**Polythylene PR**

**Polyurea based waterproofing and protective coating**

Two component fast curing aromatic polyurea based elastomeric waterproofing coating system

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**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.

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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.

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**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.

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**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).

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**Quality for Professionals**
**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:**

i. the coating should not be applied directly on wet or damp substrates.

ii. 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**

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

**COVERAGE**

Polyprime PU 4-5 m²/L
Polyprime R 4-5 m²/L
Polythane PR 1 m²/L for 1000 micron DFT
Polypur TC20 6 m²

**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**

<table>
<thead>
<tr>
<th>VALUES</th>
<th>TEST STANDARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC, [g/l]</td>
<td>Negligible ASTM D 3960</td>
</tr>
<tr>
<td>Shore A hardness</td>
<td>70-80 ASTM D 2240</td>
</tr>
<tr>
<td>Shore D hardness</td>
<td>40-50 ASTM D 2240</td>
</tr>
<tr>
<td>Tensile strength, [N/mm²]</td>
<td>&gt;15 ASTM D 412</td>
</tr>
<tr>
<td>Elongation at break, [%]</td>
<td>&gt;500 ASTM D 412</td>
</tr>
<tr>
<td>Modulus @100%, [Mpa]</td>
<td>&gt;10 ASTM D 412</td>
</tr>
<tr>
<td>Tear strength, [N]</td>
<td>&gt;50 ASTM D 624</td>
</tr>
<tr>
<td>Puncture resistance, [N]</td>
<td>&gt;800 ASTM E 154</td>
</tr>
<tr>
<td>Shear adhesion to concrete, [N/mm²]</td>
<td>&gt;1.5 ASTM D 4541</td>
</tr>
<tr>
<td>Shear adhesion to asphalt, [n/mm²]</td>
<td>&gt;0.3 BD47</td>
</tr>
<tr>
<td>Resistance to hot asphalt, [°C]</td>
<td>160 -</td>
</tr>
<tr>
<td>Crack bridging, [mm]</td>
<td>&gt;3 ASTM C 836</td>
</tr>
<tr>
<td>Abrasion resistance, [mg]</td>
<td>20/1000 cycles ASTM D 4060</td>
</tr>
<tr>
<td>Chemical resistance</td>
<td>pH 2.5-11 ASTM D 543</td>
</tr>
<tr>
<td>Indentation by aggregate during asphalt placing</td>
<td>Negligible BD47</td>
</tr>
<tr>
<td>Resistance to chisel impact</td>
<td>No indentation BD47</td>
</tr>
<tr>
<td>Moisture vapor transmission, [g/h/m²]</td>
<td>&lt;0.06 ASTM E 96</td>
</tr>
<tr>
<td>Non toxicity</td>
<td>Passes BS 6920</td>
</tr>
<tr>
<td>Gel time, [seconds]</td>
<td>13 -</td>
</tr>
<tr>
<td>Tack free time, [seconds]</td>
<td>30 -</td>
</tr>
<tr>
<td>Open to use, [minutes]</td>
<td>60 -</td>
</tr>
<tr>
<td>Service temperature, [°C]</td>
<td>-20 to 150 -</td>
</tr>
</tbody>
</table>

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.