

NCI CHEMICAL INDUSTRY LTD



POLYHARD 100

Description:

POLYHARD 100 (Aromatic) is a very fast set, premium, 2-component 100% solids pure polyurea derived from a reaction of an Isocyanate Pre-Polymer and an Amine terminated resin blend. This general purpose pure Polyurea has been especially designed to protect and coat most all surfaces. The material must be applied utilizing high pressure, heated plural component spray proportioning equipment. The product reacts within seconds and once cured, leaves a flexible, durable, tough surface.

Advantages

- 100% solids, no solvents, VOC-free, no odor.
- Extremely fast reactivity and cure with no catalysts
- Excellent corrosion protection, low permeability, saltwater resistant
- Thermal stability, low temperature flexibility, takes high radiant heat
- Excellent adhesion to concrete, steel, fiberglass, wood, foams etc.
- Almost immediate return to service time.
- Very good chemical resistance to various chemicals.
- Weather Tolerant: Cures at -30°C to >150°C even in High Humidity
- Excellent Resistance to Thermal Shock

Applications

- Pipe / Pipeline Coatings & Linings
 - Bridge Coating
 - Tank Coatings
 - Tank Linings
 - Roof Coating
 - Waste Water Treatment Linings
 - Manhole & Sewer Linings
 - Truck Bed Liners
 - Flooring and Parking Decks
 - Water Parks & Playgrounds
 - Swimming pools.
 - Coating over polyurethane foam
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Key data

POLYHARD 100

	A	B
Viscosity at 25°C (<i>Rotary viscosity, ISO 3219</i>), mPa.s (cP)	750	450
Density 23 C	1.11	1.03
Recommended mix ratio by weight	1.11	1.03
Recommended mix ratio by volume	1	1
Solids %	100	100

Gel time, sec	3 - 5
Gel time,	8 - 10
Recoat time, hrs	12
Theoretical coverage	1ltr/1 m ² / 1mm
Cure time @ 23 C	2 hours 90% / 7days 100%

Physical properties:

Tensile strength, ASTM 412	25 MPa (N/mm ²)
Tear strength	3,4 MPa (N/mm ²)
Elongation %	450 %
Shore hardness D	50
STD COLORS	7040 RAL (GREY) 5015 RAL (BLUE) BLACK

Should be note that POLYHART 100 is an aromatic polyurea;
Therefore, as with all the aromatics color change as well as
Superficial oxidation will occur. NCI POLYCOLD S90 and other suitable
Aliphatic top coats can be used where long term of color Stability its important.

Application

Preconditions: Spraying POLYHARD 100 requires special equipment, maintaining adequate temperatures and pressure at all times. User must be a professional applicator qualified in the use of high performance Polymer materials and specialty application equipment. Both Side-A and Side-B materials should be preconditioned to at least 25°C before application.

Surface temperature of app. +5°C to 50°C and dew point of not less than 3°C should be kept in view. It has to be watched in particular at high temperatures and high humidity that the surface temperature during the application and the curing process is at minimum 3°C above the dew-point. POLYHARD 100 may be applied at any rate to achieve desired thickness in single or multiple layers. Should be applied in a cross-directional method, also for vertical or overhead applications. Beware of overspray.

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Mixing: Never dilute POLYHARD 100, always mix thoroughly . in particular Polyamine-side . with power equipment until a homogenous mixture and color is obtained. Do not allow air to be incorporated into the product. Total suspension must be achieved. Isocyanate requires little or no mixing and has to be protected from humidity.

Special equipment: POLYHARD 100 should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment such as those manufactured by Graco E-XP1, E-XP2, H-XP2, H-XP3. Adequate pressure 170-180 bar and temperature 70-80°C should be maintained at all times.

Storage: POLYHARD 100 has a shelf life of twelve (12) months from date of manufacture in original, factory sealed containers. Avoid exposure to direct sunlight and freezing temperatures for an extended period of time. Keep drums at room temperature and place on wooden pallets to avoid direct contact to ground. Rotate drums Side-A and Side-B regularly if stored for longer periods.

More information at you supplier and distributor.

Emergency telephone number: (00357-22623303)

Packaging & Storage

POLYHARD 100 is supplied in 445kgs kits. The product has a shelf life of one year when stored at room temperature in the original sealed container.

Limitations: Do not open drums until ready to use. Both sides A and B containers must be fitted with a desiccant device during use. Do not use on wet surfaces or expose Isocyanate to moisture. Best results over vapor barrier and/or compatible primer. Avoid freezing temperatures and keep out of direct sunlight. Pre-heat drums as needed per environmental temperature. Use POLYCOLD polyaspartic / polyurea Top Coat to achieve color stability.

Important Note:

All guidelines, recommendations, statements and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty either impressed or implied. It is the user's responsibility to satisfy himself by his own information and tests, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability from his use of the product.

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