

## Product Description

Polyeuro® MPL 11 FR is a Class 1 fire-rated, three component, 1:1, 100% solids, fast set, liquid applied, modified polyurea liner system for metal, concrete, fiberglass and wood surfaces.

## Features

- Abrasion and Impact Resistant
- Chemical Resistant
- High Build
- Low Temperature Flexibility
- Meets ASTM E84 Class 1 Fire Test Criteria
- Quick Drying
- Seamless
- Tough and Elastomeric

## Typical Uses

- Boat Linings
- Cargo Holds
- Cargo Liners
- Chemical Process Facilities
- Containment Areas
- Encapsulation of Fiberglass Bodies and Polystyrene Foams
- Horse Trailers
- Industrial and Manufacturing Facilities
- Industrial Floorings
- Mining Process Systems and Facilities
- Power Production Plants
- Structural Steel Corrosion Protection
- Truck Bed Surfaces
- Utility Vehicles
- Walkways
- Waterproof Decking

## Packaging

**10-gallon kit** One 5 gallon (18.9 liter) pail of Side-A, one 5 gallon pail (net fill 4.5 gal, 17 liters) of Side-B and one 1 gallon can (net fill 0.5 gal, 1.89 liter) of Side-C

**100-gallon kit** One 50 gallon (18.9 liter) drum of Side-A, one 50 gallon drum (net fill 45 gal, 174 liter) of Side-B and one 5 gallon (18.9 liter) pail of Side-C

## Colors

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

Due to its aromatic composition, Polyeuro® MPL 11 FR will tend to yellow or darken in color and will become flat after exposure to UV light. Polyeuro® MPL 11 FR may be topcoated within twelve hours of application with an aliphatic polyurethane/

## Technical Data (Based on Draw Down Film)

|   |                                    |
|---|------------------------------------|
| <b>Mix Ratio by Volume</b>                    | 1A : 1B (with B & C)               |
| <b>Pot Life @ 75°F (24°C), 50% R.H.</b>       | 3 - 6 seconds                      |
| <b>Tack-Free Time (150 mils thick)</b>        | 10 -30 seconds                     |
| <b>Recoat Time</b>                            | 0 - 12 hours                       |
| <b>Viscosity at 150-160°F (66.5-71°C)</b>     |                                    |
| <b>Side-A</b>                                 | 150 ± 20 cps                       |
| <b>Side-B</b>                                 | 200 ± 20 cps                       |
| <b>Density (Side-A &amp; Side-B Combined)</b> | 13.03 lbs/gal                      |
| <b>Flash Point</b>                            | > 200°F (93.3°C)                   |
| <b>Hardness, ASTM D2240</b>                   | 50 ± 5 Shore D                     |
| <b>Tensile Strength, ASTM D412*</b>           | 1600 ± 200 psi<br>11.03 ± 1.37 MPa |
| <b>Elongation, ASTM D412*</b>                 | 45 ± 20%                           |
| <b>Tear Resistance, ASTM D412*</b>            | 350 ± 50 pli<br>61.4 ± 8.8 kNm     |
| <b>Service Temperature</b>                    | -20°F to 250°F<br>-29°C to 121°C   |

\*These physical properties from sample sprayed with Graco Foam Cat 200 @ 2000 psi minimum, with Gusmer GX7-400 mechanical purge gun @ 150-160°F (65°C to 71°C). Different machine and parameter will change these properties. User should perform their own independent testing as properties are approximate.

polyurea coating for a colorfast finish.

## Mixing

Polyeuro® MPL 11 FR may not be diluted under any circumstances. Thoroughly mix Polyeuro® MPL 11 FR Side-A and Side-B with air driven power equipment.

Mix Side-C into Side-B container until a homogeneous mixture and color is obtained. For a 10 gallon kit, mix for 5 minutes. For a 100 gallon kit, mix for 20 minutes.

## Coverage

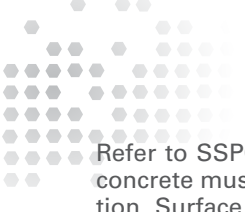
Polyeuro® MPL 11 FR may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil (0.254 microns) thickness is one gallon per 1600 sqft (3.78 liters per 149 sqm).

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 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, and 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, 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 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 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 2-3 mils. Prime with recommended primer and spray Polyeuro® MPL-11FR on to 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. Primer may be needed, consult Polycoat.

#### **FIBERGLASS REINFORCED PLASTIC**

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

#### **TEXTILES, CANVAS, FABRICS**

Adhesion to most fabrics, geothermal membranes and textiles does not require a 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.

#### **MIXING**

Polyeuro® MPL 11 FR may not be diluted under any circumstances. Thoroughly mix Polyeuro® MPL 11 Side-A and Side-B 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 90-100°F (32-42°F) before application.

Both Side-A and Side-B materials should be continuously agitated before and during application. Agitate at least one

hour prior to application using heavy duty drum agitator.

Both Side-A and Side-B lines must have filters removed. Use a round pattern disc for spraying. Orifice diameter must be 0.042" or greater.

Recommended surface temperature must be at least 5°F (3°F) above the dew point.

Polyeuro® MPL 11 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 (66°C). Adequate pressure and temperature should be maintained at all times.

Polyeuro® MPL 11 FR should be sprayed in smooth, multi-directional passes to improve uniform thickness and appearance.

#### **Storage**

Polyeuro® MPL 11 FR has a shelf life of twelve (12) months from date of manufacture, in factory-sealed containers. 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.

Both Side-A and Side-B containers must be fitted with a desiccant device during use.

#### **Warning**

**This product contains Isocyanates and Curative Material.**



**POLYCOAT  
PRODUCTS**

A Division of American Polymers Corp.

TECHNICAL DATA SHEET

**POLYEURO® MPL 11 FR**

*Fire Retardant*

*Two Component Modified Polyurea Protective Coating*

**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.

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