ShaliUrethane® PC 1000

2K VOC Free Polyurethane Protective Tough Coating

STP Limited

Description

ShaliUrethane® PC 1000 is two component aromatic, flexible, polyurethane; spray applied by plural componentairless spray gun, solvent free, fast curing, protective flexible & tough coating for external / internal surface of concrete / steel pipes and structures. It is ideally suited for applications where higher DFT isrequired as protective barrier as it has excellent film build capabilities and can achieve high thicknessin microns on wet-on-wet basis in single coat.

Product Information

Form, Colour, Mixing Ratio	Grey, two component Polyurethane resin based with mixing ratio of Component A: Component B=3:1 by volume.
Handling & Storage	Store under cover out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Packaging	Available in both 20L metal drums with15L Component A and 5L Component B and 200L barrel with one barrel of Component B for 3 barrels of Component A.
Shelf Life	12 months from the date of manufacture when maintain under shade (away from sunlight) in original unopened sealed condition at 5 - 45°C.
Handling Precautions	As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately.If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use.

Technical Characteristics at 30°C, 60% RH

Property	Method	Result
Recommended Dry Film Thickness / coat, µ	ASTM D 4414	1000 - 1100
Theoretical Consumption ** m^2 / L	IS 101	1.0 - 1.1
Volume Solids, %	ASTM D 2697	100
Pot life, 100 grams sample, minutes	ASTM D 2471	3 - 7
Touch dry, minutes	IS 101	20 - 30
Surface dry, hours	IS 101	4 - 6
Accelerated weathering, 2000 hrs.	ASTM G 154/G 53	No Blister (Colour change)
Tensile Strength after 7 days, MPa	ASTM D 638	10 - 12
Shore D Hardness after 7 days	ASTM D 2240	50 - 60
Density of mix, gm / cc	ASTM D 1475	1.40 ±0.03
Flash Point, ºC • Component A • Component B	ASTM D 93	 >100 >100
Adhesion pull-off, MPa, 7 days ✓ on Steel ✓ on Concrete	ASTM D 4541	 6 - 8 ≥2 (Concrete failure)
Water vapour transmission, g / m^2 / 24 hrs.	ASTM E 96	< 0.27
Salt Spray, 5000 hrs., @ 500 microns DFT	ASTM B 117	Passes
Abrasion Resistance 1000 cycles, H-10, mg loss, 1 kg Load	ASTM D 4060	45 - 65

**** Depends upon surface profile, application wastage during application has to be taken into consideration**

Field of Application

- On shore and offshore structures, pipes and marine piles.
- Sewer lines and STP tanks.
- Thermal power cooling plants including basins.
- Hydro-electric penstocks and dam gates.

- Inner / Outer coating for pipe line for water and waste water.
- Steel / concrete structure like
  - Storage tanks.
  - Mounded bullets.
  - Reservoirs.
  - Overhead tanks.
  - Marine and offshore structures.
  - Ship decks / ship hulls.
- Concrete tunnel.
- Coating for pipes used for bore / directional drill applications.
- Repair / rehabilitation (recoating) of existing pipelines and coating repairs.

Advantages

- Excellent resistance to sea water.
- Excellent adhesion to steel / concrete.
- Excellent resistant to most of chemicals / acids.
- Resilient to accelerated weathering conditions.
- High mechanical / physical properties.
- High abrasion resistance.
- Protects against microbiologically induced corrosion.
- VOC Free.
- Suitable for potable water pipeline / waste water applications.

Application Information

✓ **Substrate Temperature**	-	+10°C Min / +50°C Max
✓ **Ambient Temperature**	-	+10°C Min / +50°C Max
✓ **Substrate Moisture Content**	-	< 5 %

Application Methodology

➢ Surface Preparation

- Concrete surfaces shall be clean and free of dirt, oil, or other contaminants.
- In case of new concrete, ensure the concrete is at least 28 days old and remove any loose foreign particles by compressed air.

➢ Material Preparation

- Stir drums of component A (resin part) thoroughly for uniformity. For best result, use a variable speed mixer with a spiral type lades at the bottom of stirrer rod. The speed may be 100-200 rpm.
- Once Component B drum is open, use within the same day.

➢ Application of Material

- Apply the first coat of **ShaliUrethane® PC 1000** on a coat of **ShaliPrime 2PU / ShaliPrime 2E LC** (surface dried) by plural feed/ single feed airless spray gun.
- Allow it to touch dry as per our technical data sheet (depending on ambient condition).
- The 2nd coat, if required should be applied only after the first coat has surface dried.
- The tip pressure typically should be 3500 - 5000 psi (the tip pressure should be adjusted to achieve good atomization of the spray). Tip size typically should be 32 - 39 Thou orifice.

Precautions

- Multiple coats may be required to have high dry film thickness.
- As with all aromatics, this product will be subjected to colour change on prolonged exposure to sunlight. However, this phenomenon is not malefic to coating performance.
- Exposure to very low temperature, rain, water ponding during and after application may lead to incomplete curing, blistering and the above-mentioned coating properties may not be achieved.
- Surface profile, ambient conditions should also be taken into consideration while correlating paint consumption and achieved DFT in case of field application.

Value base of product data

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control and different test methods.

Health and Safety information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent **Material Safety Data Sheet**.

- **This product contains Isocyanate.** Avoid contact with eyes and skin.
- Wear suitable protective clothing such as overalls, goggles, dust mask and gloves. Ensure that there is adequate ventilation in the area where the product is being applied.
- Do not breathe in vapour or spray mist.
- This product is flammable.
- Keep away from sources of ignition.
- In case of fire, blanket flames with foam, carbon dioxide or dry chemicals.
- Eye protection during application is recommended.
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- In case of skin contact, wash with soap and plenty of water. Get medical attention if irritation develops or persists.

Cleaning & Maintenance

- Clean all tools immediately after use with STP Thinner only. Do not allow the material to harden.
- Hardened materials have to be removed mechanically.



STP Limited
Enhancing Structures' Life

Product Range
■ Waterproofing and Insulation ■ Road Surfacing
■ Sealants and Additives ■ Pipeline Coating
■ Protective / Anti-Corrosive Coating ■ Epoxy Flooring
■ Grouts / Admixtures ■ RestoFix- Repair / Rehabilitation
■ Other Construction Chemicals

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