

DESCRIPTION

AMP™ 100 spray-applied, plural-component polyurea is a unique synergy of aliphatic and aromatic polymer chemistry. **AMP™ 100** pure polyurea is formulated using amine terminated polyether resins, amine chain extenders, and aliphatic and aromatic prepolymers. For many applications this highly cross-linked elastomer offers an economical alternative to pure aliphatic protective coatings. **AMP™ 100** can be used as a stand-alone product or as a topcoat over aromatic polyureas, polyurethanes, or hybrids.

FEATURES

- **POLYSHIELD HT™ 100F UB** is available with SPI's cutting-edge Ultra Bond™ technology. SPI's advanced Ultra Bond™ chemistry is coined "the duct tape molecule". Ultra Bond™ has the unique advantage of adhering to most properly prepared organic and inorganic (new and aged) surfaces without requiring a primer. Like duct tape, **POLYSHIELD HT™ 100F UB** with Ultra Bond™ gains adhesion over time.
- As with most coatings, there is a re-coat window that presents a lack of inter-coat adhesion. The UB™ molecule mitigates this risk during installation.
- Superior color stability and gloss retention compared to aromatic elastomers.
- Outstanding abrasion resistance.
- Extended gel time for better flow-out providing a smooth more uniform finish.
- Forms monolithic membrane that can be handled and walked on within two minutes or less from the time it's sprayed.
- 100% solid, no solvents, and zero VOCs.
- High build up to any thickness in one application.
- High-dry-temperature-stability-to-200°F-(93°C)-with-intermittent temperatures to 250°F (121°C).
- Compliant with FDA/USDA for incidental food contact.

RECOMMENDED USES

- Urethane foam roofing.
- Topcoat
- Water features.
- Tanks, pond, and lagoon containment lining.
- Walls, ceilings for meat, dairy processing plants.
- Aquatic animal, water ride basins, and animal habitats.
- Exposed signs and displays.
- Truck beds and undercarriage liners .
- EIFS base coat replacement.
- Encapsulation of structural steel to protect and retard rust formation.
- Encapsulation of lead, low level radioactivity, and asbestos contaminated surfaces.

TYPICAL PHYSICAL PROPERTIES*

@ 70 mils ± 20 (1.7 mm)	
Tensile Strength ASTM D412-06a	> 2,625 psi (18.25 mPa)
Elongation ASTM D412-06a	> 345%
Hardness (Shore A) ASTM D2240	96 ± 5
Hardness (Shore D) ASTM D2240	53 ± 5
100% Modulus ASTM D412	1,100 psi ± 100 (8 mPa)
300 % Modulus ASTM D412	1,738 psi ± 100 (12 mPa)
Tear Resistance ASTM D624	519 PLI ± 50 (91 KN/m)
**Exposure Temperature	-50 - +200°F (-45 - +93°C)

*All cured film properties are approximate since processing parameters, ad-mixture 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	± 6 sec.
Tack Free	± 10 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 all tests on this technical data sheet were sprayed with Graco HXP3 @ 2,800 psi dynamic pressure (19 mpa). Primary Heater/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).
- **Environmental** - Groundwater Protection, Waste Encapsulation, Soil Stabilization, Pipe/Tank Decommissioning, Coal/Mining.
- **OEM** - Defense, Theater Prop, Spray in Bedliner.

TEST INFORMATION

Abrasion Resistance ASTM D4060 1000 g - 1000 cycles	H-18	20.5 mg loss
	H-10	33 mg loss
	H-22	46.4 mg loss
	CS-17	19.1 mg loss
Weatherability (black) 3000 hours (QUV)	no evidence of failure	

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.)	8.75 lbs. (4.0 kg)
Number of coats	1 - 2
Mix Ratio (by volume)	1 "A" : 1 "B"
Viscosity 77°F (25°C)	A: 1350 ± 50 mPa.s B: 600 ± 100 mPa.s
Shelf Life Unopened Containers at 60 - 90°F (15 - 32°C)	6 Months
Minimum material/container temperature for application is 70°F (21°C).	

COLORS

AMP™ 100 UB is available in SPI standard colors (Sand, Medium Grey, and Black). Custom colors available upon request. Note: AMP™ 100 UB is an aromatic polyurea. Therefore, with all aromatics, color change and superficial oxidation will occur. SPI aliphatic polyureas, urethane, polyaspartic, 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 is sold in standard 110 gallon drum and 550 gallon tote sets. Available in other container sizes. Contact SPI sales representative for further information. Non-standard containers may require a longer lead time.

GENERAL APPLICATION INSTRUCTIONS

Apply AMP™ 100 UB only to clean, dry, sound surfaces free of loose particles or other foreign matter. AMP™ 100 UB can be sprayed over a broad range of ambient and substrate temperatures. It is recommended that AMP™ 100 UB 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.

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: 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. Contact SPI for additional information.

NOTE: It is recommended that existing surfaces be power washed with 2500—3500 psi water pressure to enhance adhesion of AMP™ 100 UB. If there is a possibility of surface contamination, scrub with a solution of 1/4 tsp Dawn detergent plus 1 tbsp of vinegar, per 1 gallon of warm water, followed by a thorough water rinse. If there is oxidation on the surface of the existing substrate it must be removed prior to application of AMP™ 100 UB. Removal of oxidation can be done via mechanical methods to insure the AMP™ 100 UB has a sound substrate to adhere to. The use of SPI Prep Wipe™ solution will tack up the existing polyurea coating and help promote bonding of the AMP™ 100 UB.

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; for best mixing results, supply the SPI mixer with 25 cfm of air at 100 psi. Thinning is not required. Using any thinner may adversely affect product performance.

PROCESSING EQUIPMENT & SETTINGS

MACHINES:

GRACO (Gusmer, Glass-craft)	• H-XP2	• *E-XP1
	• Reactor2 H-XP2	• E-XP2
	• H-XP3	• Reactor2 E-XP2
	• Reactor2 H-XP3	• E-XP2i
	• *H25	• *E-30
	• *Reactor2 H-30	• *E-30i
	• *H-40	• *Reactor2 E-30
	• *Reactor2 H-40	• *E-10hp
	• *H-50	• A-XP1
	• *Reactor2 H-50	• *A-25
	• 20/35	• H3500
	• 20/35 Pro	• HV 20/35

PMC	<ul style="list-style-type: none"> • PAX-25 • *PMCA-20 • *PA-25 • *PH-2 • *PH-25 	<ul style="list-style-type: none"> • *PH-40 • 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"> • GX7-400 • P2 • P2 Elite • P2 Elite "C" • D
PMC	<ul style="list-style-type: none"> • AP-2 	
SPRAY FOAM EQUIP & MFG	<ul style="list-style-type: none"> • Boss AP 	

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 1500 psi (10 mpa) dynamic pressure with heating capabilities to 170°F (77°C) will adequately spray AMP™ 100 UB.
- 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

- AMP™ 100 UB is for professional use only.
- AMP™ 100 UB must be stored at temperatures between 60–90°F (15–32°C).
- Liquid temperature in containers during application 70–100°F (21–38°C).
- Apply AMP™ 100 UB 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.

For the most up to date technical data sheet and/or Safety Data Sheet visit our website at specialty-products.com.

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. Ensure adequate ventilation. If the respirator is the sole means of protection, use a full-face supplied respirator. Use respirators and components tested and approved under appropriate government standards such as OSHA 29CFR 1910.134, NIOSH (US), or CEN (EU). 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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