AMP-100™

ALIPHATIC MODIFIED POLYUREA

Revised 1.17.14

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, polyurethane's, or hybrids.

FEATURES

- 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 a monolithic membrane that can be handled and walked on within two minutes or less from the time it's sprayed
- 100% solids. Zero VOCS
- High build up to any thickness in one application
- High dry temperature stability with a dry working temperature up to 200° F (93ºC) with intermittent temperatures up to 250° F (121ºC)
- Compliant with FDA/USDA for incidental food contact

RECOMMENDED USES

- Urethane foam roofing
- Water features
- Tanks, pond, and lagoon containment lining
- Walls, ceilings for meat, dairy processing plants
- Aquatic animal, water ride basins
- 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

COLORS

AMP-100™ is available in SPI standard colors (Sand, Medium Grey, and Black). Custom colors available upon request.

Note: In continuous full-light exposure white or very light colors will yellow over a period of time.

AMP-100™ is available in a high-pigment, UV inhibited formulation for stand-alone applications, such as roofs and containment liners.

Aliphatic urethane and other suitable topcoats can be used where long-term aesthetics are of critical importance.

WET PROPERTIES	
Solids by Volume	100%
Solids by Weight	100%
Volatile Organic Compounds	0 lbs/gal (0g/l)
Theoretical Coverage DFT	100 sq. ft. @ 16 mils/gal
Number of Coats	1-2
Mix Ratio	1 "A": 1 "B"
Viscosity (cps) @ 77° F (25 °C)	A: 620 approx. B: 550 approx.
Shelf Life Unopened Containers @ 60-90ºF (15-32ºC)	Six months

Minimum material/container temperature for AMP-100™ application is 70°F (21 °C).

DRY PROPERTIES*		
Tensile Strength ASTM D 638	2900 psi (20.16 mpa) avg.	
Elongation ASTM D 638	325% (avg.)	
Hardness (Shore D) ASTM D 2240	53 +/- 5%	
Hardness (Shore A) ASTM D 2240	96 +/- 5%	
100% Modulus ASTM D 412	1100 psi (7.6 mpa) +/- 5%	
300% Modulus ASTM D 412	1738 psi (12 mpa) +/- 5%	
Tear Resistance ASTM D 624	519 PLI (91 KN/m)	
Service Temperature	-50ºF – 200ºF (-45ºC-93ºC)	
Abrasion Resistance ASTM D 4060 1000g – 1000 cycles	H-18 wheel	20.5 mg loss
	H-10 wheel	33 mg loss
	H-22 wheel	46.4 mg loss
	CS-17 wheel	19.1 mg loss
Weatherability (black) 4000 hours (QUV-B)	No evidence of failure	

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

CURING SCHEDULE	
Gel	Approximately 6 sec.
Tack Free	Approximately 10 sec.
Post Cure**	24 hours
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 Graco HXP3 @ 2500 psi dynamic (172 bar) Primaries/Hose Heat 172°F (77°C) MP Fusion gun with 2929 mixing chamber.

GENERAL APPLICATION INSTRUCTIONS

Apply AMP-100™ to only clean, dry, sound surfaces free of loose particles or other foreign matter. A primer may be required; subject to type and condition of the substrate.

NOTE: *In the event that the use of a primer is not practical, SPI AE-4 ad-mixture may be used with the AMP-100™ on most properly prepared inorganic substrates to enhance adhesion. Call technical service personnel for specific recommendations.*

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AMP-100™ can be sprayed over a broad range of ambient temperatures. Consult technical service for specific recommendations.

It is recommended that AMP-100™ be sprayed in multi-directional (north-south/east-west) passes to ensure uniform thickness.

The polyol "B" component must be thoroughly power mixed each day, prior to use. Contact a SPI technician regarding proper mixing equipment.

RECOMMENDED EQUIPMENT AND SETTINGS

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 2500 psi (138 bar) dynamic pressure will adequately spray AMP-100™. These include Reactor HXP3, HXP2, EXP2, H-25, Graco 20/35, 20/35 Pro, H-3500, HV-20/35, PMC GH-25, GH-40, PHX-25, and PXH-40. Gun models include Graco Fusion MP, Gap Pro, Glass Craft P2, P2 Elite, P2 Elite "C", GX7-DI, and GX-8 Pro. Other application equipment may be acceptable depending on product and application. Contact SPI technical service for specifics.
- Pre-heater temperature should be at 160-170°F (71-76°C).
- Hose temperature should be at 160-170°F (71-76°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 (2500 psi or more), utilizing an impingement mix gun such as MP Fusion or GX7-DI gun

MIXING AND 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 though 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.

GENERAL SAFETY, TOXICITY & HEALTH DATA

CLEAN UP: DPM, NMP, and Polyclean

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

WARNING: Contact with skin or inhalation of vapors may cause an allergic reaction. 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 glasses, goggles, or a face shield are recommended.

SKIN PROTECTION: Chemical resistant gloves are recommended. Cover as much of the exposed skin area as possible with appropriate clothing.

RESPIRATORY PROTECTION: 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.

Note: AMP-100™ contains no Toluene Disocyanates (TDI).

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.

LIMITATIONS

- Apply AMP-100™ when surface and air temperatures are above 40°F (5°C) and rising, and 7°F (3°C) above dew point.
- AMP-100™ is for industrial use only.
- Liquid temperature in drums during application 70° F (21 °C) – 100°F (38°C).
- Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, CO_2 created pressure can develop. Do not attempt to use contaminated material.

WARRANTY & DISCLAIMER

Specialty Products, Inc. has no role in the manufacture of the finished polymer other than to supply its two components. It is vital that the person applying this product understands the product, and is fully trained and certified in the use of plural-component equipment.

Specialty Products, Inc., an Alaska corporation, warrants only that the two components of this product shall conform to the technical specifications published in the product literature.

The quality and fitness of the product are dependent upon the proper mixture and application of the components by the applicator. There are no warranties that extend beyond the description on the face of this instrument.

Failure to apply the product within the parameters stated on this document shall void the warranty.

SPECIALTY PRODUCTS, INC. MAKES NO WARRANTY OF MERCHANTABILITY OF THE PRODUCT OR OF FITNESS OF THE PRODUCT FOR ANY PARTICULAR PURPOSE.

Specialty Products, Inc. makes no warranty as to the quality of any product modified, supplemented, tinted, or altered in any way after it leaves the manufacturing plant.

Specialty Products, Inc. does not warrant that this product is suitable for use as a liner for potable water containers. Use of this product in a potable water container could be hazardous to health if it is improperly processed or applied.

The liability of Specialty Products, Inc. for any nonconformity of the product to its technical specifications shall be limited to replacement of the product.

The sole exclusive remedy of buyer, which is to have Specialty Products, Inc. replace any nonconforming product at no cost to buyer, is conditioned upon buyer notifying Specialty Products, Inc. or its distributor in writing of such defect within thirty days of the discovery of such defect.

Specialty Products, Inc. shall not be liable for any direct, incidental, or consequential damages resulting from any breach of warranty.

The data presented herein is intended for professional applicators or those persons who purchase or utilize this product in the normal course of their business.

The potential user must perform any pertinent tests in order to determine the product's performance and suitability in the intended application, since final determination of fitness of the product for any particular use is the responsibility of the buyer.

The aforementioned data on this product is to be used as a guide and is subject to change without notice.

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