ShaliUrethane® LHM 2K

2K Liquid Applied Polyurethane Water Proofing Membrane

STP Limited

Description

ShaliUrethane® LHM 2K is a two component, elastomeric; cold applied polyurethane liquid membrane
system for water proofing and protection.

Approval/Standards

Conforms to ASTM C-836 and ASTM C-898.

Product Information

Form, Colour, Composition	Black /Grey Polyurethane liquid
Handling & Storage	Store in a cool dry clean place, at 4°C - 27°C in original sealed container.
Packaging	Available in 26 Kg unit pack comprising 25 Kg Component A and 1 Kg Component B
Shelf Life	9 Months from the date of manufacture when maintain in protected storage in original unopened sealed condition at 5 - 38°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.

Physical Characteristics

Application	Brush / Roller / Airless Spray	Mixing Ratio (A:B), weight	96.2: 3.80
Tack free time, hrs.	3-5	Recoat time, hrs.	8-12
Solid content, % by weight	100	Pot life, minutes	60 ± 10
Resistance to water Pressure, 1M water column, 24 hours	No leak	Theoretical Coverage *, kg / m^2/ mm (in 2 coats)	1.58-1.60
Service temp, range, °C • Intermittent • Continuous	Upto +150 - 40 to +100	Trafficable time, hours	36-48

* **This coverage is based on application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature and application method can alter consumption.**

Technical Characteristics @ 27 °C, 55% RH

Elongation, %, 14 days	ASTM D 412	500 ± 50
Hardness, Shore 00 , 14 days	ASTM D 2240	≥50
Water Absorption, (%)	ASTM D 471	≤ 0.5
Adhesion to primed concrete, Pull-off strength, MPa	ASTM D 4541	2.0 ± 0.50
Tensile strength, MPa, 14 days	ASTM D 412	1.25 ± 0.20
Crack bridging ability, mm at -9°C	ASTM C 836	≤ 1.5

Field of Application

- Roof / Terraces / Podium
- Terrace garden

Advantages

- High Crack Bridging.
- Monolithic and Seamless Membrane.
- Excellent adhesion to concrete.
- Resistant to Root Growth.
- Resistant to water, frost, mild acid and alkali.
- Easy Application and User Friendly.

Application Methodology

➢ Surface Preparation

- Remove all loose gravel, dirt, oil, grease and foreign matter by jet of dry air and clean the surface mechanically or by grinding to make it smooth before application.
- Repair all cracks by cutting "V" groove and fill with PMC mortar prepared in the ratio of **ShaliCrete** : Cement : Sand (1 : 2 : 5).
- Correct honeycomb / other minor surface defects with PMC mortar using **ShaliSBR Latex** as the bond coat.
- Ensure provision of slope in the gradient of 1:100 towards drain by laying PCC admixed with integral waterproofing compound, **ShaliPlast IW** @ 200 ml / bag of cement preferably with galvanized chicken wire mesh.
- Provide fillet 75 mm x 75 mm coving made out of PMC mortar as above, using **ShaliSBR Latex** as bond coat.
- Ensure that the moisture content in the prepared surface does not exceed 5% immediately before application of **ShaliUrethane® LHM 2K**.

➢ Material Preparation

- Skin formation may happen on the top of material during humid condition. In that event, cut skin from the periphery of the container and remove it.
- Stir both components of **ShaliUrethane® LHM 2K** by a slow speed mixture fitted (100 RPM max) with a suitable mixing paddle toensure a homogenous mix.
- After stirring, wait for the product to settle in order to let entrapped air escape.
- Use the entire material within 4 hours of opening the container.

➢ Waterproofing Application

- Prime the surface with
  - In case anti-root property is desired, tar extended anti-root primer-cum-sealer, **ShaliPrime WB** @ 10-12 m^2/L or
  - In other cases, **ShaliPrime PUM** @ 4 - 5 m^2 / L.
- Allow the primer to touch dry condition.
- Apply 1st coat of **ShaliUrethane® LHM 2K** @ 720 gm / m^2 by brush / roller / airless spray while the primed surface is tacky. For faster and smoother application, apply with airless gun.
- Spread non-woven geo-textile or Glass Fiber Tissue of 45 GSM with overlaps of 50 mm in both directions when the surface is still tacky; this is optional, to be assessed as per site requirements to achieve higher mechanical properties.
- Allow 1st coat to dry for 10 - 14 hr.
- Apply 2nd coat of **ShaliUrethane® LHM 2K** @ 720 gm / m^2 by brush / roller / airless spray.
- Ensure final curing time of 36 hrs before allowing / carrying out any further work.
- Extend waterproofing treatment up to 200 mm and terminate into groove on the parapet wall. Fill the groove with PMC mortar.
- In case of vertical application, protect the applied liquid membrane
  - By sprinkling sand @ 200 gm / m^2 over the final coating when the surface is still tacky to facilitate plastering, and 25 mm plaster admixed with **ShaliPlast IW** @ 200 ml / bag of cement.
- In case of horizontal **Trafficable** surface, protect the applied liquid membrane
  - Preferably with **ShaliProtek PU HA**, high abrasion resistance liquid coating which can take foot traffic, or
  - Spread separation layer of 200 GSM geo-textile, **ShaliGeoText 200**, with overlap of 50 mm in both directions on fully cured waterproofed surface before laying protection screed, and then lay 50 mm plaster admixed with **ShaliPlast IW** @ 200 ml / bag of cement.
- In case of horizontal **non-trafficable** surface, protect the applied **ShaliUrethane® LHM 2K** with top coat of 500 microns aliphatic **ShaliUrethane LM** for better aesthetics. In that event, the base coat of **ShaliUrethane® LHM 2K** may be restricted to 1000 microns in two coats of 500 micron each.
- In case plastering is desired, sprinkle sand @ 200 gm / m^2 over the final **vertical** coating when the surface is still tacky to facilitate screeding. In other cases of vertical application, use ShaliTA 10 @ 900 gm per 25 kg bucket; in case of addition of ShaliTA 10, stir the compound thoroughly for 5 minutes to obtain homogenous mix.
- Conduct ponding test after 7 days of curing at ambient temperature.

➢ Precautions

- Do not allow any movement over waterproofed area unless ponding is done and waterproofed area is protected as below.
- Do not open the containers until ready to use.
- It should be noted that **ShaliUrethane LHM 2K** is aromatic polyurethane; therefore, as with all aromatics, over a period of time, colour change will occur if exposed directly to UV rays. This will not cause any negative effect on the physical properties of the product.

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.