPa.
- Application temperature range: substrate/environment 5ºC ~ 35ºC / 10ºC ~ 30ºC.
- Ambient operating temperature range -40ºC~90ºC.
- Results carried out in the laboratory at 23ºC and 50% RH, under controllable conditions.

These values may vary depending on the application, climatic and substrate conditions.

The primers will depend on the type and condition of the substrate and the ambient and substrate temperature. Please consult our technical department.

PUR UREA FLEX can be applied on multiple substrates, which must be properly treated to optimise the adhesion properties of the membrane. In general, the following factors should be considered prior to application:

- Repair surfaces (fill cracks, remove irregularities, remove of old existing waterproofing).
- Work well at specific points (junctions with walls, drains/evacuations, expansion or structural joints).
- Clean the substrate, removing dust, dirt, grease or existing efflorescence.
- The substrate must be cohesive.

In case of doubt, we recommend applying in a limited area to check the correct application. For application, the two components must be carefully mixed in the proportions supplied and homogenised with a low speed stirrer. Start the application immediately, as the reaction between both components starts to take place from the moment of mixing and the application time should not exceed 20 minutes in order to obtain the correct levelling properties.

It is not recommended to split the containers. In conditions of high relative humidity and condensation or water spillage before curing of the product, carbonation of the product (bleaching) may occur. This effect is aesthetic and does not alter the general properties of the product.

Before the application of PUR UREA FLEX, the primer coat, if applied, must be allowed to cure completely. Areas that may be damaged (door frames) must be protected with adhesive tape.

It is recommended to apply PUR UREA FLEX in a layer 2 to 3 mm thick.

Method: Pouring and spreading with notched trowel, roller and application with airless spray gun.

Thickness: 1 Kg / m2 is equivalent to 1 mm thickness.

SURFACE PREPARATION

Cementitious substrates

New concrete must be cured for at least 28 days and must have a tensile strength ≥ 1.5 N/mm2. Cementitious or mineral substrates must be mechanically prepared using abrasive cleaning or with

scarifying equipment to remove the surface slurry layer and to achieve an open textured surface. Any loose particles and weak concrete should be removed and defects such as clogging and gravel nests should be left fully visible. Repairs to the substrate, joint filling, coking, gravel nests and surface levelling should be carried out with appropriate products.

Any sharp elements must be removed, e.g. by sanding. Outgassing is a natural phenomenon in concrete and can cause bubbles in subsequent coats to be applied.

Moisture content, air entrapment in the concrete and surface finish should be carefully checked before beginning any application work. Installation of the membrane when the temperature is falling or stable can reduce outgassing. Therefore, it is generally beneficial to apply the embedded layer in the afternoon or evening.
Prime and always use a reinforcing system.

New surfaces

Wait for the cement to cure completely (approximately 1 month). The plaster must be dry, clean and free of dust, grease, mould, algae and other contaminants. Mechanical treatment by SAT diamond disc machine and subsequent vacuuming. Repair of fissures, cracks and crazing using thixotropic epoxy resin PR EPOX 100S. Apply a coat of PR EPOX 100S epoxy primer on inconsistent and absorbent or very alkaline surfaces. In case of effflorescence or saltpeter treat with dilute acid solution, rinse with plenty of water and allow to dry.

It is essential to regulate the porosity of the pavement so that it is sufficient to favour the penetration and anchorage of the paint. Best results are obtained through mechanical methods as, in addition to regulating the porosity of the substrate, they eliminate any type of unwanted substance or foreign body.

If a mechanical treatment is not possible, at least a chemical treatment must be carried out: elimination of foreign or unwanted agents by using diluted hydrochloric acid and then removing the remains of the acid with plenty of water; finally allowing the support to dry completely and proceeding with normal painting.

Painted surfaces

If the paintwork is well adhered, sand with a rotary sander and then vacuum to remove loose particles, clean and degrease.

Sand and vacuum on satin-finished surfaces

Apply previously a coat of water-based epoxy primer, PR EPOXW 20, as a bonding primer on substrates with a relative residual humidity of 3 to 6% on the substrate.

On substrates with a residual moisture content of less than 3%, apply PR EPOX -100S as a colourless 100% solids primer at a rate per m2 of 0.200 kg.

Surfaces in poor condition

If the paint is old or badly adhered with defects such as chalking, blistering, chipping, cracking, etc..., remove the remains mechanically, repair cracks or flaws and apply a coat of PR EPOX.
-100S colourless 100% solids primer.

Metal surfaces

Pre-treat with zinc phosphate epoxy primer (PR EPOX 40). Application conditions:

- Application: Brush, roller or airless.
- Working temperature: Minimum: 10ºC. Maximum: 60ºC.
- Substrate temperature: 2 to 3ºC above the dew point. Relative humidity: - Less than 80%.

APPLICATION

<table>
<tr><td rowspan="5">Waiting times</td><td colspan="3">Wait before applying PUR UREA P over the primer:</td></tr>
<tr><td>Media temperature</td><td>Minimum</td><td>Maximum</td></tr>
<tr><td>+10ºC</td><td>24 hours</td><td rowspan="3">48 hours</td></tr>
<tr><td>+20ºC</td><td>12 hours</td></tr>
<tr><td>+30ºC</td><td>8 hours</td></tr>
<tr><td colspan="3">Before applying PUR UREA FLEX over the primer, wait until the primer is tacky. Make sure that any dust and other contaminants have been removed. Times are approximate and may be affected by changes in environmental conditions, in particular temperature and humidity.</td></tr>
<tr><td>Professional application</td><td colspan="3">This product should only be applied by experienced professionals. The technical properties and performance of PUR UREA FLEX are not affected by exposure to UV radiation. Note: always carry out a test beforehand.</td></tr>
</table>

CURING CONDITIONS

Applied Ready-to-Use Product	Times are approximate and may be affected by environmental conditions, especially temperature and relative humidity.
Note	All technical data given in this Product Data Sheet are based on laboratory tests. Actual measurements of this data may vary due to circumstances beyond our control.
Local restrictions	The operation of this product may vary from country to country. Please refer to the local Data Sheet for the exact description of the fields of application.
Health and Safety Instructions	For any information concerning safety issues in the use, handling, storage and disposal of chemical residues, users should consult the most recent version of the product's MSDS, which contains physical, ecological, toxicological and other safety-related data.

IMPORTANT: In high humidity conditions or below 10°C, DOES NOT HARDEN. Do not apply the paint on very hot surfaces exposed to direct sunlight.

Surfaces in general should be clean, dry and free of grease, dust and rust. Floors should be clean, dry and well set (28 days) Residual floor moisture less than 6%.

Preferably roughened to improve adhesion.

On unpainted surfaces: Apply 2 or 3 coats as usual (the first coat more diluted (3%). On surfaces with old paintwork: Remove the paint in poor condition and proceed as for unpainted surfaces.

COLD MATERIALS

When dealing with epoxy resins and urethanes, cold material will result in slower than normal cure times and may affect their physical properties once cured. Cold materials are more difficult to mix, unfold and level. Before materials are applied in cold temperatures, they should be stored in a heated environment or in a heated storage container at the ideal temperature indicated on the Product Data Sheet. The longer the materials can be stored in a heated environment, the better they will perform.

COLD AMBIENT TEMPERATURES

This condition will also cause slower than normal cure of epoxy and urethane materials. It will also make them more difficult to unfold and level. It may cause bubbling/blistering problems because the viscosity of the epoxy has increased due to the cooler temperatures, preventing the vapour trapped in the substrate from escaping. Prior to application, the temperature in the application area should be at normal service temperature for a minimum of 48 hours. If necessary, use forced heat by means of portable heaters.

COLD SURFACE TEMPERATURES

Concrete surfaces that have a temperature of 10°C or below will drastically slow down the normal curing of epoxies and urethanes and can reduce cure by up to 6 hours or more. It can also affect the physical properties of cured membranes, making some epoxies flexible. Cold substrate temperatures can prevent epoxies from "wetting" or penetrating the concrete surface, causing adhesion problems. Prior to application, service temperatures should be at normal operating conditions, a minimum of 15°C, for a minimum of 48 hours. If this cannot be achieved, the use of forced heat may be necessary.

BASEMENTS, POORLY VENTILATED SPACES

In poorly ventilated rooms or basements, the relative humidity due to condensation reaches levels at which the products suffer various consequences on the finishes. This ranges from condensation in the environment to the curing of the product.

RECOMMENDATIONS

1. Circulate air with ventilation equipment before, during application and in the curing process.
2. Use a heat cannon covering the whole area. It will help us to eliminate humidity, reaching a temperature both of the support and of the environment suitable for the execution of the products.
3. Do not apply epoxy, polyurethane, acrylic, under any circumstances below 10ºC.
4. The substrate and ambient temperature must be at least 3°C above the dew point during application.

HOT SUBSTRATE / AND OR MATERIAL

Substrates exposed to high temperatures exceeding 26°C directly affect the physical and chemical properties of the materials. Direct effects on the application since, depending on their nature, the materials will have a cause and effect such as cracking, micro-cracking, orange peel, accelerated drying with the loss of their properties, colour changes, loss of levelling, etc...

RECOMMENDATIONS

- Do not apply in ambient temperatures above 25ºC.
- Do not apply outdoors in the warm hours of the day.
- Do not expose materials to high temperatures and/or storage in direct sunlight. Do not apply if the substrate temperature exceeds 30ºC.

SAFETY

HEALTH AND ENVIRONMENTAL SAFETY

In general avoid contact with eyes and skin, wear protective gloves, goggles and appropriate clothing. Keep out of reach of children. Use only in well-ventilated areas. Do not empty into drains. Keep container tightly closed and in a suitable place. Ensure proper transport of the product; prevent any accidents or incidents that may occur during transport due to breakage or deterioration of the container. Keep the container in a safe place and in the correct position. Do not use or store the product in extreme temperature conditions. You must always take into account the legislation in force concerning the Environment, Hygiene, Health and Safety at Work. For further information, it is essential to read the SAFETY SAFETY DATA SHEET of the product.

It is advisable to periodically check the update status of this Datasheet.

Pinturas Pinay assures the conformity of its products with the specifications given in the technical data sheets. The technical advice given by Pinturas Pinay, before or after delivery of the products, is merely indicative and given in good faith and constitutes its best knowledge, in accordance with the current state of the art, but with no guarantee of final results as these depend on conditions of use beyond our control. All our sales are subject to our general conditions of sale, which we advise you to read.

See labelling and Safety Data Sheet.

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