

# STANDARD HYBRID POLYUREA

## Product Description:

**ARMOR Standard Hybrid Polyurea**, is a very fast set, 2-component, 100% solid, flexible hybrid polyurea system. It is derived from a reaction of an isocyanate prepolymer and an amine terminated resin blend. It can be applied as an economic coating alternative to pure polyurea products. The product reacts within seconds and once cured, leaves a flexible, durable, tough surface. This product is VOC free and environmentally friendly. The material must be applied utilizing high pressure, heated plural component spray proportioning equipment.

## Features:

- Economic alternative to pure polyurea products
- Fast reactivity and fast return to service time
- 100% solid, VOC free, no solvents
- No catalyst
- Seamless and jointless coating with water resistance
- Excellent adhesion on concrete, steel, aluminum, plastics, fibers, wood, foam etc.
- Excellent flexibility
- Non sensitivity to temperature and humidity
- Variable application thickness possible
- Broad color spectrum

## Application Areas:

- General water isolation –water tanks, pools, swimming pools, ponds, pipes, pipelines, waste water treatments, manholes and sewer linings, roof coatings
- Floors –industrial floors, hospitals, factory, parking lots, garage and Truck bed liners
- Construction – roads, bridge decks, railways and high speed railways, tunnels, airports, line striping,
- In marine industry and marine applications like ship decks and docks,
- Leisure industry- water parks, aquariums linings, play grounds, theme park and decorative applications.

## Surface Preparation and Application:

- Polyaspartic coating adheres perfectly to dry and clean surfaces like metal and concrete. Application surface should be clean and smooth and not contain any dirt, gap or particles
- Surface preparation strongly affect coating performance. Concrete substrates must be prepared mechanically using abrasive blast cleaning to remove cement laitance and achieve an open textured surface. Weak concrete must be removed and surface defects such as voids must be fully exposed. Repairs to the substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products. The application surface has to be primed in order to achieve an even surface and good adhesion.
- All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum. For application pull off strength of the surface should be min. 1.5 N/mm<sup>2</sup> and concrete residual moisture should be max. 6 %.
- Isocyanate prepolymer and amine resin must be applied using a 2-component high pressure

- spray machine.
- Amine component must be stirred using a barrel mixer.

### Storage and Shelf Life:

Polyurea components are sensitive to moisture. Keep polyurea components in closed containers. Store the product in a ventilated place away from direct exposure to sunlight. Keep polyurea components between 20 -30 °C for quality reasons. Shelf life of the unopened original packaging is nine months from manufacturing date.

### Safety and Disposal:

Contains isocyanate MDI. Avoid breathing vapors. Avoid contact with skin and eyes. Take precautions during application. Wear suitable protective clothing, gloves and eye/ face protection. Adequate ventilation of the working area is recommended. Contains isocyanate MDI. Avoid breathing vapors. Avoid contact with skin and eyes. Take precautions during application. Wear suitable protective clothing, gloves and eye/ face protection. Adequate ventilation of the working area is recommended. Consult SDS for further information.

### Technical Features:

#### COMPONENT PROPERTIES

	Unit	Method	HDI Prepolymer (A)	Amine Resin (B)
<b>Density (25°C)</b>	g/cm <sup>3</sup>	ASTM D 1217	1.11±0.03	1.02±0.02
<b>Viscosity (25°C)</b>	mPa.s	ASTM D 4878	700-800	300-600
<b>Shelf life</b>	-----	-----	9 months	9 months

#### PROCESS PROPERTIES

	Unit	Data
<b>Mix Ratio</b>	By volume	A=100 B=100
	By weight	A= 112 B= 100
<b>Application Temperature</b>	°C	A: 70-80 B: 70-80
<b>Process pressure (bar)</b>	Bar	A: 150-200 B: 150-200

**PHYSICAL PROPERTIES**

	Method	Datas
<b>Chemical structure</b>		A: HDI Prepolymer
		B: Amine Resin
<b>Mix ratio (by weight)</b>	--	40:60 A:B
<b>Consumption (g/cm<sup>2</sup>)</b>	--	150-200
<b>Recommended thickness (μm)</b>	--	150-200
<b>VOC content (%)</b>	ASTM D1259	0
<b>Solid content (%)</b>	ASTM D2697	95
<b>Gel time (sec)</b>	--	30-35
<b>Tack free time (sec)</b>	--	50-60
<b>Pedestrian traffic time (hr)</b>	--	3-4
<b>Full curing time (hr)</b>	--	24
<b>Tensile strength (MPa)</b>	ASTM D638	>30
<b>Elongation at break (%)</b>	ASTM D638	4-6
<b>Hardness (Shore D)</b>	ASTM D2240	65-70
<b>Abrasion resistance (mg)</b>	EN ISO 5470-1	<15 (H22, 1000 cycle)

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