OWL WATERPROOFING SOLUTIONS

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TECHNICAL DATA SHEET

LAVA 20 CLEAR TOPCOAT

Transparent Liquid Polyurethane Waterproofing Coating

Product Description

Lava 20 Clear Topcoat is a durable, transparent polyurethane waterproofing coating designed to be tough and long-lasting. Its advanced formulation remains transparent and flexible, even after aging, and offers UV stability without yellowing, resistance to weather, alkalis, and chemicals. Lava 20 Clear Topcoat protects and waterproofs natural surfaces from elements such as acid rain, fog, frost, and water. It also enhances the transparency of aged and oxidized plastic surfaces and waterproofs damaged glass. Lava 20 Clear Topcoat serves as a transparent binder resin for sand carpet floor coatings, particularly in exterior applications where UV stability and flexibility are essential. This topcoat uses a specialized curing system (moisture-triggered) that, unlike other systems, does not react with moisture or form bubbles during curing.

Product Information

Chemical Base	Cold-curing, solvent-based, single component aliphatic polyurethane
Packaging	1, 5 kg metal pails
Colour	Transparent
Shelf Life	9 months from the date of production

Main Uses

Waterproofing of:

- Decks and patios
- Wood
- Preservation of Natural Stones
- Porcelain Surfaces
- Glass and Crystal
- Opaque Plastics (like Polyacrylate and Polycarbonate)

Sand carpet outdoor floor sealing applications using adhesive resin.

Advantages

- → Easy to apply using a roller or airless spray.
- → Creates a seamless, transparent membrane upon application.
- → UV-resistant.
- → Withstands stagnant water and frost.
- → Allows water vapor permeability, enabling the surface to breathe.
- → Offers excellent thermal resistance and remains firm without softening.
- → Provides outstanding weather resistance.
- → Retains its mechanical properties across a temperature range of -40°C to +90°C.
- → Adheres well to ceramic tiles and glazed surfaces.
- → Suitable for light pedestrian traffic on waterproofed surfaces.
- → Resistant to detergents, oils, seawater, and household chemicals.
- → Can be quickly and easily repaired locally if damaged.
- → Serves as a flexible and elastic binder resin for sand carpet applications, ideal for balconies and terraces.

Consumption

0,800 - 1,200 kg/m^2 in two or three layers
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.

- → Apply 150 to 300 g/m² in one or two layers as a sealing layer for decorative floor flakes.
- → For sand carpets, use a ratio of 1:10 as a resin binder, with 1 kg of Lava 20 Clear Topcoat mixed with 10 kg of aggregates.

OWL WATERPROOFING SOLUTIONS

Technical Data*

Property	Results	Test Method
Composition	Polyurethane high-solids pre-polymer	
Elongation at Break	220%	DIN EN ISO 527
Tensile Strength	>20 N/mm^2	DIN EN ISO 527
Gloss retention after 2000h of accelerated ageing (DIN EN ISO 4892-3, 400 MJ/m^2)	Good	DIN 67530
Surface chalking after 2000h of accelerated ageing	No chalking observed. Chalking grade 0	ASTM G154
Hardness (SHORE D Scale)	25	ASTM D 2240
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Permeability to CO_2 (measured in CE system)	0.39g/m^{2}d	EN 1062-6
Water vapour permeability (measured in CE system)	5.15g/ m^{2}d	EN ISO 7783
Capillary absorption and permeability to water (measured in CE system)	0.008 kg/ m^2.h$^{0.5}$	EN 1062-3
Adhesion to absorbent ceramic tile	>2,0 N/mm^2 (ceramic tile failure)	EN 1542
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Service Temperature	-40^o C to +90^o C	Inhouse Lab
Tack Free Time	6-8 hours	Conditions: 20 ^{o}C, 50% RH
Light Pedestrian Traffic Time	24 hours	
Final Curing time	7 days	
Chemical Properties	Good resistance against detergents, seawater and oils.	

Certifications

EN1504-2: Surface protection for concrete. (0.8kg Lava 20 Clear Top Coat)
EPD Verified.

Application as a Transparent Waterproofing Coating

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 and be clean, dry, and sound. No more than 5% of the total weight should be moisture. At least 28 days must pass before new concrete constructions are ready. It is necessary to remove dust, organic materials, grease, oils, and old coatings. Surface imperfections should be leveled, and all loose particles and dust must be completely cleared. **Avoid using water to clean the surface!**

ATTENTION: Surfaces with trapped moisture (e.g. trapped moisture under tiles) must be left to dry completely

(max. 5% moisture), before the application of Lava 20 Clear Top Coat.

WARNING: Avoid applying Lava 20 Clear Topcoat on ceramic surfaces with rising nitric salts in the joints without proper pre-treatment. Do not apply Lava 20 Clear Topcoat on surfaces previously treated with silane, siloxane, silicone, or other water-repellents, as it may result in poor adhesion. If the surface history is unclear, it is recommended to conduct an adhesion test. For marble and granite surfaces, perform an adhesion test to confirm proper bonding.

Repair of cracks and joints

1. **Clean the Cracks and Joints:**
   Remove dust, debris, and any contaminants from concrete cracks, hairline cracks, expansion joints, and control joints to ensure proper adhesion.
2. **Prime the Area:**
   Apply Lava 20 Fast Primer to the cleaned cracks and joints. Allow 2-3 hours for the primer to dry fully.
3. **Seal the Cracks and Joints:**
   Use Owl PU Mastic to fill all the prepared cracks and joints thoroughly. Let the mastic cure completely before proceeding with further waterproofing.

Priming (Surface Activation)

1. **Prime Non-Absorbent Surfaces:**
   For non-absorbent, glazed surfaces such as ceramic tiles, glass, and glass bricks, use Lava 20 Fast Primer for surface activation.
2. **Application Method:**
   Soak a clean, dry cloth with Lava 20 Fast Primer and wipe down the entire surface. This method not only chemically activates (primes) the surface but also effectively removes grease.

Important Notes: Frequently change cloths during the process to maintain efficiency. Ensure the entire surface receives an adequate amount of primer and that no areas are left untreated.
Warning: Do not use Lava 20 Fast Primer on transparent plastics such as polycarbonate or polyacrylate.

Transparent waterproofing membrane

1. **Lava 20 Application:**
   Apply Lava 20 Clear Top Coat over the primed surface using a roller or a trowel with the appropriate teeth to evenly spread it over the entire area. After 12 hours (but no later than 18 hours), apply a second coat of Lava 20 Clear Top Coat using a roller or brush to enhance the waterproofing. For additional waterproofing and increased durability, apply a third coat of Lava 20 Clear Top Coat.
2. **Layer Thickness:**
   Attention: Do not apply layers thicker than 1 mm of dry film to avoid complications during curing.
3. **Satin Matte Finish:**
   If you desire a satin matte surface, apply one layer of Lava 20 Clear Topcoat to achieve the desired look.
4. **Temperature Considerations:**
   The ideal application and curing temperature are between 5°C and 35°C. High temperatures speed up curing, while low temperatures slow it down. Excess humidity may negatively impact the finish, potentially causing surface pinholes or bubbles.

Anti-Slip Precaution: While Lava 20 Clear Top Coat is wet, it can be slippery. To prevent this, sprinkle appropriate aggregates onto the wet coating to create an anti-slip surface, especially useful for rainy days.
Best Practices: For optimal results, aim for an application temperature range between 5°C and 30°C.
Be mindful that high humidity can affect the finish quality, and surface imperfections may appear if not managed properly.

OWL WATERPROOFING SOLUTIONS

Application as a Binder Resin for Sand carpet Coating

Surface Preparation (For Lava 20 Applications):
Ensure the surface is clean, dry, sound, and free from contaminants that could affect the adhesion of the sandcarpet coating. Maximum surface moisture content should be no more than 5%. Smooth out any surface irregularities and remove all loose particles and dust.
Important: Do not wash the surface with water.

For Concrete Applications:
Make sure the concrete surface is clean, dry, and free from contaminants that may impact adhesion. Moisture content should not exceed 5%. Allow new concrete structures to dry for at least 28 days. Remove any old coatings, dirt, oils, or organic matter, and smooth out surface imperfections.
Important: Do not wash the surface with water.

Priming:
Prime the concrete surface with Lava 20 Fast primer. While the primer is still wet, sprinkle quartz/ silica sand over the surface.

Sandcarpet Coating:
Mix Lava 20 Clear Topcoat with colored silica sand (grain size 0.7-1.2 mm or 2.0-3.5 mm) at a ratio of 1:10 (resin to sand by weight). Use a low-speed mechanical mixer to blend the mixture until it is fully homogeneous. Pour the mixture onto the prepared surface and apply it using a flat trowel.

Temperature Considerations: The ideal application and curing temperature are between 5°C and 35°C. Low temperatures will slow the curing process, while high temperatures will accelerate it. High humidity can affect the final finish.

Application as a Sealer Coating for Decorative Flakes Floor System

Sealer Coating:
On the prepared surface (such as epoxy/polyurethane flooring with decorative flakes), apply the first layer of Lava 20 Clear Topcoat using a high-quality, short-hair roller (moher). Apply at a rate of 150-300 g/m². After 12 hours (but no later than 18 hours), apply a second layer of Lava 20 Clear Topcoat, if needed.
Temperature Guidelines: For best results, ensure the temperature during application and curing is between 5°C and 30°C. Low temperatures will slow down curing, while high temperatures will speed it up. High humidity may negatively impact the finish.

Storage Conditions

Lava 20 Clear Top Coat pails should be stored in dry and cool rooms. Protect the material against moisture and direct sunlight. Storage temperature: 5° to 30°C. Products should remain in their original, unopened containers, bearing the manufacturer's name, product designation, batch number and application precaution labels.

Safety measures

Lava 20 Clear Top Coat contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data Sheet. PROFESSIONAL USE ONLY.