



# SPECIALTY PRODUCTS, INC.

## ALIPHATIC MODIFIED POLYUREA (AMP-100®)

### PRODUCT DESCRIPTION

SPI presents a major advancement in fast set, high build, elastomeric coating technology. This spray applied plural component pure polyurea, AMP-100®, is a unique synergy of aliphatic and aromatic polymer chemistry.

AMP-100® pure polyurea is formulated using amine terminated polyether resins, amine chain extenders, aliphatic and aromatic prepolymers. For many applications this highly crosslinked elastomer offers an economical alternative to pure aliphatic protective coatings.

### FEATURES

AMP-100® provides numerous advantages over commonly used aromatic fast set polyureas, polyurethanes and hybrids including:

- Superior color stability and gloss retention.
- Excellent physical and mechanical properties (tensile, tear, and elongation).
- Outstanding abrasion resistance.
- AMP-100® has been formulated with an extended gel time for better flow-out providing a smoother more uniform finish. This additional dwell time also allows for greater penetration and enhanced adhesion.
- AMP-100® is a seamless membrane that can be handled and walked on within two minutes or less from the time it is sprayed.
- AMP-100® is 100% solids. with no solvents or V.O.C.'S.
- Unlike polyurethanes and epoxies, AMP-100® is hydro-phobic and therefore affected very

little by damp or cold surfaces

- Due to its very fast gel time AMP-100® can be built up to any thickness in one application including vertical and horizontal

surfaces using a cross hatch spray technique.

- AMP-100® has high temperature stability with a dry working temperature of up to 200° F with

intermittent temperatures up to 250°F.

- AMP-100® can be used as a stand alone product or as a topcoat over aromatic polyureas, polyurethanes, or hybrids.

- AMP-100® is of particular benefit in applications where color stability gloss retention and extended UV protection are of concern.

## Typical Physical Properties

<b>WET</b>	
<b>Solids</b>	
By weight	100%
By volume	100%
V.O.C.	0
Coverage	100 sq.ft./ 16mils / gal.DFT
Weight per gal	8.6 lbs approx combined weight (non-pigmented)
<b>Viscosity</b>	
A component cps	620 approx. @ 77° F (25 °C)
B component cps	550 approx. @ 77° F (25 °C)
<b>Cure times</b>	
Gel	Approx. 15 seconds
Tack free	Approx. 50-60 seconds
*Post cure	24 hours
Recoat	0 - 12 hours
Clean up solvent	DPM, NMP, Polyclean
Thinner	Not used
<b>**DRY</b>	
Stress/Tensile strength	3243 psi (average)
Elongation	488% (average)
Hardness	53 ± 5 shore D
Hardness	96 ± 5 shore A
100% Modulus	1100 psi ± 5%
300% Modulus	1738 psi ± 5%
Tear resistance	519 PLI
Service temperature	-50° F to 200° F
Abrasion resistance	
Tabor Abrader H-18 wheel	30.5 mg loss (average)
H -10 wheel	33 mg loss
H-22 wheel	46.4 mg loss
CS-17 wheel	19.1 mg loss
Weatherability	4000 hrs (QUV-B) No evidence of failure
<i>Samples for tests sprayed w/SPI 25/25 HP @ 1700 psi (average) Primaries/Hose Heat 172° F D-7 Gun w/#55 mixing chamber</i>	
* complete polymerization to achieve final strength can take up to several weeks, depending on a variety of conditions.	
**Processing parameters, as well as admixture types and quantities will change physical properties of cured elastomer. All samples for above tests were force cured or aged for more than three weeks.	

### RECOMMENDED USES

- Topcoat for urethane foam roof systems.
- Theme parks for waterproofing and protection of aquatic animal pools, water slides.
- Weather exposed displays and signage.
- As a replacement for EIFS.
- Tanks, ponds, lagoons, reservoirs, dikes, irrigation ditches, tunnels, silos.
- Dairies, food processing and meat packing plants.
- Encapsulation of structural steel to protect and retard rust formation.
- Encapsulation of lead, low level radioactive and asbestos contaminated surfaces.
- Truckbeds and undercarriage liners.

### COLORS

AMP-100® is available in several standard colors. Custom colors will be quoted upon request.

**NOTE:** It should be noted that in full-light, continuous exposure white or very light colors will yellow over a period of time.

## 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 add mixture may be used with the AMP-100® on most properly prepared inorganic substrates to enhance adhesion. Call a technical service personnel for specific recommendations.

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

SPI recommends spraying AMP-100® in multi-directional passes to insure uniform thickness.

## RECOMMENDED EQUIPMENT AND SETTINGS

· Standard 1:1 ratio, heated, plural component equipment developing a minimum of 2000 psi (138 bar) dynamic pressure will adequately spray AMP-100®.

These include SPI Gusmer2 25 HP, SPI-Gusmer FF18/18, Gusmer's Models H-2000 H-3500 and H-20/35 with a D-7, Gusmer GX7, Gusmer GX7-400 gun or Gusmer GXS gun.

Pre-heater temperature should be at 160 -170°F (71 - 76°C).

Hose temperature should be at 160 -170° F (71-76 °C) a host 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 (2000 psi or more), utilizing an impingement mix gun such as the Gusmer GX7 gun, Gusmer GX7-400 or Gusmer GX8 gun.

## STORAGE/SHELF LIFE

AMP-100® components shall be stored in their original, unopened containers at temperatures between 60° F and 90° F (15 °C and 30 °C). Shelf life of materials when kept in unopened, sealed containers at the recommended storage conditions, is six months. Containers shall not be opened until ready for immediate use. To prevent air entrainment, undue agitation of containers shall be avoided.

## LIMITATIONS & PRECAUTIONS

· AMP-100® is for industrial use only.

· AMP-100® A and B components must be stored at temperatures between 60° F to 90° F (15 °C to 30 °C).

· Minimum material/container temperature for spray application is 80°±10° F (27 °C).

· Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, CO<sub>2</sub> created pressure can develop. Do not attempt to use contaminated material.

Read and observe all precautions, instructions and limitations that are included with all containers of AMP 100®.

**Note:** The material supplied is two components (Component A/Component B) used to formulate AMP-100®. The quality and characteristics of the finished polymer is determined by the mixture and application of the two components.

**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 understand the product and be fully trained and certified in the use of plural component equipment.**

Specialty Products, Inc., an Alaska corporation, warrants only that the two components of AMP-100® shall conform to

the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper mixture and application of the components by the applicator. There are no warranties which extend beyond the description on the face of this instrument.

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 AMP-100® is suitable for use as a liner for potable water containers. Use of AMP-100® 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 non-conformity 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 non-conforming 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.

## GENERAL SAFETY, HEALTH & TOXICITY DATA

Material safety data sheets are available on this coating material. Any individual who may come in contact with these products should read and understand the M.S.D.S.

· **WARNING:** Contact with skin or inhalation of vapors may cause an allergic reaction. Avoid eye contact of the liquid or spray mist.

· **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. Consider the application and environmental concentrations in deciding if additional protective measures are necessary. *Note: AMP-100® contains no Toluene diisocyanates (TDI).*

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

## OTHER INFORMATION AVAILABLE FOR SPI 100% PURE POLYUREA ELASTOMER PRODUCTS

· Prep-guides for concrete, mild steel, aluminium, external pipe applications, secondary containment and pond liners.

· A collection of job profiles and photos are available on our website.

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

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