



Watersafe-100™

100% SOLID AROMATIC POLYUREA

Revised 07.14.11

DESCRIPTION

WATERSAFE-100™ is ANSI/NSF 61 compliant by an ANSI accredited lab, approved for direct contact with potable water. It is a fast setting, rapid curing, 100% solids, flexible aromatic, two component spray polyurea that can be applied to suitably prepared concrete and metal surfaces. It's extremely fast set gel time makes it suitable for applications down to -20°F. It may be applied in single or multiple applications without appreciable sagging and is relatively insensitive to moisture and temperature allowing application in most temperatures.

FEATURES

- ANSI/NSF 61 Approved for Potable Water
- Zero VOC (100% Solids)
- Excellent Thermal Stability
- No Toxic Vapors
- Meets USDA Criteria
- Low Temperature Flexibility
- Good Chemical Resistance
- Coats Properly Prepared Carbon or Mild Steel Metals without Primer
- Installed With or Without Reinforcement in Transitional Areas
- Seamless
- Odorless
- Non-Reactive

RECOMMENDED USES

- | | |
|---|--------------------------------------|
| • Airports | • Refineries |
| • Fertilizer Plants | • Power Plants |
| • Structural Steel | • Warehouse Floors |
| • Mining Operations | • Cold Storage Facilities |
| • Food Processing Plants | • Landfill Containment |
| • Marine Environments | • Paper and Pulp Mills |
| • Secondary Containment | • Parking Garage Decks |
| • Water and Wastewater Treatment | • Concrete Steel Water Storage Tanks |
| • Industrial and Manufacturing Facilities | • Walkways and Balconies |

COLOR

WATERSAFE-100™ is available in Clear, Neutral, and Light Blue. Custom colors available upon request. Color packs when used must be added to "B" side. Due to the aromatic composition, WATERSAFE-100™ will tend to yellow or darken in color and will become flat after exposure to UV light.



PROPERTIES

Solids by Volume	100%
Solids by Weight	100%
Volatile Organic Compounds	0 lbs/gal (0g/l)
Theoretical Coverage DFT	Spray - 1600 sq. ft./gal @ 1 mils
Weight per gallon (approx.)	8.8 lbs. (3.99 kg) / gal
Number of Coats	1-2
Shelf Life Unopened Containers @ 65+°F (18°C)	Twelve months
Pot Life @ 150°F	3 – 5 secs
Mix Ratio	1 "A": 1 "B"
Viscosity	"A" side 50 ± 20 cps
150° - 160°F (66.5° – 71°C), Brookfield	"B" side 50 ± 20 cps
Density (Side A & B Combined)	1.05 kgs/litre
Flash Point	> 93°C (200°F)
Service Temperature	-40°F to 248°F (-40°C to 120°C)
Water Vapor Permeability ASTM E96	0.361 perm-inch
Recommended applied thickness	>2mm
Return to Service: Dependant on substrate and ambient temps	Foot Traffic: 1 – 4 hours Full Service: >24 hours
Water Absorption ASTM D471 (max 73°F (23°C), 24 hours)	< 0.5%
Crack Bridging ASTM C836 (77°F (-25°C), 1.6mm crack, 25 cycles)	Pass
Impact Resistance @ 77°F (25°C)	>200 lbs
Pull-Off Strength (minimum) ASTM D4541	Excellent
Inter-Coat Adhesion (within recoat time)	>500 psi
Concrete (shot blast profile), substrate failure occurred	>500 psi
Concrete (Primed), substrate failure occurred	>900 psi
Steel (75 – 100 micron blast profile)	>900 psi
Lineal Shrinkage	1 – 2%
Flexibility 1/8" (3mm) Mandrel Bent Test ASTM D1737	Pass
Resistance to Weathering ASTM G-23 (Type QUV Weatherometer 3000 hrs exposure)	No cracking or blistering. Color change, gloss reduction, and chalking are noted.
Potable Water Certification US ANSI NSF-61	Pass
Potable Water Certification Australian Water Quality Centre, AS/NZS 4020 (certificate number 4007/92.1060)	Pass
Tensile Strength ASTM D 412*	3500 psi (24.3 mpa) ± 200 psi
Elongation ASTM D 412*	450% ± 50%
Abrasion Resistance ASTM D4060, CS17 wheel, 1000 cycles, 1kg load) (maximum)	6.0 mg loss
Hardness (Shore D) ASTM D2240	50 ± 5 D
Tear, Die "C" ASTM D 412*	450 pli (78.80 KN/m) ± 50 pli

*These physical properties from sample sprayed with Graco Foam Cat 200 @ 2000 psi minimum, with Gusmer GX7-400 mechanical purge gun @ 150 – 160°F. Different machine and parameter will change these properties. User should perform their own independent testing as properties are approximate.

PACKAGING

Standard 110 gallon sets. Also available in 10, 30, and 60 gallon sets.

Product & Equipment Technical Assistance
24 hours / 7 days a week (800) 627-0773

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Serving the Plural-Component Industry

SURFACE PREPARATION

In general, coating performance and adhesion are directly proportional to surface preparation. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Polyurea coatings rely on the structural strength of the substrate to which they are applied. All surfaces must be free of dust, dirt, oil, grease, rust, corrosion and other contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. SPI recognizes the potential for unique substrates from one project to another. The following information is for general reference; for project-specific questions, contact SPI.

NEW AND OLD CONCRETE: Refer to SSPC-SP13/NACE 6, or ICRI 03732:CSP 3-5 New concrete must be cured for 28 days prior to product application. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations. Rinse thoroughly, to achieve a pH between 8.0 and 11.0. Allow to dry completely. If old concrete has a surface that has deteriorated to an unacceptably rough surface consult with SPI regarding a repairing agent for the cracks, spalls, bug holes and voids. Upon full cure of the repairing agent, prime the entire surface intended for coating. Concrete Surface Preparation Reference: ASTM D4258, ASTM D4259, ASTM D4260, ASTM F1869, and ICRI 03732. **WOOD:** All wood should be clean, dry, and free of any knots, splinters, oil, grease, or other contaminants. Splintered or rough areas should be sanded. Knots should be repaired. Upon full cure of repairing agent, prime the entire surface intended for coating. **STEEL (Atmospheric and Immersion Exposure):** Remove all oil, grease, weld spatters and round off any sharp edges from surface. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/Nace1. Optimum surface profile is 4 mils. Prime and shoot WATERSAFE-100™ onto any bare metal the same day as it is cleaned to minimize any potential flash rusting. **ALUMINUM:** Aluminum should be blasted with aluminum oxide or sand, and not with steel or metal grit. Excessive blasting may result in a warped or deformed surface. After blasting, wash aluminum with commercially available aluminum cleaner. Allow to dry, then prime. **BRASS AND COPPER** Brass and Copper should be blasted with sand, and not with steel or metal grit. Remove all dust and grease prior to applying primer. **GALVANIZED SURFACES:** Clean and degrease any contaminated surfaces before priming. Do not blast galvanized surfaces with an abrasive grit. An adhesion test is recommended prior to starting the project. **FIBERGLASS REINFORCED PLASTIC:** The gel coat should be lightly blasted or sanded with 80 grit sandpaper and cleaned. **PLASTIC FORMS:** Enhanced adhesion is obtained when the foam is mechanically abraded. When coating polystyrene, do not use a solvent-based primer. **TEXTILES, CANVAS, FABRICS:** Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

STAINLESS STEEL: Stainless steel may be grit blasted and degreased before priming. Some stainless steel alloys are so inert that it is not possible to achieve a satisfactory bond. An adhesion test is recommended prior to starting the project. **NEW AND OLD CAST IRON:** Blast with a steel grit and degrease before priming. Old cast iron is difficult to prepare for a satisfactory bond. It can absorb oil and water soluble contaminants that will keep returning to the surface after the coating system has been applied and affect the coating system adhesion. An adhesion test is recommended prior to starting the project. **ALL OTHER SURFACES:** An adhesion test is recommended prior to starting the project.

RECOMMENDED EQUIPMENT SETTINGS

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 2500 psi (17.38 mpa) dynamic pressure with heating capabilities to 160°F (71°C) will adequately spray WATERSAFE-100™. These include Graco 20/35, 20/35 Pro, H-3500, HV-20/35, Reactor E-XP1, E-XP2, H-XP2 @, H-XP3, ad SPI Gusmer 25/25. Gun models include Fusion MP, Gap Pro and GX-7 DI.
- Pre-heater temperature should be at 150°F – 160°F (+66°C - +71°C).
- Hose temperature should be at 150°F – 160°F (+66°C – +71°C). A hose thermometer inserted under the insulation near the gun should read a minimum of 135°F – 145°F (+57°C – +62°C)
- Physical properties will be enhanced when sprayed at higher pressure (3000 psi or more) (20.8 mpa).
- Spray Equipment must be approved by SPI.

MIXING AND THINNING

WATERSAFE-100™ may not be diluted under any circumstances. Thoroughly mix Part "B" (resin side) with air driven power equipment until a homogenous mixture and color is obtained.

GENERAL SAFETY, TOXICITY & HEALTH 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. **CHEMTREC EMERGENCY NUMBER 1-800-424-9300**

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

CLEAN UP: Use DPM, NMP, and Polyclean.

EYE PROTECTION: Safety glasses, goggles, or a face shield are recommended. **SKIN PROTECTION:** Chemical resistant gloves are recommended. Cover as much 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 in 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.

APPLICATION

- Both Side "A" and "B" materials should be preconditioned to 75 – 80°F before application.
- Surface temperature must be at least 5°F above the dew point.
- WATERSAFE-100™ should be sprayed in multi-directional (north-south/east-west) passes to ensure uniform thickness.
- This product is for professional use only.
- This product must be stored at temperatures above 60°F. Avoid freezing temperatures. Store drums on wooden pallets to avoid direct contact with the ground. If stored for long period of time, rotate Part "A" and "B" drums regularly.
- Minimum material/container temperature for spray application 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.

Do not open until ready to use. Both Part "A" and "B" containers must be fitted with desiccant device during use.

Note: The material supplied is two components (Component "A"/Component "B") used to formulate this product. The quality and characteristics of the finished polymer is determined by the mixture and application of the two components.

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.

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. 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 not intended for non-professional applicators or those persons who do not 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.

LIMITATIONS

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.

CURING SCHEDULE

Gel	4 seconds
Tack Free	30 - 45 seconds (thickness and substrate temperature dependent)
Recoat	0 - 6 hours
To Immersion	72 hours

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