

# ShaliUrethane<sup>®</sup> LHM



Moisture Cured High Tensile Elastomeric Modified PU Liquid Membrane

STP Limited

## Description

**ShaliUrethane<sup>®</sup> LHM** is single component, high tensile, high solid, moisture cured, modified Polyurethane elastomeric liquid membrane for waterproofing with an elongation of 700 % ± 50. **ShaliUrethane<sup>®</sup> LHM** forms a seamless monolithic membrane by reaction with atmospheric moisture.

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

Use horizontal / vertical grade of **ShaliUrethane<sup>®</sup> LHM** for horizontal / vertical applications respectively.

## Characteristics - Physical

Application	Brush / Roller / Airless Spray	Color	Black
Tack free time, hr	8 -10	Final cure time, hr	36 - 48
Solid content, %	92 ± 2	Loss of weight, %	8 ± 2
Swelling in water	Nil	VOC Content, gm / kg	80 ± 10
Service temp, range, °C	- 40 to + 70	Chemical stability	Resistant to most mild acids / alkalis
Theoretical Coverage *, 1 mm DFT	1.2 kg / m <sup>2</sup>		

\* Depending upon surface condition.

## Characteristics – Technical

Elongation, %	ASTM D-412	700 ± 50
Hardness Shore A	ASTM D-2240	50 ± 5
Crack bridging at low temperature at minus 9 °C, mm	ASTM C 836	≤ 1.5
Adhesion to primed concrete, Pull-off strength, MPa	ASTM D 4541	2.50 ± 0.50
Tensile strength, MPa #	ASTM D-412	2.0 ± 0.20
Extension after heat aging, mm	ASTM C 836	6.4 with no cracking

## Application

- Roof / Terraces / Podium.
- Terrace garden.
- Planter boxes.

## 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).

- Provide 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**

- Stir **ShaliUrethane® LHM** by a slow speed mixture (approx. 400 rpm) 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.
- 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 and then stir it as mentioned above.
- Use the material within 4 hours of opening the container.

#### ➤ **Waterproofing Application**

- Prime the surface with tar extended anti-root primer-cum-sealer, ShaliPrime WP SB @ 400 grm / m<sup>2</sup> or ShaliPrime PUM @ 8 – 10 m<sup>2</sup> / L and allow it to touch dry.
- Apply 1<sup>st</sup> coat of **ShaliUrethane® LHM** 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 mesh of 40 / 50 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 1<sup>st</sup> coat to dry for 10 – 12 hr.
- Apply 2<sup>nd</sup> coat of **ShaliUrethane® LHM** by brush / roller / airless spray.
- Sprinkle sand @ 200 grm / m<sup>2</sup> over the final vertical coating when the surface is still tacky to facilitate plastering.
- 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. Apply 15 mm plaster admixed with ShaliPlast LW + @ 200 ml / bag of cement for vertical protection.
- Conduct ponding test after 7 days of curing at ambient temperature.

#### ➤ **Ponding Test**

- Conduct ponding test after 7 days from the day of laying of final coat. 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.

#### ➤ **Protection of Waterproofing**

- 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.
- Protect the surface with 50 mm PCC admixed with integral waterproofing compound, ShaliPlast LW+ @ 200 ml / bag of cement with galvanised chicken wire mesh ensuring a gradient of 1 : 100 towards drain.

### **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 22 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

6 Months in original unopened sealed condition.



**STP's Businesses**  
Waterproofing & Insulation  
Road Surfacing  
Pipeline Coating  
Protective / Anti-Corrosive Coating  
GARA (Grouts & Admixtures)  
Sealant & Additives  
Repairs & Rehabilitation  
Epoxy Flooring

