

Polythane PR

Polyurea based waterproofing and protective coating

Two component fast curing aromatic polyurea based elastomeric waterproofing coating system



CHARACTERISTICS

- ▶ Fast curing time. Quick turnaround time for subsequent site works.
- ▶ Low VOC. Odourless.
- ▶ Tough and durable seamless and monolithic surface.
- ▶ High resistance to abrasion, puncture, impact and thermal shocks.
- ▶ High resistance to chemicals.
- ▶ Excellent low temperature flexibility and crack bridging ability.
- ▶ Low permeability. Highly durable and sustainable.
- ▶ Non Toxic- Can be used in potable water applications.



TDS_Polythane PR_GCC_0523

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DESCRIPTION

Polythane PR is a two component fast curing aromatic polyurea based elastomeric waterproofing coating system for concrete and metal surfaces and polyurethane foams. Free from solvents, the product is a 100% solid low VOC coating., which is applied by a high pressure spray plural component pump. Polythane PR can be applied in a single or multiple layers in thicknesses ranging from 250 microns to 2.5mm on vertical surfaces without sagging.

FIELDS OF APPLICATION

Polythane PR is applied as a waterproofing and protective coating for:

- bridge decks and bridges
- underpasses & culverts
- basements and foundations
- roof, terraces & balconies
- internal lining of water reservoirs, sewage treatment, manholes and desalination plants
- primary and secondary containments for fuels, oils, fertilizers, and chemicals
- car parking decks & industrial floors
- theme & water parks.

ENVIRONMENTAL INFORMATION

Contributes toward satisfying LEED® v4 requirements of the EQ Credit- Low-emitting Materials (for the VOC content)

APPLICATION INSTRUCTIONS

Surface preparation

A proper substrate preparation is required to be done prior to applying the coating:

Concrete: Clean the surface thoroughly of all contaminants. Suitable blasting method can be used as per the guidelines specified in ASTM D4259 for surface cleaning. Cracks and potholes shall be repaired with a suitable product from the Polycrete*, Polypoxy BF/NF concrete repair system.

Metal: Metal surfaces shall be grit blasted to a bright finish meeting the requirements of SA2½.

Priming

Prime the prepared surface with Polyprime PU* @ 4-5m²/L and allow it to dry completely before the application of the polyurea coating. For damp substrates, apply Polyprime R* as primer @4-5m²/L.

Mixing & application

Polythane PR application shall be done using a high pressure plural spray equipment. Technical Specification (Proportioning Unit).

Technical Specification (Proportioning Unit)

Output capacity	>7.5 L/minute
Operating/static pressure	> 2500 psi
Spray pressure at gun	>2300 psi
Primary heating	70°C – 80°C
Hose heating	70°C – 80°C
Volume ratio of mix	1:1
Application temperature of mixture	80°C [to be maintained in machine]
Application pressure	150 – 180 bar

The coating should not be diluted with any solvent under any circumstances. Use Polyfoam Cleaner for purge line and flushing of the spray equipments prior to application to remove all impurities. Spray the coating as evenly as possible. It can be applied from 250 microns to 2.5mm in multiple passes without any considerable sag on vertical surfaces.

Protection

The applied coating shall be protected by protection Boards(Bituboard/Bitustick R400)*, in case if backfilling is required.

CAUTION:

- the coating should not be applied directly on wet or damp substrates.
- outdoor application should be avoided during extreme climatic conditions.

Note: for permanent exposure to UV, it is recommended to apply Polypur TC20* over the Polythane PR coating.

CLEANING**2**

Use Polyfoam cleaner for cleaning and flushing of the spray equipment.

COVERAGE

Polyprime PU	4-5 m ² /L
Polyprime R	4-5 m ² /L
Polythane PR	1 m ² /L for 1000 micron DFT
Polypur TC20	6 m ²

SHELF LIFE

Store in a cool, dry place and keep away from all sources of heat and sunlight. In tropical climates, store in air condition rooms. The shelf life is up to 12 months in unopened conditions and if stored as per recommendations.

HEALTH & SAFETY

Refer the product MSDS for full details. Complete PPE gear shall be worn during the application process.

DISPOSAL

All disposal practices must be in compliance with local laws and regulations.

SUPPLY

Polyprime PU	5L kit / 20L kit
Polyprime R	5L kit
Polythane PR part A (ISO)	200L drum
part B (resin)	200L drum
Polyfoam cleaner	20kg pail 190kg drum

TECHNICAL SPECIFICATION

PROPERTIES	VALUES	TEST STANDARDS
Solid content [by wt], [%]	100	-
VOC, [g/l]	Negligible	ASTM D 3960
Shore A hardness	70-80	ASTM D 2240
Shore D hardness	40-50	ASTM D 2240
Tensile strength, [N/mm ²]	>15	ASTM D 412
Elongation at break, [%]	>500	ASTM D 412
Modulus @100%, [Mpa]	>10	ASTM D 412
Tear strength, [N]	>50	ASTM D 624
Puncture resistance, [N]	>800	ASTM E 154
Shear adhesion to concrete, [N/mm ²]	>1.5	ASTM D 4541
Shear adhesion to asphalt, [n/mm ²]	>0.3	BD47
Resistance to hot asphalt, [°C]	160	-
Crack bridging, [mm]	>3	ASTM C 836
Abrasion resistance, [mg]	20/1000 cycles	ASTM D 4060
Chemical resistance	pH 2.5-11	ASTM D 543
Indentation by aggregate during asphalt placing	Negligible	BD47
Resistance to chisel impact	No indentation	BD47
Moisture vapor transmission, [g/h/m ²]	<0.06	ASTM E 96
Non toxicity	Passes	BS 6920
Gel time, [seconds]	13	-
Tack free time, [seconds]	30	-
Open to use, [minutes]	60	-
Service temperature, [°C]	-20 to 150 -	

All values given are subject to 5-10% tolerance.

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.

