PLATINUMLINERS HD PLUS

Two Component
Aromatic Polyurea Coating

DESCRIPTION

PlatinumLiners-HD Plus is a fast setting, rapid curing, 100% solids, flexible, aromatic, two component spray polyurea that can be applied to suitably prepared concrete and metal surfaces. Its extremely fast gel time makes it suitable for applications down to -20°F. It may be applied in single or multiple applications without appreciable sagging and is relatively insensitive to moisture and temperature allowing application in most temperatures. PlatinumLiners-HD Plus offers a tack free time of less than sixty seconds and exhibits 450% elongation upon curing with 50 Shore D hardness.

FEATURES

- Zero VOC (100% Solids)
- Excellent Thermal Stability
- Low Temperature Flexibility
- Good Chemical Resistance
- Seamless
- Odorless
- Meets USDA Criteria
- Coats Carbon or Mild Steel Metals without Primer
- Installed With or Without Reinforcement in Transitional Areas

TYPICAL USES

- Airports
- Refineries
- Fertilizer Plants
- Mining Operations
- Food Processing Plants
- Marine Environments
- Secondary Containment
- Walkways and Balconies
- Power Plants
- Structural Steel
- Warehouse Floors
- Cold Storage Facilities
- Landfill Containment
- Paper and Pulp Mills
- Parking Garage Decks
- Fish Hatchery
- Water and Waste Water Treatment
- Industrial and Manufacturing Facilities

COLORS

Clear/Neutral. Custom colors are available upon request. Color Packs, when used, must be added to Part-B.

Due to its aromatic composition, PlatinumLiners-HD Plus will tend to yellow or darken in color and will become flat after exposure to UV light. PlatinumLiners-HD Plus may be topcoated within twelve hours of application with an aliphatic polyurethane/ polyurea coating for a colorfast finish.

PACKAGING

10 gallon kit: 5 gallons Part-A (Isocyanate side) and 5 gallons Part-B (Resin side).

100 gallon kit: 50 gallons Part-A (Isocyanate side) and 50 gallons Part-B (Resin side).

COVERAGE

PlatinumLiners-HD Plus may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil thickness is one gallon per 1600 sq. ft.

TECHNICAL DATA

Mix Ratio by Volume	1A : 1B
Pot Life @ 150°F	3 - 8 secs
Tack Free Time (thickness & substrate temperature dependent)	15 - 20 secs
Recoat Time	0 - 6 hours
Viscosity at 25°C, Brookfield:	
Part-A	700 ± 20 cps
Part-B	500 ± 20 cps
Specific Gravity (Side A & B Combined)	1.08
lbs/gal Flash Point	> 200°F
Hardness, ASTM D-2240	48 D (96 A)
Tensile, ASTM D-412*	2500 ± 200 psi
Elongation, ASTM D-412*	250% ± 50%
Tear, ASTM D-412*	400 ± 50 pli
Service Temperature (Dry)	-40°F to 250°F
Water Vapor Permeability, ASTM E-96	n/a
VOC Content	0 gm/lit
Recommended Applied Thickness	> 2mm
Return to Service: Foot Traffic	1 - 4 hours
Return to Service: Full Service	> 24 hours
Taber Abrasion Resistance, ASTM D4060 (CS17 wheel, 1000 cycles, 1 kg load) (maximum)	10.6 mg loss
Water Absorption, ASTM D471 (maximum 23°C, 24 hours)	< 0.84%
Crack Bridging, ASTM C836 (-25°C, 1.6mm crack, 25 cycles)	Pass
Impact Resistance @ 25°C (ASTM G14)	> 200 lbs
Pull-Off Strength (minimum), ASTM D4541:	
Inter-Coat Adhesion (within recoat time)	Excellent
Concrete (Shot blasted profile), substrate failure occurred	> 500 psi
Concrete (Primed), substrate failure occurred	> 500 psi
Steel (90 um blast profile)	> 900 psi
Lineal Shrinkage	1 - 2%
Flexibility (1/8" 3mm Mendrel Bend Test), ASTM D1737	Pass
Resistance to Weathering, ASTM G-23 (Type QUV Weatherometer-3000 hrs exposure)	No cracking or blistering. Color change, gloss reduction & chalking are noted.

Different machine and parameter will change these properties. User should perform their own independent testing as properties are approximate.

SURFACE PREPARATION

In general, coating performance and adhesion are directly proportional to surface preparation. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Polyurea coatings rely on the structural strength of the substrate to which they are applied. All surfaces must be free of dust, dirt, oil, grease, rust, corrosion and other 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. Polysource Industries recognizes the potential for unique substrates from one project to another. The following information is for general reference, and for project-specific questions, contact Polysource Industries.

New and Old Concrete:
Refer to SSPC-SP13/NACE 6, or ICRI 03732: CSP 3-5. New concrete must be cured for 28 days prior to product application. 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. Rinse thoroughly, to achieve a pH between 8.0 and 11.0. Allow to dry completely. If old concrete has a surface that has deteriorated to an unacceptably rough surface, Polysource Industries Products PC-260 or a mixture of Polyprime 21 and sand should be used as a repair agent for cracks, spalls, bug holes and voids. Upon full cure of the repair agent, prime the entire surface intended for coating. **Concrete Surface Preparation Reference:**
ASTM D4258 - Standard practice for cleaning concrete
ASTM D4259 - Standard practice for abrading concrete
ASTM D4260 - Standard practice for etching concrete
ASTM F1869 - Standard test method for measuring moisture vapor emission rate of concrete
ICRI 03732 - Concrete surface preparation

Wood:
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 repaired using Polysource Industries Products PC-260 with sand. Upon full cure of the repair agent, prime the entire surface intended for coating.

Steel (Atmospheric and Immersion Exposure):
Remove all oil, grease, weld spatters and round off any sharp edges from surface. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Optimum surface profile is 2-3 mils. Prime and shoot Polyeuro® on to any bare metal the same day as it is cleaned to minimize any potential flash rusting.

Aluminum:
Aluminum should be blasted with aluminum oxide or sand, and not with steel or metal grit. Excessive blasting may result in a warped or deformed surface. After blasting, wash aluminum with a commercially available aluminum cleaner. Allow to dry, then prime.

Brass and Copper:
Brass and copper should be blasted with sand, and not with steel or metal grit. Remove all dust and grease prior to applying primer.

Galvanized Surfaces:
Clean and degrease any contaminated surfaces before priming. Do not blast galvanized surfaces with an abrasive grit. An adhesion test is recommended prior to starting the project.

Fiberglass Reinforced Plastic:
The gel coat should be lightly blasted or sanded with 80 grit sandpaper and cleaned.

Plastic Foams:
Enhanced adhesion is obtained when the foam is mechanically abraded. When coating polystyrene, do not use a solvent-based primer.

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

Stainless Steel:
Stainless steel may be grit blasted and degreased before priming. Some stainless steel alloys are so inert that it is not possible to achieve a satisfactory bond. An adhesion test is recommended prior to starting the project.

New and Old Cast Iron:
Blast with a steel grit and degrease before priming. Old cast iron is difficult to prepare for a satisfactory bond. It can absorb oil and water soluble contaminants that will keep returning to the surface after the coating system has been applied and affect the coating system adhesion. An adhesion test is recommended prior to starting the project.

All Other Surfaces:
An adhesion test is recommended prior to starting the project.

MIXING
PlatinumLiners-HD Plus may not be diluted under any circumstances. Thoroughly mix PlatinumLiners-HD Plus Part-B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

APPLICATION
Both Side-A and Side-B materials should be preconditioned to 75-80°F before application.
Recommended surface temperature must be at least 5°F above the dew point.
PlatinumLiners-HD Plus should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment like Graco's Reactor, Glass Craft or other equivalent machine may be used.
Both Part-A and Part-B materials should be sprayed at a minimum of 2000 psi and at temperatures above 150°F. Adequate pressure and temperature should be maintained at all times.
PlatinumLiners-HD Plus should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

STORAGE
PlatinumLiners-HD Plus has a shelf life of one (1) year from date of manufacture, in factory-sealed containers.
Part-A and Part-B drums are recommended to be stored above 60°F. Avoid freezing temperatures.
Store drums on wooden pallets to avoid direct contact with the ground.
If stored for a long period of time, rotate Part-A and Part-B drums regularly.

LIMITATIONS
Do not open until ready to use.
Both Part-A and Part-B containers must be fitted with a desiccant device during use.

WARNING
This product contains Isocyanates and Curative Material.

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local Polysource Industries Products representative or visit our website for current technical data and instructions.

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