



OWL WATERPROOFING SOLUTIONS

TECHNICAL DATA SHEET

Lava 20

Single Component Polyurethane Liquid Waterproofing System

Product description

Lava 20 is a professional-grade polyurethane membrane for long-term waterproofing that is liquid-applied, incredibly resilient, cold applied, and cold-cured.

The Lava 20, which has high mechanical, chemical, thermal, UV, and natural element resistance qualities, is made of pure viscoelastic waterproof polyurethane resins.

Dries in contact with moisture and air.

Advantages

- Easy to use (roller or airless spray).
- A flawless, jointless membrane is formed when applied.
- Water and frost resistant.
- Can be applied to green roofs since it can withstand root encroachment.
- Up to 2 mm of crack mending even at -10 °C.
- Offers porosity for moisture, allowing the surface to breathe.
- Offers exceptional temperature resistance; it never becomes brittle.
- Offers superb weather and UV protection.
- Covers old bitumen- and asphalt-based felts to waterproof them without removing them beforehand.
- Offers high solar reflectivity, which aids with Thermo insulation. Retains its mechanical characteristics between -40° C and +90° C.
- The waterproofed surface can be utilized for both home and public pedestrian and motor traffic.
- It is resilient to detergents, oils, seawater, and household chemicals.
- If the membrane becomes substantially degraded, it can be restored immediately.
Received worldwide acclaim for more than 15 years
- Application does not require the use of an open flame (torch).

Uses

- Flat or Pitched Roof Waterproofing
- Waterproofing of Terraces, Patios, and Balconies
- Waterproofing of Wet Areas (under-tile) in Bathrooms, Kitchens, Terraces, Accessory Rooms, etc.
- Waterproofing of pedestrian and automobile traffic decks, green roofs, flowerbeds, and outdoor areas.
- Waterproofing of outdated bitumen felts, asphalt felts, BUR, EPDM and PVC membranes, OSB, Plywood, Concrete, Metals, Insulation boards, Spray foam, cement boards and old existing coatings ie. Acrylics etc.
- Waterproofing and protecting concrete buildings, such as bridge decks, tunnels, stadium stands, parking lots, etc.

Consumption

1,4 - 2,5 kg/m² applied in one, two or three layers.
Its coverage is dependent on proper application with a roller onto a smooth surface. Consumption may vary depending on surface porosity, temperature, and application technique.
Consumption increases when fabric reinforcing is used.

Colors

Lava 20 is supplied in white and light grey.
Other colors may be supplied on demand.

Certifications

According to the European Union Directive for liquid-applied roof waterproofing kits ETAG 005, the Lava 20 was submitted for testing by the German state testing institute for construction materials MPA-Braunschweig and was declared to be compliant.

The European Technical Assessment (ETA), the CE mark, and certification in accordance with the EOTA (European Organization of Technical Approval) were awarded to the Lava 20 by the German State Institute for Construction Techniques DIBt-Berlin. Depending on the applied thickness, the European Technical Assessment (ETA) is valid for two categories of use (W2 and W3).

Also, a number of laboratories in various nations throughout the world evaluated and authorized the Lava 20.

Lava 20 also has BBA certification. Agreement Certificate 20/5752.

Lava 20 is fire rated and certified B-ROOF (T4) (European/British Standard) which is equivalent to Class A Fire Rating (U.S.A. Standards).



CE



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European Technical Approval: ETA05/0197 DIBt

Levels of use categories according to ETAG005, for liquid-applied Polyurethane waterproofing kits:

Working life expected:	W3	25 Years
Climate Zone:	Mand S	All
Imposed loads:	P1 to P4	Very High (maximum load)
Roof slopes:	S1 to S4	<5° to >30°
Lowest surface temperature:	TL4	-30° C
Highest surface temperature:	TH4	+90° C
Reaction to fire:	Class E, Brooft4, DIN 4102-1, DIN 4102-7	EU Norm
Resistance to wind loads	50 kPa	EU Norm

Working life expected:	W2	10 Years
Climate Zone:	Mand S	All
Imposed loads:	P1 to P3	Hiah
Roof slopes:	S1 to S4	<5° to >30°
Lowest surface temperature:	TL3	-20° C
Highest surface temperature:	TH4	+90° C
Reaction to fire:	Class E, Brooft4, DIN 4102-1, DIN 4102-7	EU Norm
Resistance to wind loads	50 kPa	EU Norm

Technical Data*

PROPERTY	RESULTS	TEST METHOD
Elongation at Break	> 600 %	ASTM D 412 / DIN 52455
Tensile Strength	> 4 N/mm ²	ASTM D 412 / DIN 52455
Water Vapor Permeability	> 25 gr/m ² /day	ISO 9932:91
Resistance to mechanical damage by static impression	High Resistance (class:P3)	EOTA TR-007
Resistance to mechanical damage by dynamic impression	High Resistance (class: P3)	EOTA TR-006
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	>2,0 N/mm ² (concrete surface failure)	ASTM D 903
Crack Bridging Capability	up to 2 mm crack	EOTA TR-008
Hardness (Shore A Scale)	65-70	ASTM D 2240 (15")
Resistance to Root Penetration	Resistant	UNE 53420
Solar Reflectance (SR)	0.87	ASTM E903-96
Solar Emittance (e)	0.89	ASTM E408-71
Thermal Resistance (80° C for 100 days)	Passed - No significant changes	EOTA TR-011
UV accelerated ageing, in the presence of moisture	Passed - No significant changes	EOTA TR-010
Resistance after water aging	Passed	EOTA TR-012
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric changes	Inhouse Lab
Construction Material Fire class	B2	DIN 4102-1
Resistance to Flying Sparks and Radiant Heat	Passed	DIN 4102-7
Service Temperature	-30 C to +90° C	Inhouse Lab
Shock Temperature (20min)	200° c	Inhouse Lab
Rain Stability Time	3-4 hours	Conditions: 20° c , 50% RH
Light Pedestrian Traffic Time	18-24 hours	
Final Curing time	7 days	
Chemical Properties	Good resistance against acidic and alkali solutions (5%), detergents, seawater and oils.	

Application

Surface Preparation

For the best quality and longevity, careful surface preparation is necessary.

The surface must be free of any pollution that could compromise the membrane's adhesion. Optimum moisture content shouldn't be higher than 5%. Compressive strength of the substrate should be at least 25 MPa, and viscous strength properties should be at least 1.5 MPa. At least 28 days must pass before new concrete structures are ready. A grinding machine must remove dust, filth, fats, oils, organic materials, and old, loose coatings. Potential surface imperfections must be smoothed off. Grinding dust and any loose surface fragments must be completely cleaned.

WARNING: Avoid washing the surface with water!



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Repair of cracks and joints:

The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

Clear ridges and cracks in concrete of any debris, residue, or other contaminants. Use the Lava 20 Primer locally and let it dry for two to three hours. Using Owl PU Mastic sealant, fill all prepared cracks. Then, apply Lava 20 in a layer. When wet, cover any cracks with a stripe of the polyester fabric that is properly cut and 250, 200mm broad and centered. To let it soak, press. Then, apply enough Lava 20 to the polyester Fabric to completely cover it. Wait 12 hours for the cure.

Remove any debris, residue, or other contaminants from concrete expansion joints and control joints. If necessary, widen and deepen joints (cut them open). The depth of the prepared movement joint should be between 10-15 mm. The movement joint's breadth to depth ratio should be around 2:1.

Only the bottom of the joint should be sealed with Owl PU Mastic Joint-Sealant. Apply a stripe layer of Lava 20 that is 200mm wide, centered above and inside the joint, using a brush. With the help of an appropriate instrument, push the polyester Fabric deeply inside the joint until it is saturated and the joint is completely covered from the inside. Put the fabric over the wet coating. The fabric should then be completely saturated with Lava 20. After that, insert a polyethylene cord with the appropriate diameters into the joint and press it firmly on the soaked fabric there. Apply Owl PU Mastic sealant to the joint's remaining open space. Never cover. Give the cure 12 to 18 hours.

Priming

Concrete, cement screed, or wood should be primed with Lava 20 Quick Primer since they are particularly absorbent surfaces. Observe the primer's technical instructions and give it time to cure.

Waterproofing membrane

Before using, thoroughly stir. Pour the Lava 20 over the cleaned and primed surface, then spread it out using a roller, brush, or squeegee to cover the entire area. You can utilize airless spray to significantly reduce the amount of labor required. **AVOIDING PROBLEM AREAS:** Always reinforce with polyester Fabric any wall-to-floor connections, 90° angles, chimneys, pipelines, waterspouts (siphon), etc.

To accomplish this, place a correctly cut piece of polyester Fabric on top of the still-wet Lava 20, push it to absorb, and then saturate it once more with Lava 20. Contact our R+D department for comprehensive application instructions using the polyester Fabric. We advise using the polyester Fabric to strengthen the entire surface. Overlap your stripes by 5-10 cm.

Apply another coat of Lava 20 after 12 to 18 hours, but no later than 48 hours. Apply a third layer of Lava 20 for demanding applications.

ADVICE: Do not apply the Lava 20 product in layers that are thicker than 0.6 mm (dry film). The ideal temperature range for application and cure is between 5°C and 35°C. High temperatures hasten curing while low temperatures delay it. Excessive humidity could have an impact on the finish.

Finishing

Apply one or two applications of the Lava 20 Top-Coat over the Lava 20 if a color-stable and chalk-free surface is needed. If a dark final color is desired, the application of the Lava 20 Top-Coat (Any Colour) is especially necessary.

Please refer to their technical instructions or get in touch with our R+D Department for information on the various Top-Coats application techniques. Lava 20 and/or Lava 20 SYSTEM should not be used when they are wet. Sprinkle appropriate aggregates onto the still-wet coating to create an anti-slip surface to prevent slickness on rainy days. For further information, please contact our R+D Department.

Packaging

Lava 20 is supplied in 25 kg, 15 kg, 6 kg, 1kg metal pails and 250 kg barrels. Pails should be stored in dry and cool rooms for up to 12 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30° C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety measures

Lava 20 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data sheet.
PROFESSIONAL USE ONLY

Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We may guarantee only that our products are compliant with their technical specification; correct application of our products therefore falls entirely within your scope of liability and Users are responsible, in any case, for complying with local legislation and for obtaining any required approvals or authorizations, when necessary, either for their purchase and/or for their use. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.

* All values represent typical values and are not part of the product specification. In sample preparation the lava 20 Catalyst was used as an acceleration additive. The applied coating might yellow and/or fade upon UV Exposure.