



**Product Description**

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

**Features**

- 100% Solids
- ANSI/GRHC/SPRI VR-1 (2001) Compliant
- 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) of Side-A and 5 gallons (18.9 liters) of Side-B

**100-gallon kit**      50 gallons (189 liters) of Side-A and 50 gallons (189 liters) of Side-B

**Colors**

Petro Tan, Industrial Tan, Carlsbad Canyon, and Covert Green. Custom colors are available upon request.

**Coverage**

Polyeuro® 5851-FR 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.

**Surface Preparation**

In general, coating performance and adhesion are directly

**Technical Data** (Based on Draw Down Film)

**Mix Ratio by Volume**      1A : 1B

**Pot Life @ 75°F (24°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**      1200 ± 150 cps  
**Side-B**      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**      250 ± 50%

**Tear Resistance, ASTM D412**      350 ± 50 pli  
61.3 ± 8.8 kNm

**Service Temperature**      -40°F to 300°F  
-40°C to 121°C

**Burn Testing, Class 1 ASTM E84 (@20 mil or less)**      Passed

\*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.

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.

**Limited Warranty:** Please read all information in the General Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. These products are for professional use only and preferably applied by professionals who have prior experience with the Polycoat Products materials or have undergone training in application of Polycoat Products materials. Published technical data and instructions are subject to change without notice. Contact your local Polycoat Products representative or visit our website for current technical data, instructions, and project specific recommendations.

Polycoat Products warrants its products to be free of manufacturing defects and that they will meet Polycoat Products' current published physical properties. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by Polycoat Products of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Polycoat Products shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Polycoat Products shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Polycoat Products reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

**Disclaimer:** 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 expressed or implied. It is the user's responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Polycoat Products makes no claim that these tests or any other tests accurately represent all environments. Polycoat Products is not responsible for typographical errors. © 2022 Polycoat Products. All rights reserved. Revision 20220208.EA

#### 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-FR may NOT be diluted under any circumstances. Thoroughly mix Polyeuro® 5851-FR Side-B with air driven power equipment until a homogeneous mixture and color is attained.

#### Application

Both 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-FR 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 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-FR should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

\*Polyeuro 5851-FR should be applied 20 mils on non combustible surface to pass as Class 1 Fire-Rated System.

#### Storage

Polyeuro® 5851-FR 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).

Side-A and Side-B drums are recommended to be stored above 60°F (15°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.**