SPI SPECIALTY PRODUCTS, INC.
SEAMLESS SOLUTIONS FOR OVER 40 YEARS

AQUASEAL™

ELASTOMERIC BRIDGING POLYUREA

PRELIMINARY

DESCRIPTION

AQUASEAL™ 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.

FEATURES

- 100% solids, no solvents, and no VOCs.
- Extended tack time to allow deep surface penetration.
- Fast-set 1:1 ratio, return to service in less than one hour.
- Compliant with FDA/USDA for incidental food contact.

RECOMMENDED USES

- To fill or repair control joints, random cracks, and shallow spalls on horizontal concrete surfaces.
- Pond liners.

COLORS

AQUASEAL™ is available in Neutral, Medium Grey, and Sand. AQUASEAL™ is photosensitive and will change color in a matter of minutes from spray application.
Note: AQUASEAL™ is an aromatic polyurea; therefore, as with all aromatics color change and superficial oxidation will occur. Aliphatic urethane and other suitable topcoats can be used where long-term color stability and increased longevity in full sun exposure are of critical importance.

SURFACE PREPARATION

It is recommended that oxidized polymeric surfaces be power washed with 2500 - 3500 psi water pressure to achieve maximum adhesion of AQUASEAL™. 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.

SPI Prep Wipe™ applied prior to application of AQUASEAL™ generally increases adhesion to certain finishes. For applications to concrete refer to SPI Concrete Prep Guide.

DRY PROPERTIES*

Service Temperature	-50°F - +200° (-45°C - +93°C)
***Cured film properties sprayed with high pressure; heated proportioner**	
Tensile Strength ASTM D638	± 3,000 psi (21 mpa)
Elongation ASTM D638	± 500%
Hardness (Shore A) ASTM D2240-81	85 ± 5

*The samples for tests were sprayed with Graco HXP3 @ 3,300 psi. Primaries/Hose Heat 170°F (77°C) MP Fusion Gun with 29/29 mixing chamber.

***Cured film properties sprayed with low pressure; unheated proportioner**	
Tensile Strength ASTM D638	± 1,400 psi (10 mpa)
Elongation ASTM D638	± 350%
Hardness (Shore A) ASTM D2240-81	75 ± 5

*The samples for tests were sprayed with SPI TI-13 proportioner with SPI Cross Fire gun using the SPI polyurea nucleation kit.

***Cured film properties poured with low pressure; unheated proportioner**	
Tensile Strength ASTM D638	± 2,700 psi (19 mpa)
Elongation ASTM D638	± 550%
Hardness (Shore A) ASTM D2240-81	85 ± 5

*The samples for tests were poured through SPI TI-13 proportioner with Static Mix gun at 150 psi at 70°F (21°C).

*All cured film properties are approximate since processing parameter, 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.

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.)	8.55 lbs. (3.87 kg)
Number of coats	1 - 2
Mix Ratio (by volume)	1 "A" : 1 "B"
Viscosity	A: 550 ± 25 cps B: 500 ± 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).

CURING SCHEDULE

Gel	± 30 - 90 sec.
Tack Free	± 2 - 5 min.
Post Cure**	24 hour
Recoat	0 - 24 hours

**Complete polymerization to achieve final strength can take up to several days or weeks, depending on a variety of conditions or product type.

MIXING & THINNING

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

Thinning is not required. Using any thinner may adversely affect product performance.

GENERAL APPLICATION INSTRUCTIONS

Apply AQUASEAL™ only to clean, dry, sound surfaces free of loose particles or other foreign matter. A primer may be required, subject to type and/or condition of the substrate. Consult technical service personnel for specific primer recommendations and substrate preparation procedures.
AQUASEAL™ can be sprayed over a broad range of ambient and substrate temperatures. Contact technical service personnel for specific recommendations, pricing, and availability of spray and auxiliary equipment.
To reduce the possibility of blisters and blow holes when applying AQUASEAL™ to cementitious or other porous surfaces:

1. Do not apply on damp or wet substrates.
2. Start spray application after peak heat of the day when surface is cooling.
3. Do not apply on areas in direct sunlight.
4. The temperature of the AQUASEAL™ material and hose temperature should be approximately the same temperature as the substrate being sprayed. Adhere to instructions on container label.

It is recommended that AQUASEAL™ be sprayed in multi-directional (north-south/east-west) passes to ensure uniform thickness.
To achieve optimum mix and rise, nucleation at the gun needs to be a minimum of 9 cfm at 90 psi.
To spray AQUASEAL™ using the nucleating kit processed with a SPI synergy proportioner, the liquid temperature must be a minimum 80°F (21°C) maximum 100°F (38°C) and optimum 90°F (32°C).
Follow the instructions attached to "A" and "B" containers.

RECOMMENDED EQUIPMENT SETTINGS

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 2000 psi (10.4 mpa) dynamic pressure with heating capabilities to 175°F (79°C) will adequately spray AQUASEAL™. These include Graco 20/35, 20/35 Pro, H-3500, HV 20/35, Reactor E-XP1, E-XP2, H-XP2, H-XP3, and SPI Gusmer 25/25. Gun models include Graco Fusion MP, Gap Pro, GX7-DI, and GX-8 Pro 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 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.

LIMITATIONS

- This product is for professional use only.
- This product 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 product 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 released if contamination is suspected. CO_2 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: This product is formulated using two components

(Component “A”/Component “B”). The quality and characteristics of the finished polymer is determined by the mixture and application of the two components.

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**

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.

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 under the condition that the buyer notifies 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. The information herein is believed to be reliable, but unknown risks may be present. Specialty Products, Inc. makes no warranties, expressed or implied, including patent warranties or warranties of merchantability or fitness of use, with respect to products or information set forth herein. Nothing contained herein shall constitute permission or recommendation to practice any invention covered by a patent without a license from the owner of the patent. Accordingly, the buyer assumes all risks whatsoever as to the use of these materials and buyer’s exclusive remedy as to any breach of warranty, negligence, or other claim shall be limited to the purchase price of the materials. Failure to adhere to any recommended procedures shall relieve Specialty Products, Inc. of all liability with respect to the materials and the use thereof.

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SPI The Single Source Solution Since 1974
Serving the Plural-Component Industry

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SSPC The Society For Protective Coatings

PDA

PMC POLYMAC-USA POLYURETHANE MACHINERY CORPORATION

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