# Waterproofing
# ISOCRYL PREMIUM PU HYBRID
## Technical Data Sheet

Reviewed: 11.07.2024


## DESCRIPTION

**ISOCRYL PREMIUM PU HYBRID** is a one component, premium grade, high performance liquid-applied, PU hybrid waterproofing membrane based on polyurethane and synthetic acrylic resins. It is suitable for waterproofing old and new building surfaces. It forms an elastic seamless vapor permeable membrane without joints with excellent resistance to humidity, weather conditions as well as high temperatures and UV rays. Due to the innovative HYBRID PU-ACRYL technology it is the most suitable water-based material for high demand applications with long lasting results.

## ADVANTAGES

- 12 years durability – PU HYBRID technology
- Polyurethane technology – ponding water resistance
- Fast drying formula – minimizes labor costs
- Contains nanofibers – excellent small joint – gap bridging
- Elastic, seamless, vapor permeable membrane without joints
- Excellent elasticity up to 400% and ability to follow substrate expansion
- Highly reflective to sun UV rays offering thermo insulation advantages
- Superior adhesion on most building surfaces
- Maintains its mechanical properties over a temperature span of -15$^{o}$C to +70$^{o}$C
- Excellent resistance to water & ageing
- The waterproofed surface can be walked on
- User and environmentally friendly - waterbased
- Easy to apply (one component – ready to use material)

## APPLICATIONS

- Waterproofing of rooftops and terraces
- Waterproofing of gutters, domes, cornices, ondulated panels, flowerbeds, planter boxes etc
- Waterproofing bitumen and polyurethane hard foam surfaces
- Suitable for concrete surfaces, bitumen material, wood, stone, brickwork, PVC, polyurethane foam, plaster, plasterboard, metal etc

## 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 PREMIUM PU HYBRID**. 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 PREMIUM PU HYBRID**.
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 PREMIUM PU HYBRID**.
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 PREMIUM PU HYBRID**.

### Priming

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



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**Application**

1. Stir product well before use.
2. Poor the **ISOCRYL PREMIUM PU HYBRID** diluted 10% with clean water onto the primed surface and spread it using a roller or brush, until all surface is covered. You can use airless spray allowing a considerable saving on labour cost. Allow drying for 4 – 24 hours
3. Apply a second layer of **ISOCRYL PREMIUM PU HYBRID** crossways to the first layer, diluted up to max 5%.
4. For extra protection or were required a third layer may be applied.
5. Surfaces can be walked on at least after 48 hours. New treated surfaces exhibit a tackiness at the beginning, which disappears in due time.
6. Application of **ISOCRYL PREMIUM PU HYBRID** must be avoided at temperatures below $8^0$C and above 35 °C and when frost or rain is expected.

**RECOMMENDATION:** We recommend reinforcement of the entire surface, with fiber cloth, by applying one coat before the reinforcement and 2 coats after. On surfaces with frequent pedestrian traffic, apply a layer of D**RYMAX POLYURETHANE TOPCOAT** after **ISOCRYL PREMIUM PU HYBRID** to increase abrasion resistance.

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

### 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:** 0,8 – 1,2 Lt/m$^2$ applied in 2 or 3 layers
**With reinforcement:** 1,5 – 2Lt/m²

### LIFE EXPECTANCY
**ISOCRYL PREMIUM PU HYBRID** offers a predicted waterproofing duration of 12 years by strictly following its application instructions (substrate preparation, priming, application) using reinforcing fibernet on the entire surface: 50 – 90 gr/m$^2$ and application of the material in at least three layers with a minimum consumption of 1,5 Lt/m$^2$ or 1,2 Lt/m$^2$ with an additional coat of the water-based aliphatic **DRYMAX POLYURETHANE TOPCOAT**. 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:** Hybrid polyurethane - Synthetic acrylic resin system
**Form:** Visous liquid
**Color:** White
**Smell:** Characteristic
**Density:** 1,30 ± 0,05 gr/ml ASTM D-1475
**PH:** 8-9
**Solid content:** >63%
**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:** >1,7 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:** $8^0$C έως $35^0$C
**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 28 gr/lt VOCs (ready for use product).

### STORAGE
Store in dry and cool storage conditions at temperatures $5^0$C - $35^0$C. Protect from moisture, frost and direct sunlight.

### SHELF LIFE
At least 36 months in unopened containers. Products should remain in their original unopened containers, bearing the manufacturers batch number.

### PACKAGING
**White:** 750ml, 3Lt, 10Lt

| PACKAGING | CODE | BARCODE |
|---|---|---|
| **White** | | |
| 750ml | 5310 | 5204094053101 |
| 3 Lt | 5003 | 5204094050032 |
| 10 Lt | 5060 | 5204094050605 |



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## 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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