POLYCOAT PRODUCTS
A Division of American Polymers Corp.

TECHNICAL DATA SHEET

POLYEURO® 1050H

Polyurea Polyurethane Copolymer Protective Coating

Product Description

Polyeuro® 1050H has NSF-61 approval for direct contact with potable water, and is recommended for use as a coating or lining on suitably primed carbon steel, non-ferrous metal and concrete. Polyeuro® 1050H offers a tack free time of less than five minutes and exhibits 20-30% elongation upon curing with 65 Shore D hardness.

FEATURES

- High Build, Quick Dry
- Low Temperature Flexibility
- Abrasion and Impact Resistant
- Horizontal Surface Application
- Plural Component Spray Application
- Chemical Resistant
- 100% Solids

TYPICAL USES

- Petrochemical Plants
- Pipe Lining and Repair
- Pulp and Paper Plants
- Secondary Containment
- Concrete/Steel Water Storage Tanks
- Water and Wastewater Treatment Plants
- Mining
- Power Plants
- Man Holes
- Pen Stocks

TYPICAL SYSTEMS

CARBON STEEL
Primer: Polyprime 3042
Finish: Polyeuro® 1050H

CONCRETE
Primer: Polyprime 3042
Finish: Polyeuro® 1050H
Refer to Specification Guide for further detail.

COLORS

Off-white with a medium sheen gloss.

PACKAGING

160-gallon kit — Side-A (Isocyanate side): One 55 Gallon Drum, containing 53.4 gallons. Side-B (Resin side):Two 55 Gallon Drums, each containing 53.4 gallons.
The volume mixing ratio is 1A : 2B.
Contact Polycoat Products for product availability.

Mixing

Polyeuro® 1050H may not be diluted under any circumstances. Use appropriate cleaner for purge line and flushing of equipment and if spraying stops for periods exceeding the pot life of the material. Thoroughly mix Polyeuro® 1050H Side-B material with air driven power equipment until a homogeneous mixture and color is obtained. Opened mate-rial must be used within 1-2 days due to moisture sensitivity. Side-B must be thoroughly agitated for at least thirty (30) minutes prior to application. Total suspension must be achieved. Side-A requires no mixing.

TECHNICAL DATA (BASED ON DRAW DOWN FILM)

Mix Ratio by Volume	1A : 2B
Solids Content	100%
Gel Time, 100 ± 10°F	40-80 seconds
Tack Free Time @ 70°F, 40mils	max 5 minutes
Service Time @ 70°F	24-48 hours
Viscosity at 100°F ± 5°F, ASTM D445-79: **Side-A** **Side-B**	 125 ± 50 cps 500 ± 50 cps
Spcific Gravity, ASTM D-4659: **Part-A** **Part-B**	 1.2 max 1.05 max
Flash Point	> 200°F (93.3°C)
Hardness, ASTM D-2240	65 ± 5 Shore D
Dry Film Thickness per Coat	20-100 mils
VOC Content, ASTM D-412	0 gm/l
Tensile Strength, ASTM D-412	2800 ± 200 psi 19.042 ± 1.37 MPa
Elongation, ASTM D-412	25 ± 10%
Tear, Die "C", ASTM D-624	400 ± 50 pli 69.9 ± 8.8 kNm
Coverage Rate	1604 ft²/mil/gal
Shelf Life @ 75°F in sealed unopened containers	1 year
Sag Resistance	Excellent
Dry Time @ 70°F: to touch	20 minutes
Dry Time @ 70°F: for light foot traffic	1 hour
Dry Time @ 70°F: for heavy foot traffic	24 hours
Cured to Service	24 hours
Maximum Recoat Period	24 hours
Full Cure	120 hours
Minimum Substrate Temperature Above Dew Point on Application	5°F
Surface Temperature Resistance **Immersion** **Dry**	 120°F 180°F
Humidity Tolerance on Application	<85%
Material Temperature Required for Application: **Activator** **Base**	 95 - 105°F 95 to 120°F
Allowable Ambient Air Temp for Application **Maximum** **Minimum**	 120°F 25°F

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, 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 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.

Application

Apply over prepared or suitably primed carbon steel or concrete. Application temperature for Polyeuro® 1050H should be between 40-120°F with relative humidity of <85%. Do not apply product unless temperature is at least 5° above the dew point. Recoat schedule is 1-3 hours dependent upon environment. See Specification Guide for re-coating guidelines and additional information.

Application Methods

Check area of application to ensure that it conforms to the substrate requirements.

Use Graco "Hydra-Cat" 45:1 Airless equipment or equal designed for heated, plural-component, high pressure spray application. High pressure equipment should have the capacity to apply product to a maximum 2500 psi from the proportioner to meet job site conditions. Heat and maintain material temperature in a range of 95-110°F and utilize insulated material hoses and application equipment to ensure spray consistency, metering and degree of cure of properly mixed product. Band heaters should not be used to heat or maintain temperature.

The conditioned materials shall be supplied to the proportioning equipment at a flowable, pumpable viscosity, and in such volume delivery to assure full supply for each pump stroke. Recirculation system and solvent purge equipment is necessary to keep material maintained and spray equipment clean during applica-tion stoppage and/or for periods when exceeding the product potlife.

Equipment Cleanup

Equipment should be cleaned with an environmentally safe, urethane-grade solvent (alcohol free) as permitted under local regulations immediately after use

Storage

Polyeuro® 1050H has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers at 75°F.
If stored for a long period of time, rotate Side-A drums regularly.

Limitations

Polyeuro 1050H® is not recommended for prolonged exposure to concentrated acids.
Do not open until ready to use.
Store drums on wooden pallets to avoid direct contact with the ground.
Avoid freezing temperatures.
Side-A drums must be stored between 70-95°F.
No liability is assumed by Polycoat Products for substrate defects and/or improper substrate preparation and application.

Warning

This product contains Isocyanates and Curative Material.