



# POLYCOAT PRODUCTS

A Division of American Polymers Corp.

## POLYEURO® 5502-NSF

Two Component Aromatic Polyurea Protective Coating  
Technical Data Sheet

### DESCRIPTION

Polyeuro® 5502-NSF is ANSI/NSF 61 compliance by an ANSI accredited lab, approved for direct contact with potable water. It 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. Polyeuro® 5502-NSF offers a tack free time of less than forty-five seconds and exhibits 450% elongation upon curing with 50 Shore D hardness.

### FEATURES

- ❖ ANSI/NSF 61 Approved for Potable Water
- ❖ Zero VOC (100% Solids)
- ❖ Excellent Thermal Stability
- ❖ Low Temperature Flexibility
- ❖ Good Chemical Resistance
- ❖ Coat Pipe 9" In Diameter or Greater
- ❖ Suitable for 5 Gallon Tanks and Larger
- ❖ Coats Carbon or Mild Steel Metals without Primer
- ❖ Installed With or Without Reinforcement in Transitional Areas
- ❖ Seamless
- ❖ Odorless
- ❖ Meets USDA Criteria
- ❖ No Toxic Vapors

### TYPICAL USES

- ❖ Potable Water Tanks - Concrete or Metal
- ❖ Potable Water Pipes

### 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® 5502-NSF may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil thickness is one gallon per 1600 sq. ft.

### 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

### TECHNICAL DATA

Mix Ratio by Volume	1A : 1B
Pot Life @ 150°F	3 - 5 secs
Tack Free Time (thickness & substrate temperature dependent)	30 - 45 secs
Recoat Time at 20°C	0 - 6 hours
Viscosity at 150-160°F (66.5-71°C), Brookfield:	
Part-A	50 ± 20 cps
Part-B	50 ± 20 cps
Density (Side A & B Combined)	1.05 kgs/litre
Flash Point	> 93°C (200°F)
Hardness, ASTM D-2240	50 ± 5 D
Tensile, ASTM D-412*	3500 ± 200 psi
Elongation, ASTM D-412*	450% ± 50%
Tear, Die "C" ASTM D-412*	450 ± 50 pli
Service Temperature - Dry	-40°F to 120°F
Service Temperature - Wet	40°F to 120°F
Water Vapor Permeability ASTM E-96	0.361 perm-inch
VOC Content	0%
Recommended Applied Thickness	> 2mm
Return to Service:	
Foot Traffic	1-4 hours
Full Service (dependent on substrate and ambient temperatures)	> 24 hours
Taber Abrasion Resistance, ASTM D-4060	
(CS17 wheel, 1000 cycles, 1 kg load) (maximum)	6 mg loss
Water Absorption, ASTM D471	
(max 23°C, 24 hrs)	< 0.5%
Crack Bridging, ASTM C836	
(-25°C, 1.6mm crack, 25 cycles)	Pass
Impact Resistance @ 25°C	> 200 lbs
Pull-Off Strength (minimum), ASTM D-4541:	
Inter-Coat Adhesion (within recoat time)	Excellent
Concrete (Shot blast profile), substrate failure occurred	> 500 psi
Concrete (Primed), substrate failure occurred	> 500 psi
Steel (75-100 micron blast profile)	> 900 psi
Lineal Shrinkage	1 - 2%
Flexibility 1/8"(3mm) Mandrel 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.
Potable Water Certification - US, ANSI NSF-61	Pass
Potable Water Certification - Australian Water Quality Centre, AS/NZS 4020 (certificate number 4007/92.1060)	Pass

(\*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.)

system, regardless of the surface preparation. Polycoat 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 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**

Polyeuro® 5502-NSF may not be diluted under any circumstances. Thoroughly mix Polyeuro® 5502-NSF 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.

Polyeuro® 5502-NSF 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® 5502-NSF should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

**STORAGE**

Polyeuro® 5502-NSF 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 Polycoat Products representative or visit our website for current technical data and instructions.

**LIMITED WARRANTY**

Polycoat Products warrants its products to be free of manufacturing defects and that they will meet Polycoat Products current published physical properties. Polycoat Products warrants that its products, when properly installed by a state licensed waterproofing contractor according to Polycoat Products guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer 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 that infringes 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.

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