

ShaliUrethane[®] LHM



Moisture Cured High Tensile Elastomeric PU Liquid Membrane

STP Limited

Description

ShaliUrethane[®] LHM is single component, high tensile, high solid, moisture cured, modified Polyurethane elastomeric liquid membrane for waterproofing with an elongation of 700 % \pm 50. **ShaliUrethane[®] LHM** forms a seamless monolithic membrane by reaction with atmospheric moisture.

It conforms to ASTM C-836 and ASTM C-898.

Characteristics – Physical

Application	Brush / Roller / Airless Spray	Color	Grey
Tack free time, hrs	8 -10	Final cure time, hrs	36 - 48
Solid content, %	90 \pm 2		
Swelling in water	Nil	VOC Content, gm / Kg	115 \pm 5
Service temp, range, °C • Intermittent • Continuous	Up to 150 - 40 to + 70	Chemical stability	Resistant to most mild acids / alkalis
Theoretical Coverage *, 1 mm WFT, Kg / m ²	1.33		

* Depending upon surface condition.

Characteristics – Technical

Elongation, %, 28 days	ASTM D-412	700 \pm 50
Hardness, Shore 00 scale, 28 days	ASTM D-2240	\geq 50
Crack bridging at low temperature at minus 9 °C, mm	ASTM C 836	\leq 1.5
Adhesion to primed concrete, Pull-off strength, MPa	ASTM D 4541	2.50 \pm 0.50
Tensile strength, MPa, 28 days	ASTM D-412	2.0 \pm 0.20
Extension after heat aging, mm	ASTM C 836	6.4 with no cracking

Application

- Roof / Terraces / Podium.
- Terrace garden.

Advantages

- Excellent Waterproofing Characteristics.
- High Crack Bridging.
- Monolithic and Seamless Membrane.
- Excellent adhesion to concrete.
- Resistant to Root Growth.
- High Durability & High Elongation Property.
- 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 LW+ @ 200 ml / bag of cement preferably with galvanised 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**.

➤ **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 **ShaliUrethane® LHM** by a slow speed mixture fitted with a suitable mixing paddle to ensure 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 WP WB @ 200 gm / m² or
 - In other cases, ShaliPrime PUM @ 4 - 5 m² / L.
- Allow the primer to touch dry condition.
- Apply 1st coat of **ShaliUrethane® LHM** @ 800 grms / m² 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 Fibre 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 – 12 hr.
- Apply 2nd coat of **ShaliUrethane® LHM** @ 800 grms / m² 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 / m² over the final coating when the surface is still tacky to facilitate plastering, and 25 mm plaster admixed with ShaliPlast LW + @ 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 LW + @ 200 ml / bag of cement
- In case of horizontal **Non-trafficable** surface, protect the applied **ShaliUrethane® LHM** with top coat of 500 Micron aliphatic ShaliUrethane LM for better aesthetics. In that event, the base coat of **ShaliUrethane® LHM** may be restricted to 1000 Micron in two coats of 500 Micron each.
- In case plastering is desired, sprinkle sand @ 200 gm / m² 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.
- Seek assistance from STP's Technical Cell for heavy duty application and other technical inputs, if any.

Health & Safety

- Avoid contact with skin / eyes and avoid swallowing.
- Ensure adequate ventilation and avoid inhalation of vapour.
- Wear suitable protective clothing, gloves and eye protection.
- In case of skin contact, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent to clean the contacted area.
- In case of eye contact, wash with plenty of clean water and seek medical advice.
- If swallowed, seek medical attention immediately. Do not induce vomiting.

Packing

Available in 25 kg drum.

Storage

Store in a cool dry clean place, at 4 °C - 27 °C, in original sealed container. In the unlikely event of formation of an easily removable protective skin of **ShaliUrethane® LHM** on top during storage, remove the film before applying the material.

Shelf Life

9 Months in original unopened sealed condition.



STP Limited
Enhancing Structures' Life

Product Range

- Waterproofing & Insulation
- Road Surfacing
- Sealants & Adhesives
- Pipeline Coatings
- Protective/Anti-Corrosion Coatings
- Epoxy and Flooring
- Grouts and Admixtures (GARA)
- RestoFix - Repair/Rehabilitation
- Other Construction Chemicals



Advisory Cell: +91 81302 81114

www.stpltd.com