

## Spec Sheet

# Lava 20 Poly System

## EPDM-TPO



### Highly Fortified Roof Membrane Solution

The Lava 20 polyurethane membrane system features state-of-the-art moisture curing, yielding a fast and incredibly flexible waterproof barrier with superior tear strength and impact resistance. This durable, easy to apply membrane system transforms commercial flat roofs with unmatched weather-enduring protection and long lasting, architectural-grade aesthetics.

Lava 20's versatility, fast application, and superior protection achieves long-term cost savings for property owners and facility managers. Formulated with extraordinary mechanical elasticity, the system is highly resistant to any weather induced substrate movement or dilation, thereby eliminating roof maintenance costs. Lava 20's deep penetrating membrane galvanizes practically any roof substrate and will extend service life, eliminate corrosion, and improve energy savings.

### System Overview

The Lava 20 system is a quick drying, liquid poured membrane that can seal, protect, and weatherproof a wide range of new and existing commercial roof structures. Olmeck offers an array of fast acting Lava 20 primers, highly breathable membranes, and robust top coats that are specifically formulated to address UV, acid rain, frost, chemical, thermal shock, and water intrusion. Exhibiting thorough adhesion and layer bonding characteristics, the membrane system acts as a formless, jointless membrane when applied, empowering commercial roof structures with high performance, year-round resiliency.

### Advantages

- Superior weatherability for enduring, watertight protection.
- Rapid curing capabilities surpass traditional methods.
- Seamless design with no joints.
- Long-lasting, architectural-grade finish resists corrosion.
- Exceptional chemical and UV resistance.
- High solar reflectivity enhances cool roof performance.
- Extreme durability withstands thermal shock and all temperatures.
- Zero maintenance required.
- 25-Year Warranty for long-term assurance.
- Flexible and highly elastic, remains pliable in all temperatures.
- Ponding water-resistant.
- Chemical-resistant for added protection.
- Versatile application.
- Universal bonding to almost any surface.
- Vapor permeable (breathable).
- Easy detailing for a seamless finish.



# Applications & Compatibilities

## Substrate Compatibilities

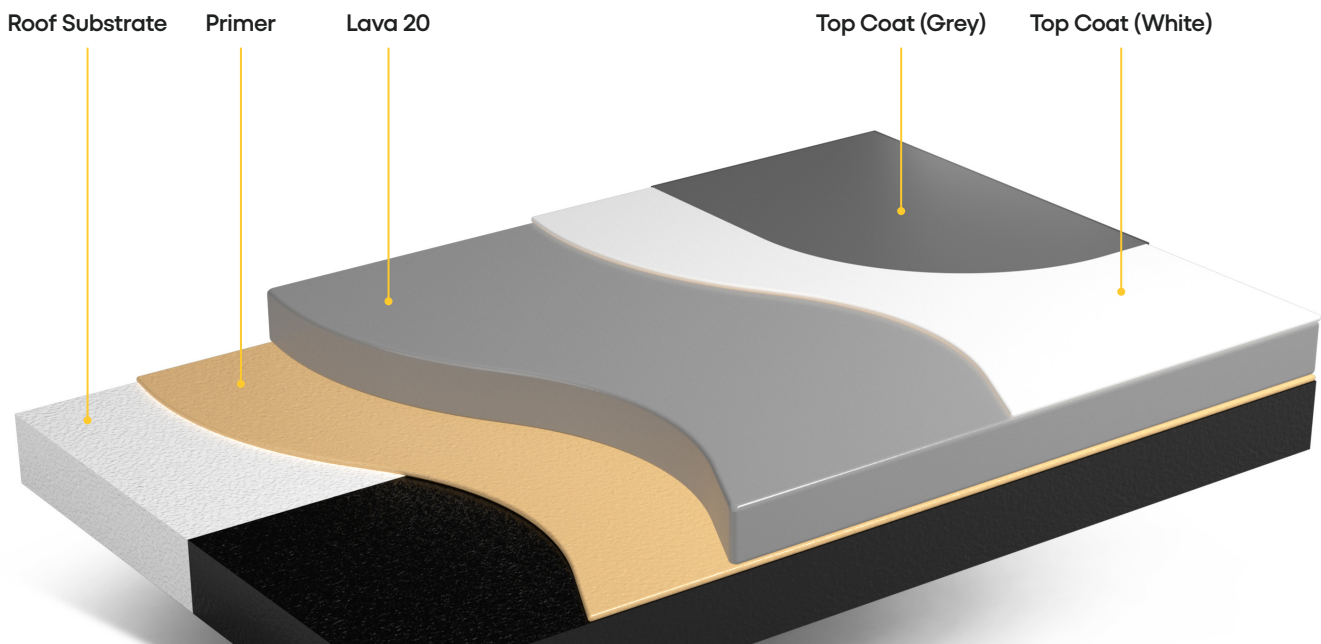
- Concrete
- Metal
- Foam
- Bur & Tar
- Wood/Plywood/Timber
- EPDM & TPO
- Spray Foam
- Cement and Insulation Boards
- Asphalt Felts
- EPDM and PVC membranes
- Gypsum
- Acrylic

## Roof & Structural Applications

- Flat or Pitched Roofs
- Parapet Walls
- Built-Up Roofs (BUR)

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## Application Overview



# Lava 20 Poly Membrane

## Technical Data

PROPERTY	RESULTS	TEST METHOD
Peak Load	900 lbf/in	ASTM D 2370
Tensile Strength	@ 75 °F 991 -1680 psi	ASTM D638
Tearing Strength	247 lbfAn	ASTM D 624
Elongation at Break	< 650 %	ASTM D 412 / DIN 52455
Crack Bridaina Capability	Up to 2 mm crack	EOTA TR-008
Hardness (Shore A Scale)	78	ASTM D 903
UV Accelerate - Aging in the Presence of Moisture	Passed. No significant changes	EOTA TR-010
Resistance After Water Aging	Passed	EOTA TR-012
Construction Material Fire Class	B2	DIN 4102-1
Shock Temperature (20 min)	392 °F	Inhouse Lab
Rain Stability Time	3-4 hours	Conditions: 68 °F, 50% RH
Light Pedestrian Traffic Time	18-24 hours	Conditions: 68 °F, 50% RH
Final Curing Time	7 days	Conditions: 68 °F, 50% RH
Water Vapor Permeability	0.04 Perms	ASTM D1653B
Puncture Resistance	77 lbs	ASTM E 154 M
Water Absorption	1%	ASTM D 471
Impact Resistance (Shore A)	70 Shore A	ASTM D 2240
Resistance to Water Pressure	No leak (1m Column, 24hrs) N/A	DIN EN 1928
Low Temperature Flexibility	Pass	ASTM D 522 B
Crack Bridging Ability	Up to 2mm	EOTA - TR-008
Final Curing Time	7 days	Lab Test
Service Temperature	-30 - 90 °C	Lab Test
% Solids (by weight)	72 %	ASTM D 1644A
Drying Time	1.5 - 4.5 hours	Lab Test
Viscosity	3 - 4 Pa.S	ASTM 2196A



# Lava 20 System Installation

## I. Initial Roof Surface Inspection

Prior to applying the Lava 20 coating system, any residual repairs should be performed. It is important to inspect and examine all elements of the roof, including but not limited to:

- Core testing is required prior to installation, for larger surfaces a IR scan is suggested.
- Wet areas or areas with sitting water must be cut out and replaced before application
- Drainage performance
- Water leaks
- Miscellaneous roof penetrations
- Existing corrosion or rust areas
- HVAC flashing and/or debris
- Seams, terminations, and reglets
- Coping and flashing
- Sleepers and pitch pockets
- Sign or display anchorage
- Miscellaneous anchored devices, equipment, or structural supports

## II. Roof Surface Preparation

For optimal results, careful surface preparation is important. The surface should be free of any pollution that could compromise the membrane's adhesion.

- a. Inspect the entire area for wet insulation and saturated areas. All wet areas must be cut out and replaced with ISO and EPDM-TPO.

- b. For best results, the surface should be washed clean, free of loose materials, stains, grease, dust, debris, and other contaminants.
- c. System can be spread out on EPDM/TPO surfaces using a roller, brush, squeegee, or airless spray. The use of polyester fabric matting for reinforcement is required.
- d. Compressive strength of substrate should be at least 25 MPa and viscous strength properties should be at least 1.5 MPa.
- e. Smooth off any surface imperfections found along membrane coverage area.
- f. Cracks, joints, and/or voids throughout roof surface should be filled with **Lava 20 PU Mastic**.
- g. Utilize polyester tape or fleece for flashing drains, joints, and base angles.
- h. Ensure that all adjoining surface areas that are not to receive the Lava 20 membrane be thoroughly masked and protected.
- i. Setup a suitable, easy-to-access workstation for the sorting and mixing of all membrane materials.
- j. Schedule and synchronize applications of each Lava 20 layer for accurate coating times. Make sure to apply the entire system during temperature conditions between 41 °F and 95 °F.
- k. An adhesion test is recommended for EPDM, or TPO in order to ensure maximum adhesion to the substrate.



## III. Installation Instructions

### For EPDM or TPO Surfaces

It is recommended to conduct an adhesion test for extremely durable synthetic rubber roofing membranes (EPDM) and single-ply Thermoplastic Polyolefin (TPO) substrates in order to ensure the best adhesion possible. Core testing is required prior to installation, for larger surfaces IR scan is suggested.

#### Application Tools & Materials Required

System can be spread out on EPDM or TPO surfaces using a roller, brush, squeegee, (or airless spray without catalyst, minimum 4500psi). The use of polyester fabric matting for reinforcement is required.

#### Installation:

1. **Wash** entire surface clean, removing all surface debris, dirt, embedded stains, chemicals or oils, and organic matter.
2. **Inspect** and verify that the entire roof surface is completely dry and free of wet spotting.
3. **Primer**

Prime the entire surface with **Lava 20 MB Epoxy Primer** (1 gallon per 100sq. ft., dry 4-8 hours) or Lava 20 Quick Primer (1 gallon per 300 sq. ft., dry 15-30 minutes). For concrete or cement screed, follow manufacturer cure times due to high absorbency.

#### 4. Membrane

- a. Cracks, joints, and/or voids throughout roof surface should be filled with **Lava 20 PU Mastic**.
- b. Wall-to-floor connections, joints, 90° angles, chimneys, pipelines, waterspouts (siphon), etc. should always be reinforced with fleece matting or equivalent, overlapping strips by 5-10 cm in order to strengthen the entire surface.
  - Use **Lava 20 Vertical Membrane** for vertical and sloped surfaces, specifically formulated with high viscosity for easy application on parapet walls and other vertical roof structures.

- Use **Lava 20 Detail Membrane** for patching or filling large holes, gaps, and other roof penetrations, specifically formulated for rapid, bubble free curing over roof detail structures.
- c. To install the **MB Epoxy Primer**, mix Parts A and B thoroughly and apply at a rate of **1 gallon per 100 sq. ft.** Spread the primer evenly over the surface using a roller, then back roll with a spike roller for uniform coverage. Allow the primer to dry for at least 4 hours before proceeding. **Note that once mixed, the primer has a working time of no more than 18 minutes.**

Next, prepare the Lava 20 membrane by adding 0.19 gallons of Lava 20 Catalyst into a 6.6-gallon bucket of Lava 20. Mix thoroughly using a drill mixer for 5 minutes, then apply the mixture at a rate of 15:15 sq. ft. per gallon using a roller. Allow 2-3 hours of drying time. **Note that the working time of the mixed membrane is limited to 30 minutes.**

For the application of Lava 20 with Fleece, start by applying a thin base layer of Lava 20. Roll out the 39-inch Lava 20 Fleece onto the base layer, covering 31 linear feet, and apply even pressure to embed the fleece securely. Finally, apply an additional layer of Lava 20 over the fleece to saturate and seal it, completing the process with the contents of the 6.6-gallon bucket..

#### 5. Top Coat and Optional Anti-slip coat

- Apply the **Lava 20 Top Coat** over the entire surface area at a rate of 1 gallon per 365 sq. ft. Standard colors include white or dark grey, with additional custom colors available for special orders.
- a. For final color stable, chalk-free surface appearances, apply no more than 1 or 2 layers of Lava 20 Top Coat.
  - b. For final dark colors, additional custom colors can be ordered along with optional anti-slip coatings.



### III. Installation Instructions

#### For EPDM or TPO Surfaces

##### 6. Curing & Finishing

Do not apply any Lava 20 layers thicker than 2.5 mm (dry film). For ideal curing, the temperature range during/ after application should be between 41 °F and 95 °F. If the temperature is too high, curing is hastened. If the temperature conditions are too low, curing is delayed.

# EPDM-TPO Surfaces Application Term Rates

### EPDM-TPO Application Term Rates

Coverage Term	Primer (Gal/Sq)	DFT mils	Fleece (6 mils)	Lava 20 Gal/Sq	DFT Mils	Catalyst compatible	Topcoat Gal/Sq	DFT mils	Total DFT mils	Warranty
25 years	0.48	8		5.9	80		0.38	3	97	Platinum
20 years	0.47	2		4.5	75		0.38	3	86	Platinum

\* DFT (Dry Film Thickness) is rounded to nearest mil, and is theoretical. Actual DFT will vary dependent on substrate profile, application technique and waste factor.

