

DESCRIPTION

POLYSHIELD HT™ TRAFFIC COAT is a state-of-the-art, high-performance, spray-applied, plural-component, pure polyurea elastomer. This system is based on amine-terminated polyether resins, amine chain extenders, and MDI prepolymers. It provides a flexible, resilient, tough, monolithic membrane with water and chemical resistance. With a 1 minute 30 second tack time, it is excellent for projects that require a broadcast aggregate and/or require a smooth surface.

FEATURES

- With a slower tack free time POLYSHIELD HT™ TRAFFIC COAT has the capability of utilizing broadcast aggregate for slip resistance.
- 100% solids, no solvents, and no VOCs.
- Tack free in approximately 1 minute 30 seconds.
- Smooth, even appearance.
- High dry temperature stability to 250°F (121°C) with intermittent temperatures up to 300°F (148°C).
- High abrasion resistance.
- High elongation for bridging cracks.
- Excellent encapsulation characteristics.
- Compliant with FDA/USDA for incidental food contact.

RECOMMENDED USES

- Coating tack time allows for capabilities with broadcast aggregate or other material for slip resistance.
- Excellent for applications which require a smooth, even surface.
- Coating for all types of steel infrastructures, including pipes, bridges, high-voltage power line poles and structures, transportation and rail systems, and other urban applications such as re-bar, guardrails, signage, grates, valves, and tanks, to protect from corrosion.
- Can be used as liner for concrete tanks, floors, ponds, reservoirs, dikes, tunnels, bridges, and other concrete infrastructure.
- Apply as a topcoat to existing membranes, or use to repair inferior or degraded membranes.
- Encapsulate asbestos, lead paint, or other dry hazardous materials (consult SPI).
- Re-coat over other polymer based substrates and/or coatings.
- Concrete parking decks, garages, and other structures.
- Coating over plywood and other wood substrates, such as railings, walkways, or railroad ties.
- Rock shield for pipelines.
- Repair polyurea, polyurethane hybrid, and other lining types (consult SPI).

TYPICAL PHYSICAL PROPERTIES*

| @ 34 mils (0.8 mm) | |
|---|----------------------------------|
| Tensile Strength ASTM D412-06a | ± 3,328 psi (22.9 mPa) |
| Elongation ASTM D412-06a | ± 447% |
| Hardness (Shore A) ASTM D2240-81 | 92 ± 2 |
| Hardness (Shore D) ASTM D2240-81 | 42 ± 1 |
| 100 % Modulus ASTM D412 | 815 psi ± 50 (5.6 mPa) |
| 300 % Modulus ASTM D412 | 1,790 psi ± 100 (12.3 mpa) |
| Tear Resistance ASTM D624 | 339 PLI ± 25 (59.4 KN/m) |
| **Exposure Temperature | -50°F - +200° (-45°C - +93°C) |

*All cured film properties are approximate since processing parameters, admixture types, and quantities change physical properties of the cured elastomer. All samples for above tests were force cured 48 hours or aged for more than three weeks. It is recommended that the user perform their own independent testing.

** Test performed in a dry, static environment.

CURING SCHEDULE

| | |
|--------------------|------------------|
| Gel | ± 30 sec. |
| Tack Free | ± 1 min. 30 sec. |
| Post Cure** | 24 hour |
| Recoat | 0 - 12 hours |

**Complete polymerization to achieve final strength can take up to several days or weeks, depending on a variety of conditions or product type. The samples for tests were sprayed with SPI Gusmer 20/35 HP @ 3,000 psi dynamic pressure (21 mpa). Primaries/Hose Heat 170°F (77°C) Graco MP Fusion Gun with 29/29 mixing chamber with 040 ceramtip.

INDUSTRIES

- **Infrastructure** - Water, Transportation, Commercial & Industrial, Rehab/Retrofitting Communications.
- **Energy** - Oil & Gas, The Electric Grid, Nuclear, Wind, Hydro-Electric (Turbine).
- **Engineering** - OEM, Custom Product Formulations, Toll Blending, Bedliners & Equipment Coatings, Defense.
- **Environmental** - Groundwater Protection, Waste

TEST INFORMATION

| | | |
|--|-------|------------|
| Abrasion Resistance ASTM D4060 1000 g - 1000 cycles | H-18 | 69 mg loss |
| | CS-17 | 0 mg loss |

WET PROPERTIES

| | |
|---|------------------------------------|
| Solids by Volume | 100% |
| Solids by Weight | 100% |
| Volatile Organic Compounds | 0 lbs./gal (0 g/l) |
| Theoretical Coverage DFT | 100 sq. ft. @ 16 mils/gal |
| Weight per gallon (approx) | 8.8 lbs. (4.0 kg) |
| Number of coats | 1 - 2 |
| Mix Ratio | 1 "A" : 1 "B" |
| Viscosity 77°F (25°C) | A: 350 ± 50 cPs B: 475 ± 50 cPs |
| Shelf Life Unopened Containers @ 60 - 90°F (15 - 32°C) | Six Months |

Minimum material/container temperature for application is 70°F (21°C).

COLORS

POLYSHIELD HT™ TRAFFIC COAT is available in SPI standard colors (Sand, Medium Grey, and Black). Custom colors available upon request. Note: POLYSHIELD HT™ TRAFFIC COAT is an aromatic polyurea. Therefore, with all aromatics, color change and superficial oxidation will occur. Aliphatic urethane, polyaspartics, and other suitable topcoats can be used where long-term color stability and increased longevity in full sun exposure are of critical importance.

PACKAGING

This product sold in standard 110 gallon drum and 550 gallon tote sets. Available in other container sizes, contact sales representative for further information. Non-standard containers may require a longer lead time.

GENERAL APPLICATION INSTRUCTIONS

Apply POLYSHIELD HT™ TRAFFIC COAT only to clean, dry, sound surfaces free of loose particles or other foreign matter. POLYSHIELD HT™ TRAFFIC COAT can be sprayed over a broad range of ambient and substrate temperatures. It is recommended that POLYSHIELD HT™ TRAFFIC COAT be sprayed in multi-directional (north/south-east-west) passes to ensure uniform thickness.

Contact SPI technical service personnel for specific surface preparation for your application.

COMMON SUBSTRATES:

STEEL: 2-5 mil anchor profile is best for maximum adhesion and varies per application and conditions; adhere to proper SSPC standards.

NON-FERROUS METALS: (minimum recommended surface

preparation) Prepare surface in accordance to SSPC-SP16 (Brush-off Blast Cleaning of Non-Ferrous Metals)

WOOD: Clean, dry and sanded for a smooth (to remove burs, splinters, loose debris) surface in which to apply polyurea onto. (It is recommended to prime wood and other porous surfaces before application of heated, fast-set polyureas to reduce pin holing)

CONCRETE: (minimum recommended surface preparation) Prepare concrete in accordance with SPI Concrete Prep Guide and SSPC/NACE Standards.

PREVIOUSLY APPLIED COATINGS: SPI recommends UB™ (ULTRA BOND™) products over existing coatings that are past the recoat window and/or application over other coatings. The use of SPI Prep Wipe™ solution will tack up the existing polyurea coating and can help promote bonding of the POLYSHIELD HT™ SL. Contact SPI for additional information. Contact SPI for additional information.

On all above listed substrates and others, please contact SPI Sales or Technical Support for more information specific to your application, including industry standards such as SSPC and NACE. Adhesion tests are always recommended prior to application.

MIXING & THINNING

Thoroughly agitate the "B" components of this product prior to application. Use a SPI folding blade mixer, or equivalent equipment approved by SPI. Install mixer through the extra 2" bung hole provided on all "B" drums. Care must be taken not to cross contaminate the individual components with the mixing equipment. Thinning is not required. Using any thinner may adversely affect product performance.

PROCESSING EQUIPMENT & SETTINGS

MACHINES:

| | | |
|---------------------------------------|---|---|
| GRACO (Gusmer, Glass-craft) | <ul style="list-style-type: none"> Reactor HXP3 Reactor HXP2 Reactor EXP2 H25 | <ul style="list-style-type: none"> 20/35 20/35 Pro H3500 HV-20/35 |
| PMC | <ul style="list-style-type: none"> *PH-25 *PH-40 *GH-25 *GH-40 | <ul style="list-style-type: none"> PHX-2 PHX-25 PHX-40 |
| SPRAY FOAM EQUIP & MFG | <ul style="list-style-type: none"> *5/12K *6/6K | <ul style="list-style-type: none"> 6/12K |
| *2,000 psi machines | | |
| GUNS: | | |
| GRACO (Gusmer, Glass-craft) | <ul style="list-style-type: none"> Fusion MP GAP Pro GX7-DI GX-8 Pro | <ul style="list-style-type: none"> P2 P2 Elite P2 Elite "C" |
| SPRAY FOAM EQUIP & MFG | <ul style="list-style-type: none"> Boss | |

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 1500 psi (10 mpa) dynamic pressure with heating capabilities to 175°F (79°C) will adequately spray POLYSHIELD HT™ TRAFFIC COAT.
- Primary heater temperature should be at 160-170°F (71-76°C).
- Hose temperature should be at 160-170°F (71-77°C). A hose thermometer inserted under the insulation near the gun should read a minimum of 145-155°F (63-68°C).
- Physical properties will be enhanced when sprayed at higher pressure (3000 psi or more), utilizing an impingement mix gun such as MP Fusion or GX7-DI gun.

If you own a machine that is not listed above please contact your SPI representative for information and instructions.

PARAMETERS & LIMITATIONS

- POLYSHIELD HT™ TRAFFIC COAT is for professional use only.
- POLYSHIELD HT™ TRAFFIC COAT must be stored at temperatures between 60–90°F (15–30°C).
- Liquid temperature in drums during application 70–100°F (21–38°C).
- Apply POLYSHIELD HT™ TRAFFIC COAT when surface and air temperatures are above 40°F (5°C) and the surface temperature is at least 5°F (3°C) above dew point and rising.
- Minimum material/container temperature for spray application is 70°F (21°C).
- Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected. CO₂ created pressure can develop. Do not attempt to use contaminated material.
- Undried air exposed to liquid components will reduce

physical properties of the cured coating.

Note: The material supplied is a two component system (component "A"/component "B", which is used to formulate this product. The quality and characteristics of the finished polymer is determined by the mixture and application of the two components by the person applying polymers.

GENERAL SAFETY, TOXICITY, & HEALTH

Safety Data Sheets are available for this coating material. Any individual who may come in contact with these products should read and understand the S.D.S. **CHEMTREC EMERGENCY NUMBER 1-800-424-9300 INT'L 1-703-527-3887.**

WARNING: Contact with skin or inhalation of vapors may cause an allergic reaction. Causes eye damage/irritation. Avoid eye contact with liquid or spray mist. Hypersensitive persons should wear protective clothes, gloves and use protective cream on face, hands and other exposed areas.

CONTAMINATION: Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, carbon dioxide created pressure can develop. Do not attempt to use contaminated material.

EYE PROTECTION: Safety eye wear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield.

SKIN PROTECTION: Personal protective equipment for the body should be selected based on the task being performed; the risks involved, and should be approved by an industrial hygiene specialist before handling this product. Chemical resistant gloves are recommended. Cover as much of the exposed skin area as possible with appropriate clothing.

RESPIRATORY PROTECTION: Harmful if inhaled and may cause allergy or asthma symptoms. Use a respirator approved for isocyanates and organic vapors. If you are not sure, or not able to monitor levels, or if you are spraying in an enclosed/indoor area, use MSHA/NIOSH approved supplied air respirator. Consider the application and environmental concentrations when deciding if additional protective measures are necessary.

INGESTION: Do not take internally. It is believed that ingestion of polymeric isocyanates would not be fatal to humans, but may cause inflammation of mouth and stomach tissue.



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WARRANTY & DISCLAIMER

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Product/Equipment



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