

# ILIA

HIGH TECH COMPANY



[www.iliahightech.com](http://www.iliahightech.com)

[Info@iliahightech.com](mailto:Info@iliahightech.com)

Tel : +982162999653

Address : 3<sup>rd</sup> floor, No 252, Fatemi St, Tehran, Iran

## Hybrid polyurea (Cold)



Hybrid polyurea is an elastomeric product of the reaction between an isocyanate and a mixture of composite resins, which due to its high penetrating power and adhesion is the best preparative and protection of concrete and metal substrates against moisture and corrosion. And it is a suitable primer before implementing the infrastructure of pigmented and protective coatings.

### Properties

- High penetrating power in the infrastructure
- Excellent adhesion
- Initial and final mechanical resistance
- Creating a smooth and seamless surface
- water and chemical penetration resistance
- Free of any organic solvent (VOC Free)



## Application

1. The substructure is saturated for implementing various types of polyurea, polyurethane coatings.
2. Preventing the formation of bubbles in the final coating due to the negative pressures

## Dosage

According to the level of porosity and unevenness of the work surfaces, the amount of consumption is different. In smooth conditions, 1.40 kg covers 1mm<sup>2</sup> thickness.

## Surface preparation

Concrete must be hardened before covering for 28 days and the moisture in it should be less than 4%. Also, the minimum compressive strength of concrete should be 25N/mm<sup>2</sup> and the minimum pull-off strength should be 1.5N/mm<sup>2</sup>. All surfaces must be clean and dry, Surface cracks repaired with Smart Filler materials and then lined with Acroseal. The moving cracks should be sealed with PU Foam Z10. The repair of concrete should be done before applying the material according to ICIR Guide 310.2. The roughness of concrete surface (CSP) can be between grades 2 and 6 for implementation. The Preparation of concrete surfaces is recommended according to SSPC-SP13/Nace No.6 standard.

Surface preparation should not be done under the following conditions:

1. The temperature is less than 5 °c
2. When the humidity is more than 80%.
3. When the surface temperature is less than 3 °c above the dew point.
4. The outside of daytime hours for surfaces that are located in the external environment



## Procedure

Hybrid Polyurea is supplied in two separate packages, Mix the two packages thoroughly. Hybrid Polyurea should be used within the Pot Life mentioned. First, component A homogenize with a suitable mixer, then component B is added to component A and mixed under the mixer. Continue mixing for three minutes and make sure the ingredients are well mixed on the sides of the bowl. The Implementation can be done immediately after mixing and there isn't a need to give time to the mixture. you can pour the mixture into shallow containers or start the coating in the first few minutes.

- In hot weather, the temperature of the ingredients before mixing should be between 20 -25 °c, Otherwise, the time of Pot life will be short.
- In cold weather, if the material hardens, heat it indirectly.
- Avoid performing when the wind speed is more than 7 meters per second.
- Avoid performing when the surface temperature is below 10c

Note: In order to achieve better adhesion with the top layer, spread the silica-type materials on the wet surface completely and after hardening (before applying the next layer on the surface), collect the non-adherent particles from the surface carefully.

## Performance specifications

Airless spray	Nozzle diameter: 0.021-0.017 inches Nozzle opening pressure: at least 110 bar (1600 psi)
Air spray	Nozzle opening diameter: 0.022-0.018 inches Nozzle opening pressure: at least 3 to 6 bar 40 - spi 90
Roller	Usable
Brush	Usable

### Drying Time

Temperature ( °C)	Touchable	Implementation of the next layer		Complete drying
		min	max	
15	9 Hours	32 Hours	3 days	13 days
25	6 Hours	24 Hours	2 days	7 days
40	4 Hours	18 Hours	1 day	4 days

Note: The drying time depends on the thickness of the applied coating and all the information in this catalog is based on the recommended dry film thickness.

### Pot Life

Color temperature ( °C)	15	25	40
Pot Life (minutes)	90	55	20

### Physical and Chemical Characteristics

Color	Colorful
Weight ( $gr/cm^3$ )	1.3±0.1
Volumetric solid %	2±98
The weight composition ratio of the components	(A:B) 4:1
Number of layers	1
Procedure	Spray, Roller, Brush
Substrate	Prepared concrete
Induction time	Doesn't have
Flash point	65 ° C
Thinner / washing	Aromatic solvents
The amount of thinner required	Doesn't have



## Considerations

Storage time	→	12 months in original packaging
Maintenance conditions	→	A closed container away from moisture, frost and direct sunlight
The best storage temperature	→	+10 to +30 °c
packaging	→	A total of 20 kg
Component A:		16 kg bucket
Component B:		4 kg bucket

Note: The drying time depends on the thickness of the applied coating and all the information in this catalog is based on the recommended dry film thickness.

Note: With the increase in the amount of resin and hardener after mixing, the temperature of the material will increase faster and as a result, the usage time will be shorter.

## Protection

This product is flammable. It should be kept away from heat and direct flame. Keep the container closed. The performance environment must have a proper ventilation system. Avoid direct and permanent contact with the skin. If swallowed, refer a doctor immediately & avoid inducing nausea, the safety data sheet (MSDS) is available. If you want to use it in a closed area, comply with the following safety measures to prevent fire, explosion, and health damage.

- Enter the amount of fresh air into the area during execution and drying.
- Use a mask and explosion-proof equipment.
- Any kind of spark, welding, smoking, or lighting a flame in the area is prohibited.