

High Mechanical Strength and Chemical Resistance Hybrid Polyurea

Product Definition

It is a fast set, rapid curing, 100% solids, mixing ratio with 1:1 by volume, solventless, two component aromatic spray polyurea that can be applied to suitably prepare concrete, metal and different surfaces. It is a hard- flexible waterproofing membrane with high mechanical, chemical resistance. It must be applied with special machines cause of its fast reaction.

Application Areas

- Roof, balcony, terrace,
- Water insulation of foundation and concrete shear wall,
- Indoor of flower beds, waste water and eaves trough, concrete flumes,
- Tunnels, underpass and overpass,
- Truck beds,
- Aircraft hangar floors,
- Petroleum refineries and petrochemical industries ,
- As a anticorrosive and protective coating for steel structure of steel silos indoors, ports facility, ships, chemical industry.

Usage and Consumption

Apply 2, 0-2, 2 kg/m² to obtain 2 mm of dry film thickness.

Advantages

- It can be used on many surfaces with the use of the correct primer,
- 100 % solid, zero VOC and odorless,
- Can be applied on horizontal and vertical surfaces,
- It creates a monolithic and do not require grouting surfaces,
- Application and the surface to be ready for use is very fast,
- It is proper for contact with water,
- Flexible, high mechanical and corrosive resistance,
- Resistance to the underground of chemicals.

Package

A set of BILIZO® POLYUREA HB consists of 200 kg A component in a drum and 220 kg B component in a drum.

Technical Data

Appearance	Semi-Matt
Color:	Colorless or Grey/Oxide red/Black
Density:	A:1,00 - B:1,1 ± 0,02 kg/lt
Mixing ratio	1:1 (A:B – by volume)
Solid by Volume	%100 (A+B)
Pot life (+10°C)	3-5 secs
Tack Free Time (@ 3 mm. thickness)	10-30 secs
Recoat Time	0 – 8 hours / at 20°C
Viscosity A Component (25°C)	700±50 cps. (Brookfield)
Viscosity B Component (25°C)	1300± 200 cps. (Brookfield)
VOC Content	0 gr/ml
Hardness (ASTM D-412)	50 ± 5 Shore D
Tensile Strength (ASTM D-412)	1400 ± 200 psi
Elongation (ASTM D-412)	340 ± 20%
Tear (ASTM D-624) (Angle Type)	75 – 85 N
Tear (ASTM D-624) (Trouser Type)	30 – 40 N
Service Temperature - Dry	-30 / +120°C
Service Temperature - Wet	+4 / +50°C
Recommended Applied Thickness /Consumption	2mm/2,0 – 2,5 kg/m ²
Return to Service: Foot Traffic	1- 4 hour / at 20°C
Return to Service: Full Service	> 24 hour / at 20°C
Water Absorption (ASTM D471)	<%0,5 (max.25°C, 24 hours)
Crack Bridging (ASTM C836)	Pass (-25°C, 1.6mm crack, 25 cycles)
Impact Resistance (TS EN 12691)	360 mm
Pull-Off Strength (ASTM D4541)	
Concrete (Shot blasted profile)	≥2 N/mm ²
Steel (75-100 micron)	≥5 N/mm ²
Flexibility (ASTM D1737)	Pass (1/8”(3mm) Mandrel Bend Test)

Application

Surface Preparation: In general, coating performance and adhesion are directly proportional to surface preparation. Cause of this, application surface should be free of any damages and surfaces must be free of dust, oil, grease, rust, corrosion and contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. It should be free of any loose and friable particles paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Should be prepared a high adherence and strength mechanical surfaces.

New and Old Concrete: New concrete must be cured for 28 days prior to product application and concrete surface must contain maximum %4 moisture. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations. . If old concrete has a surface that has deteriorated to an unacceptably rough surface, BILIZO[®] MACRO PRIMER and a mixture of sand/powder should be used as a repair agent for cracks, spalls, bug holes and voids. If the old surfaces are very glossy, it must be roughen or primed with BILIZO[®] MACRO PRIMER.

Wood Surfaces: All wood should be clean, dry and free of any knots, splinters, oil, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be primed using BILIZO[®] MACRO PRIMER.

Steel Surfaces: Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After cleaning, scraping should be performed at level of 2½ as per ISO 8501-1 to get a surface profile of 70 – 100 microns. After scraping the surface, must be primed.

Textiles, Canvas, Fabrics: Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

All Other Surfaces: An adhesion test is recommended prior to starting the project. Please consult to Izobil Construction Chemicals – Technical Service for application to different surfaces.

The system must be protective from UV with aliphatic topcoat paint on outdoor applications.

Application to Surface: BILIZO[®] POLYUREA HB may not be diluted under any circumstances.

Thoroughly mix B component (resin side), with air driven power equipment until a homogeneous mixture and color is obtained. Surface temperature should be 3°C above the then dew point. Both materials (A and B sides) must be warm up to 25-30°C before application. Should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment to the ready application surface. Both Part-A and Part-B materials should be sprayed at a minimum of 2000(135 bar) psi and at temperatures above 70-80 °C . Adequate pressure and temperature should be maintained at all times.

BILIZO[®] POLYUREA HB should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance. Should be adhered to the recommended consumption on application, out of the special cases, 45 degrees with the surface to be sprayed.

In outdoor applications, the system should be taken to protect with UV resistant aliphatic polyurethane topcoat.

Storage

The product must be storage in a cool and dry area. The product has a shelf life of six (6) months from date of manufacture in original, factory sealed containers. Store drums on wooden pallets to avoid direct contact with the ground and the temperature must be above 15 °C. If stored for a long period of time, rotate Side-A and Side-B drums regularly.

Safety Information

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.