Waterproofing
ISOCRYL PU MAX
Technical Data Sheet

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DESCRIPTION

ISOCRYL PU MAX is a high-performance elastomeric, liquid applied waterproofing membrane based on aliphatic polyurethane. Its innovative solvent free formula reinforced with nanofibers, ensures excellent long-term durability and great crack bridging properties. It protects old and new surfaces by forming a single, 100% waterproof and vapor-permeable elastic membrane without joints. It has high resistance to moisture, stagnant water, withstands very low and high temperatures while remaining unaffected by UV rays. It is the ideal waterproofing membrane for demanding applications and long-term waterproofing.

ADVANTAGES

- 20 years durability – Aliphatic PU technology
- Ponding water resistance
- Fast drying formula – minimizes labor costs
- Contains nanofibers
- Excellent small joint – crack bridging
- The waterproofed surface can be walked on
- Excellent dirt pickup resistance
- Excellent elasticity up to 400%
- Highly reflective to sun UV rays
- Offers better thermal insulation properties
- Superior adhesion on most building surfaces
- Excellent resistance to moisture and water
- Maintains its mechanical properties over a temperature span of -20°C to +90°C
- Excellent resistance to ageing & UV exposure
- User and environmentally friendly
- Easy to apply (one component – ready to use material)

APPLICATIONS

- Waterproofing of rooftops and terraces
- Waterproofing and protection of concrete structures.
- Waterproofing bitumen and polyurethane hard foam surfaces
- Suitable for common construction surfaces, including cementitious surfaces, bituminous materials, wood, stone, bricks, PVC, polyurethane foam, drywall, plaster, metal surfaces and much more.

INSTRUCTIONS FOR USE

Substrate preparation

Careful surface preparation is very important for optimum finish and durability.

- The surface needs to be clean, dry, sound and free of any contamination that may harmfully affect the adhesion of the membrane.
- Maximum substrate moisture content should not exceed 6%.
- New concrete structures need to dry for at least 28 days.
- Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by mechanical means such as a sanding machine. Possible surface irregularities need to be smoothened.

Repair of cracks

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

1. Carefully clean cracks and joints from dust, grease, loose debris.
2. Capillary and small cracks up to 3mm must be primed with **ISOCRYL PRIMER DUR AQUA** waterbased primer or **ISOCRYL PRIMER DUR** solvent-based primer and allow drying. Apply a layer of **ISOCRYL PU MAX**. Immediately apply on wet surface polyester fabric (capillaries) or fiberglass tape (small cracks) 30 – 60 gr/m^2 respectively and again two more successive layers of **ISOCRYL PU MAX**.
3. Cracks from 3mm to 20mm and expansion joints are primed with **PRIMER PU 900** and then sealed with polyurethane sealant **BONDFLEX 290LM**.
4. Larger cracks and holes are closed – smoothed with the fiber-reinforced repair cement mortar **ISOMIX MECHANIC R4** and after the cement has dried apply polyester fabric and two layers of **ISOCRYL PU MAX**.
5. Assembly points such as water heater bases, air conditioners, stairs, antennas, etc. must be sealed with a thick layer of **ISOCRYL REPAIR** thixotropic, fiber reinforced roof coating and allow drying before proceeding with the application of **ISOCRYL PU MAX**.

Priming

1. Prime absorbent surfaces like concrete, cement screed, wood with 2 component waterbased epoxy primer **EPOXITE DUR AQUA**. Allow drying for 2 – 4 hours.
2. Prime non-porous or difficult surfaces (metal, ceramic tiles, plastics) with 2 component waterbased epoxy primer **EPOXITE DUR AQUA**. Allow drying for 2 – 4 hours.

Application

1. Stir **ISOCRYL PU MAX** well before use.
2. Dilute 10% with clean water, then apply the first layer using a roller, brush or airless spray.
3. When the first layer has dried (6 – 24 hours), apply a second coat with dilution up to 5% in a crosswise direction over the first coat.
4. For enhanced protection and insulation, or when required, apply a third coat.
5. Surfaces can be walked on at least after 48 hours.
6. Application of **ISOCRYL PU MAX** must be avoided at temperatures below 8°C and above 35°C and when frost or rain is expected within 48 hours.

RECOMMENDATION: When waterproofing terraces with many hairline cracks, it is recommended to reinforce **ISOCRYL PU MAX** with geotextile fabric over the entire waterproofing surface. For applications requiring enhanced walkability and maximum resistance to adverse weather, an additional layer of white **DRYMAX POLYURETHANE TOPCOAT** is recommended.

ATTENTION: Do not apply **ISOCRYL PU MAX** over 0,5 mm thickness per layer (0,75kg/m^2). For best results, the temperature during application and curing should be between 8°C and 35°C. Low temperatures delay curing while high temperatures speed up curing. High humidity may affect the final finish. Do not apply **ISOCRYL PU MAX** in negative temperatures or when rain or frost is imminent within the next 48 hours.

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CLEANING
Clean all tools and equipment with water and soap right after applications. Cured material can be removed only by mechanical means.

COVERAGE
Without reinforcement: 1,0 – 1,5 kg/m^2 applied in 2 or 3 layers
With reinforcement: 1,5 – 2,3kg/m^2

LIFE EXPECTANCY
ISOCRYL PU MAX provides a projected waterproofing durability of 20 years, provided that the application instructions are strictly followed (surface preparation, priming, and application) and that reinforcing fabric (50-90 gr/m^2) is used over the entire surface with at least three coats of the product. Total consumption for three coats: 2,3kg/m^2. For roofs subject to increased pedestrian traffic, an additional layer of white **DRYMAX POLYURETHANE TOPCOAT** - an aliphatic polyurethane finish - is required. Check the quality of the surface regularly, as in case the membrane is damaged locally by dropped objects or other inappropriate use it will have to be repaired locally with the material itself.

TECHNICAL CHARACTERISTICS
Base: Aliphatic polyurethane system
Form: Visous liquid
Color: White
Smell: Characteristic
Density: 1,30 ± 0,05 gr/ml ASTM D-1475
Water Vapor Permeability: >15 gr/m^2/day ISO 9932:91
Resistance to stagnant water after 7 days: No difference ASTM D-870
Bending Test (F 2 mm): No cracks ASTM D-522
Elongation at Break: >400% ASTM D-412
Tensile Strength: 1,6 N/ mm ^{2} ASTM D 412
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
Hardness (Shore A Scale): >50 ASTM D 2240
Uniformity after 72h at 23 °C: No water separation or settlement after moderate stirring ASTM D-2824
Consistency: Good application by spray, roller or brush
Application temperature: 8ºC - 35ºC
Light Pedestrian Traffic Time: 24 hours, 20ºC, 50% RH
Final Curing time: 7 days, 20ºC, 50% RH
VOC (Volatile Organic Compounds) CONTENT: (Directive 2004/42/CE) EU maximum VOC content limit values for this product (category A/c(WB): “Exterior walls of mineral substrate”): 40 gr/lt (2010). This product contains maximum 30 gr/lt VOCs (ready for use product).

STORAGE
Store in dry and cool storage conditions at temperatures 5ºC – 35ºC. Protect from moisture, frost and direct sunlight.

SHELF LIFE
At least 24 months in unopened containers. Products should remain in their original unopened containers, bearing the manufacturers batch number.

PACKAGING
Pails of 4kg, 23kg

PACKAGING	CODE	BARCODE
White		
4kg		52040940
23kg		52040940

HEALTH AND SAFETY INFORMATION
Consult recent Safety Data Sheet before application.

The directives contained in this technical data sheet are the result of our long experience from real life applications and the research testing of our research and development laboratory and have been submitted in good faith. Because of the diversity of the materials and substrates and the great number of possible applications, which are beyond our control, we cannot accept any responsibility for the results obtained. In every case it is recommended to carry out preliminary experiments. We are liable only for our products for being free from faults and of consistent quality. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. The present edition of this technical datasheet automatically cancels any previous ones concerning the same product.

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