

# GRADASEAL HYBRID MS

## Technical Data Sheet

### *Hybrid Polymer Based, UV Resistant, Waterproofing Membrane*

#### **1 – PRODUCT DESCRIPTION**

**GRADASEAL HYBRID MS**, one component, UV resistant, bitumen, solvent and isocyanate-free, hybrid polymer based, elastic waterproofing material. It forms a waterproofing membrane that can dry out on the surface it is applied to and can install additional fracture bridges.

#### **2 – PRODUCT FEATURES**

- UV resistant
- Environment friendly. Does not contain bitumen, isocyanate and solvent.
- To be applied on dry and damp surfaces without lining
- Can be used on indoor and outdoor surfaces, horizontal and vertical surfaces
- Easy to apply (brush, short hair roll, airless gun, notched trowel)
- Excellent adhesion
- Building a bridge of cracks
- High elasticity
- Paintable
- Water vapor permeability
- Excellent resistance to weather conditions (temperature, water and freezing)

#### **3 – APPLICATION AREAS**

- Concrete, ceramic, tile, wood, glass, polycarbonate, GRP, metal, stone, marble, tile, brick, betopan, gas concrete, all kinds of vertical and horizontal surface,
- In the waterproofing and repair of chimney joints, wall floor anchor points, water drainage, roof lights, rain gutters
- Balcony, terrace, roof and roof streams
- Drinking water tanks and pools

- Repair of joints of bitumen and slate membranes
- All types of ceramics, bathrooms, kitchens and other wet areas
- Waterproofing on thermal insulation applications (PU foam, EPS, XPS etc.)

#### **4 – SURFACE PREPARATION**

- The surface and ambient temperature should be at least 5 ° C and maximum 35 ° C.
- The application surface should be clean and the elements that prevent adhesion (oil, dirt, dust, grease, paint, rust) should be cleaned from the surface.
- The surface must be strong and of sufficient strength. Cement grout, uncoated concrete and plasters should be removed from the surface.
- If necessary, the concrete surface must be roughened mechanically.
- Any cracks, fractures, gaps and segregations on the surface should be repaired with suitable sealant, epoxy or cement based repair mortars.
- Dilatations on the surface should be insulated with the appropriate polyurethane based filler material and dilatation tape.
- Corner chamfers can be supported with appropriate repair mortar or chamfer tape.
- As a result of these processes, dust and debris on the surface should be removed from the surface for the last time.

#### **5 – PRIMER APPLICATION**

- Can be applied to dry and moist surface without primer.

- Dusting surfaces should be primed with **PRIMER S 115, PRIMER S 120 or PU PRIMER 1K**.
- To obtain a homogeneous primer mixture, the primer should be mixed with an electric mixer for 3-4 minutes, low speed (~ 300 - 400 rpm) or with suitable equipment. Do not mix at high speed for a long time to prevent air bubbles.
- The prepared primer mixture is applied to the surface by brush, roller or airless spraying machines.
- Consumption in single coat application is 200-400 g / m<sup>2</sup>. Consumption may vary depends on surface permeability, weather conditions and technique of application
- Second coat application can be made when necessary.

## 6 – MEMBRANE APPLICATION

- **GRADASEAL HIBRIT MS**, is ready for use. Do not add water or any solvent to dilute.
- The product in the special aluminum package is mixed before use, then the package is cut from the corner with scissors and poured onto the application surface and applied to the surface with brush, short hair roll or notched trowel.
- Application is made in 2 layers. It is recommended to apply the floors in such a way that the application directions are perpendicular to each other.
- Consumption is 1.50 kg / m<sup>2</sup> (1 mm) per layer.
- It is recommended to reinforce large surfaces or areas with a risk of cracking above 25-30 m<sup>2</sup> with geotextile after the application of the first layer. Second layer application is made on geotextile fabric.
- Waiting time between coats varies between 12-24 hours depending on temperature and humidity.
- Masking tape is used to ensure that the end points of the application surface are flat. The masking tape should be removed after 10 min.

- In order to make the surface rough in application to be coated on the ceramic, before application of the top layer membrane, the surface is sprinkled with an average of 1,00 - 1,50 kg / m<sup>2</sup> quartz sand.

## 7 – TECHNICAL SPECIFICATIONS

Test Name	Result	Test Method
<b>Chemical Structure</b>	Hybrid Polymer	
<b>Density</b>	1,44 gr/ml (23 °C ve % 50 R.H.)	(ASTM D1875)
<b>Appearance / Color</b>	Viskos liquid, Grey or White	
<b>Viscosity</b>	7000-15000 cps	Brookfield DV-E RV 23°C No 05
<b>Curing Speed</b>	2,5,00 mm/day (23 °C ve % 50 R.H.)	
<b>Hardness (Shore A)</b>	30 ± 5	(ISO 868)
<b>Elongation</b>	≥ % 300	(DIN 53504)
<b>Tensile Strength</b>	≥ 1 N /mm <sup>2</sup>	(DIN 53504)
<b>Tack Free Time</b>	~ 1 hour (23 °C ve % 50 R.H.)	
<b>Drying time between first and second layer (hours)</b>	8-12 (23 °C ve % 50 R.H.)	
<b>Full Curing Time</b>	~ 7 days	
<b>Capillary water absorption and water permeability</b>	0,01 kg/m <sup>2</sup> .h <sup>0,5</sup>	(EN 1062-3)
<b>Adhesion strength through the pull-out test</b>	> 0,8 N/mm <sup>2</sup>	(EN 1542)
<b>Abrasion Resistance</b>	~ 1105 mg	TS 8103 EN ISO 5470-1
<b>Service Temperature</b>	Between -20 °C - +80 °C	

## 8 – CHEMICAL STRUCTURE TABLE

Chemical Name	Resistance
Hydrochloric Acid %10	-
Sulfuric Acid %10	±
Sulfuric Acid %25	±
Sulfuric Acid %50	-
Nitric Acid %10	±
Acetic Acid %5	-
Phosphoric Acid %10	-
Citric Acid %10	-
Formic Acid %1	-
Ethanol	-
Ethyl Acetate	-
Trichlorethylene	±
Toluene	-
Potassium Hydroxide %20	+
Potassium Chlorite %25	+
Ammonia %25	+
Hydrogen Peroxide %3	+
Sodium Chloride %25	+
Iron Sulfate %5	±
Diesel	+
Unleaded Gasoline, 98 octane	±
Engine oil	+

+ Resistant

± Resistant (color, brightness and hardness may change.) Rarely in case of contact or splash,

- Not Resistant

## 9 - PACKAGING

- 2 pieces of 7 kg aluminum package in plastic bucket

## 10 - COLOR VARIETIES

- White and gray (other colors can be produced for tonnage orders)

## 11 - SHELF LIFE AND STORAGE CONDITIONS

- It is suitable for 9 months from the date of production when stored correctly between +5 ° C and +30 ° C in original, unopened and undamaged packages.
- Products should be stored in dry and places where not having direct sunlight.

## 12 - WARNING AND SUGGESTIONS

- Personal protective equipment must be used during application. In case of contact with skin, wash with plenty of water. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Keep products away from sources of ignition. Do not heat the products by sun or other means. Do not smoke at the time of application.
- The product is ready for use. Do not add water or any solvent to dilute.
- The opened buckets should be consumed in a short
- The finished product should be protected against rain and mechanical stress until it is dry.
- Clean all tools and application equipment with thinner immediately after use. Hardened / cured material can only be cleaned by mechanical methods.