POLYCOAT PRODUCTS
A Division of American Polymers Corp.

TECHNICAL DATA SHEET

POLYEURO® 5851

Two Component, Aromatic Polyurea Protective Coating

Product Description

Polyeuro® 5851 is a 100% solids, rapid curing, odorless, flexible, two component, aromatic-spray polyurea developed for specialty application such as a geotextile lining membrane. It may also be applied to concrete and steel substrates. Polyeuro® 5851 is volatile free, and mixed at a 1:1 ratio with plural-component- spray equipment.

Features

- 100% Solids
- Excellent Thermal Stability
- Exposure Temperatures -40°F to 350°F (-40°C to 177°C)
- FLL Root Resistance
- Good Chemical Resistance
- Immediate Return to Service
- Low-Curing Stress Shrinkage
- Odorless
- Seamless
- Zero VOC

Typical Uses

- Flexible Membranes
- Foam Coatings
- Geotextile Coatings
- Industrial and Manufacturing Facilities
- Liners
- Oil Production Water/Condensate Containments
- Structural Steel
- Typical Ambient Waste Water/Condensate Containments
- Waterproofing Membranes

Packaging

10-gallon kit	5 gallons (18.9 liters) and 5 gallons (18.9 liters) Side-B
100-gallon kit	50 gallons (189 liters) Side-A and 50 gallons (189 liters) Side-B

Colors

standard colors- Tan, Black, Dark/Medium/Light Grey, Moss Green. Custom colors are available upon request. Minimum quantity applies on any custom colors with additional costs per gallon.

Coverage

Polyeuro® 5851 may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil (0.254 microns) thickness is one gallon per 1600 sqft (3.78 liters per 149 sqm)

Estimating Formula: (1600 sqft per gal /Dry Mil Thickness) x Solids Content = Application Rate per gallon.

Technical Data

Mix Ratio by Volume	1A : 1B
Pot Life @ 150-160°F (66.5-71°C), 50% R.H.	15-25 seconds
Tack Free Time (thickness & substrate temperature dependent)	120-150 seconds
Recoat Time	0 - 12 hours
Viscosity at 80°F (27°C), Brookfield **Side-A** **Side-B**	 1200 ± 150 cps 400 ± 100 cps
Density (Side-A & Side-B Combined)	8.5 ± 0.5 lbs/gal
Flash Point	> 200°F (93.3°C)
Hardness, ASTM D2240	85 ± 5 A
Tensile Strength, ASTM D412	3500 ± 200 psi 24.13 ± 1.37 MPa
Elongation, ASTM D412	300 ± 50%
Tear Strength, ASTM D624	400 ± 50 pli 70 ± 8.8 kNm
Service Temperature	-40°F to 300°F -40°C to 121°C

*These physical properties from sample sprayed with Graco EXP2 @ 2000 psi minimum, with Fusion Gun AP4242 @ 150-160°F (65°C to 71°C) 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 previously used substrates, 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 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, 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 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® 5851 onto 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
Polyeuro® 5851 may NOT be diluted under any circumstances. Thoroughly mix Polyeuro® 5851 Side-B with air driven power equipment until a homogeneous mixture and color is attained.

Application
Polyeuro® 5851 Side-A and Side-B material should be preconditioned at 80-90°F (27-32°C) before application. Recommended surface temperature must be at least 5°F (3°C) above the dew point. Polyeuro® 5851 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.

Polyeuro® 5851 Side-A and Side-B materials should be sprayed at a minimum of 2000 psi and at temperatures above 150°F (65°C). Adequate pressure and temperature should be maintained at all times. Polyeuro® 5851 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

Storage
Polyeuro® 5851 has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C). Avoid freezing temperatures.

Store drums on wooden pallets to avoid direct contact with the ground. If stored for a long period of time, rotate Side-A and Side-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. Please refer to the Safety Data Sheets.