



DESCRIPTION

WATERSAFE™ UB pure polyurea is NSF/ANSI 61 compliant by an ANSI accredited lab, approved for direct contact with potable water while providing a tenacious bond to certain thermoset plastic surfaces. WATERSAFE™ UB adheres to many polymeric substrates both new and aged, typically without the use of primers or extensive surface preparation. It is a fast setting, rapid curing, 100% solids, flexible aromatic, two component spray polyurea that can be applied to a variety of substrates including 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

POTABLE WATER FEATURES:

- ANSI/NSF 61 Approved for Potable Water
- Zero VOCs (100% Solids)
- Not Toxic Vapors
- Seamless
- Coats Properly Prepared Carbon or Mild Steel without Primer
- Installed with or without Reinforcement in Transitional Areas.
- Excellent Thermal Stability
- Non-Reactive
- Compliant with FDA/USDA for incidental food contact

In house testing has shown excellent adhesion to certain clean, dry surfaces including:

- Primers Past the Recoat Window
- Aged Polyurea
- Latex Rubber
- Crumb Rubber Surfaces
- Epoxy
- Glass
- Sarnafil Vinyl Roofing Membrane

RECOMMENDED USES

- Concrete/Steel Water Storage Tanks
- Fertilizer Plants
- Structural Steel
- Mining Operations
- Food Processing Plants
- Marine Environments
- Power Plants
- Water and Wastewater Treatment
- Texturing Aged Polyurea
- Walkways and Balconies
- Industrial and Manufacturing Facilities
- Coating over Organic Primers that are past their recoat window
- Top Coat Compatible Existing Membrane Liner
- Refineries
- Secondary Containment
- Warehouse Floors
- Cold Storage Facilities
- Landfill Containment
- Paper and Pulp Mills
- Parking Garage Decks
- Recoat Urethane Liners
- Airports

DRY PROPERTIES

@ 62 mils (1.57 mm)	
Tensile Strength ASTM D412	± 3,100 psi (22 mpa)
Elongation ASTM D412	550 ± 50
Hardness (Shore D) ASTM D2240-81	45 ± 5
Tear Resistance ASTM D624	450 PLI (79 KN/m)
Service Temperature	-40° - +248F° (-40° - +120°C)

*All cured 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.

PACKAGING

This product sold in standard 110 gallon drum and 550 gallon tote sets. Available in other container sizes, contact sales representative for further information. Non-standard containers may require a longer lead time.

COLORS

WATERSAFE™ UB is available in SPI standard Light Blue color. Customer colors available upon request.

WET PROPERTIES

Solids by Volume	100%
Solids by Weight	100%
Volatile Organic Compounds	0 lbs./gal (0 g/l)
Theoretical Coverage DFT	1600 sq. ft./gal @ 1 mil
Weight per gallon (approx.)	8.8 lbs. (3.99 kg)
Number of coats	1 - 2
Pot Life @ 150°F	3 - 5 secs.
Recommended applied thickness	> 60 mil (1.5 mm)
Return to Service: Dependant on substrate and ambient temperatures	Foot Traffic: 1-4 hours Full Service: >24 hours
Mix Ratio	1 "A" : 1 "B"
Viscosity (cps) 150° - 160°F (66° - 71°C)	A: 1311 ± 50 B: 249 ± 50
Density	A: 9.21 lbs/gal B: 8.35 lbs/gal
Specific Gravity	A: 1.10 g/cc B: 1.001 g/cc
Flash Point	200°F (93°C)
Shelf Life Unopened Containers @ 60 - 90°F (15 - 32°C)	"A" Six Months "B" One Year

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

CURING SCHEDULE

Gel	9 sec.
Tack Free	30 - 45 sec. (thickness and substrate temperature dependent)
Post Cure	24 hours (approx.)
Recoat	0 - 12 hours (77°F (25°C))
To Immersion	24 hours (77°F (25°C))

**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 a Graco HXP3 @2500 psi dynamic (17 mpa). Primaries/Hose Heat 170°F (77°C) MP Fusion Gun with 29/29 module and .040 ceram tip. *The 248°F is intermittent dry exposure. Maximum water temperature of 150°F.

TEST INFORMATION

ABRASION RESISTANCE ASTM D4060 1000 g - 1000 cycles	CS-17 wheel	6.0 mg loss
	Index 0.032 mg/cycle	
POTABLE WATER CERTIFICATION US ANSI NSF-61	Pass	
Minimum tank size 9,000 gallons, maximum surface area/volume ratio 2.7 in²/L		

SURFACE PREPARATION

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

It is recommended that WATERSAFE™ UB 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.

Follow the instructions attached to "A" and "B" containers.

When applying WATERSAFE™ UB over 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.

Contact technical service personnel for specific recommendations and pricing. As well as the availability of spray and auxiliary equipment.

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. 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™ UB 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 form 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.

MIXING & THINNING

WATERSAFE™ UB may not be diluted under any circumstances. Thinning is not required. Using any thinner may adversely affect product performance. Thoroughly mix Part “B” (resin side) with approved air driven power equipment until a homogenous mixture and color is obtained.

GENERAL APPLICATION INSTRUCTIONS

Both Side “A” and “B” materials should be preconditioned to 70 – 80°F (21° - 27°C) before application.

WATERSAFE™ UB should be sprayed in multi-directional (north-south/east-west) passes to ensure uniform thickness.

Minimum material/container temperature for spray application 70°F (21°C).

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.

RECOMMENDED EQUIPMENT SETTINGS

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 2500 psi (17 mpa) dynamic pressure with heating capabilities to 175° F (79 °C) will adequately spray **WATERSAFE™ UB**. These include: GRACO Reactor E-XP2, H-XP2, H-XP3, or PMC PHX series, GH-25 3000, GH-40 3500. 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° - +77°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 140° – 150°F (+60° – +66°C)
- Physical properties will be enhanced when sprayed at higher pressure 3000 psi (21 mpa) or more.

- Other application equipment may be acceptable depending on product and application. Contact SPI technical service for specifics.

LIMITATIONS

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.

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.

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

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. 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 eyewear 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. Causes eye damage. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

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. Causes skin burns and may cause allergic reaction. **IF ON SKIN (or hair):** Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse.

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. **IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician IF you feel unwell.

INGESTION: Do not take internally. Harmful if swallowed. **IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Call a POISON CENTER or doctor/physician IF you feel unwell.



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