POLYCOAT PRODUCTS
A Division of American Polymers Corp.

TECHNICAL DATA SHEET

POLYEURO® 7901

Two Component Aliphatic Polyurea Protective Coating

Product Description

Polyeuro® 7901 is a fast setting, rapid curing, 100% solids, flexible, aliphatic, color stable, two component spray polyurea that can be applied to suitably prepared interior or exterior 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. Polyeuro® 7901 offers a tack free time of less than one minute and exhibits 450% elongation upon curing with 90 Shore A hardness.

FEATURES

- Excellent Color Retention
- Excellent Thermal Stability
- No Toxic Vapors
- Meets USDA Criteria
- Low Temperature Flexibility
- Good Chemical Resistance
- Interior or Exterior Applications
- Coats Most Metals Without Primer
- Installed With or Without Reinforcement in Transitional Areas
- Seamless
- Zero VOC (100% Solids)
- Odorless
- Low Permeance Rate
- Non-Reactive

TYPICAL USES

- Airports
- Refineries
- Fertilizer Plants
- Mining Operations
- Food Processing Plants
- Power Plants
- Walkways and Balconies
- Structural Steel
- Cold Storage Facilities
- Paper and Pulp Mills
- Parking Garage Decks
- Marine Environments
- Water and Wastewater Treatment Plants
- Industrial and Manufacturing Facilities

COLORS

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

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

Polyeuro® 7901 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 (BASED ON DRAW DOWN FILM)

Mix Ratio by Volume	1A : 1B
Pot Life @ 150°F (65.5°C), 50% R.H.	5-10 seconds
Tack Free Time	40-60 seconds
Recoat Time	0-6 hours
Viscosity at 150-160°F (65.5-71°C) , Brookfield: **Side-A** **Side-B**	 160 ± 20 cps 40 ± 20 cps
Density (Side A & Side B Combined)	8.55 lbs/gal
Flash Point	> 200°F (93.3°C)
Hardness, ASTM D-2240	90 ± 5 Shore A
Tensile Strength, ASTM D-412*	3200 ± 300 psi 22.04 ± 2.07 MPa
Elongation, ASTM D-412*	450 ± 50%
Tear, ASTM D-412*	325 ± 50 pli 56.82 ± 8.74 kNm
Service Temperature **Dry** **Wet**	 -40°F - 250°F 40°F - 120°F
VOC Content	0gm/l
Recommended Applied Thickness	>2mm
Return to Service: **Foot Traffic** **Full Service**	 2-4 hours 10-24 hours
Taber Abrasion Resistance, ASTM D44060 (CS17 wheel, 1000 cycles, 1kg load)(maximum)	33 mg loss
Water Asorption, ASTM D471 (Maximum 23°C, 24 hours)	<1.0
Crack Bridging, ASTM C836 (-25°C, 1.6mm crack 25 Cycles)	Pass
Pull off Strength (Minimum) ASTM D4541 **Inter-Coat Adhesion (Within recoat time)** **Concrete (Shot-blasted profile) Substrate Failure** **Concrete (Primed) Substrate Failure at** **Steel (um blast profile)**	 Excellent >500 psi >500 psi >900 psi
Lineal Shrinkage	1-2%
Flexibility (3mm Mendrel Bend Test) ASTM D1737	PASS
Resistance to Weathering, ASTM G-23 Type QUV Weatherometer-2000 hrs exposure	No cracking or blistering Gloss reduction & Minor chalking are noted

(*These physical properties from sample sprayed with Graco Foam Cat 200 @ 2000 psi minimum, with Gusmer GX7-400 mechanical purge gun @ 150-160°F. 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. Polycoat recognizes the potential for unique substrates from one project to another.The following information is for general reference. For project-specific questions, contact Polycoat.

NEW AND OLD CONCRETE

Refer to SS PC-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, Polycoat 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 D425 8 - 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 Polycoat 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 3-4 mils. Prime and shoot Polyeuro® onto any bare metal the same day as it is cleaned to minimize any potential flash rusting.

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. Contact Polycoat Products for recommended primer. 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.

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. Contact Polycoat Products for recommended primer.

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

Polyeuro® 7901 may not be diluted under any circumstances. Thor-oughly mix Polyeuro® 7901 Part-B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

Application

Both Part-A and Part-B material should be preconditioned at 80-90°F before application.

Recommended surface temperature must be at least 5°F above the dew point.

Polyeuro® 7901 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.

Polyeuro® 7901 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

Storage

Polyeuro® 7901 has a shelf life of six (6) months from date of manufacture in original, factory-sealed containers.

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.

Warning

This product contains Isocyanates and Curative Material.

This product is considered Dangerous Goods. DOT regulations classify it as:

Part-A: TOXIC LIQUID, organic, N.O.S. (Isophorone Diisocyanate), Class 6.1, UN 2810, PG III, TOXIC. Part-B: AMINES, liquid, corrosive, N.O.S (polyoxypropylenediamine), Class 8, UN 2735, PG III, CORROSIVE