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Selection and Specification Data

Description

WATERSAFE™ III is a 100% solids, fast setting, plural component, ultra-low shrink, polyurea elastomer and high performance coating. **WATERSAFE™ III** is specially designed for potable water coatings and water-proofing applications. **WATERSAFE™ III** is certified in accordance with NSF/ANSI 61 as a barrier material. **WATERSAFE™ III** may be applied to concrete, masonry, fiberglass, steel, or geotextile. **WATERSAFE™ III** has a specially designed formulation, making it ideal for foam, geotextile, and other non-reinforced substrates.

Ideal For:

- Water Storage
- Water treatment facilities
- Rehabilitation of HDPE lined holding ponds
- Food processing
- All potable water applications

Advantages:

- Made in the USA at a ISO 9001:2015 Certified Facility
- 100% solids, no VOC's
- Tough, resilient , elastomeric membrane
- Fast return to service
- Extremely low curing stress shrinkage
- Dry exposure range of -20°F to 250°F
- Installation range of -20°F to 200°F

Color Selection

Standard color is Versa Blue.

WATERSAFE™ III is an aromatic polyurea which will discolor from exposure to UV light without affecting the performance characteristics. Darker colors and earth tones may hide the color change better.

Physical Properties (Typical) (Post cured at 225°F for 24 hours)

Description	Method	Result
VOC (g/l)	Theoretical	0
Solid Content	Theoretical	100%
Gel Time	ASTM D1640	25 sec.
Tack Free Time	ASTM D1640	180 sec.
Light Traffic	ASTM D1640	120 min.
Tensile Strength	ASTM D638	2,200 psi
Elongation	ASTM D638	> 500%
Die C Tear Strength	ASTM D624	>300 pli
100% Modulus	ASTM D638	620 psi
200% Modulus	ASTM D638	810 psi
300% Modulus	ASTM D638	1,070 psi
Shore D Hardness	ASTM D2240	> 40
Tabor Abrasion (H-18, mg loss)	ASTM D4060	< 170 mg
Adhesion to Steel	ASTM D4541	> 500 psi
Adhesion to Concrete	ASTM D7234	> 200 psi

The value ranges stated in this Technical Data Sheet are based on system processing under controlled laboratory conditions. Equipment configuration and field application conditions may produce variances in the final system values.

NSF/ANSI 61 Section 5—Certifications



- 600 gallon minimum tank size
- 120 mil maximum dry film thickness

Coverage Rate

WATERSAFE™ III is designed for a variety of substrates and applications. Application method, substrate roughness, profile, and porosity will effect coverage rates. Always consult the specification and contract documents prior to installation.

Substrate and Surface Preparation

General

Prior to coating, the substrate must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified coating. The substrate shall be free of all contaminants, such as oil, grease, rust, scale or deposits. The substrate shall be free of all dirt, dust, debris, and deleterious material. Coating performance is dependent on the degree of surface preparation.

Geotextile

Ensure geotextile is clean, dry, and free of dirt, dust, debris, or deleterious material. Only apply to “ironed” side of geotextile. Non-woven, or spun-woven geotextiles are recommended.

Concrete & Masonry

Reference SSPC-SP 13/NACE No. 6 Surface Preparation of Concrete. Minimum surface profile equivalent to ICRI CSP3 to CSP5 in accordance with ICRI Technical Guideline No. 310.2R-2013. Maximum Moisture Content of 3 lb./24 hr./1,000 ft² per ASTM F1869 and/or less than 5% maximum moisture content per ASTM F2420.

Steel (Immersion Service)

Visible deposits of oil, grease, or other contaminants shall be removed according to SSPC-SP 1. Prepare in accordance with SSPC SP-10/NACE No. 2 Near-White Metal Blast Cleaning. Provide a sharp angular anchor profile of 3.0 or greater.

Non-Ferrous Metals

Reference SSPC SP-16 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals. Only use non-metallic blast media.

Recommended Primers

Concrete & Masonry	AquaVers™ 20
Ferrous Metal (Optional)	Raven 190
Wood & Fiberglass	AquaVers™ 20

Substrate composition and moisture, application temperature, exposure temperature, and site conditions may effect primer selection.

VF Specialty Products is part of a family of companies. Specific primers may be available for different substrates or service conditions.

Contact VF Specialty Products Technical Service for more information and recommendations.

Mixing, Thinning, and Pre-Warming

Components & Mix Ratio:

Mix ratio is 1:1 by volume

Mixing:

B Side must be mixed prior to use. Mix using a 3-tier, collapsible blade power mixer for at least 30 minutes prior to processing. Mixer diameter should be ½ diameter of the vessel.

Thinning:

DO NOT THIN.

Pre-warming:

A and B components should be warmed to a minimum of 70°F prior to processing.

Application and Equipment Guidelines

General

WATERSAFE™ III must be installed using plural component, direct impingement mix application equipment.

Recommend Equipment Operating Parameters

A Side Primary Heat	160°F
B Side Primary Heat	160°F
Hose Heat	160°F
Dynamic Pressure	2,000—2500 psi
Dynamic Pressure Differential	< 200 psi
Inlet Pressure	> 90 psi

- Material supply capacity should be 4x the material output of the selected spray gun configuration.
- Processing equipment should be capable of maintaining set temperatures and pressures at rest and during operation.
- Proper equipment selection and maintenance is critical to achieve material properties.
- Additional equipment manufacturers and set-ups are acceptable.

Recommended Proportioners

Graco	Reactor E-XP2
	Reactor H-XP2
	Reactor H-XP-3

Recommended Spray Gun Configuration

Graco	Fusion AP	AR/AF 2929
		AR/AF 3737
		AR/AF 4242
	Fusion MP	XR/XF 3535
		XR/XF 4747
	Probler P2	00 - 02

Apply in a uniform manner to desired thickness. Application thickness is determined by spray gun configuration and speed of application. Lower output configurations are recommended for vertical and overhead applications to avoid runs, drips and sags. Excessive thickness does not negatively impact the material properties.

Application & Service Conditions

Environmental & Substrate Conditions

Substrate temperatures must be greater than -20°F. Lower substrate and ambient temperatures will reduce ultimate cure time.

Do not install over damp, wet, or saturated substrates. Concrete and masonry substrate moisture shall be less than 5% when measured with a Tramex CME meter. If the substrate is below freezing, traditional methods of determining moisture content are not effective. Additional steps should be taken to validate moisture readings.

The substrate must be 5°F above dew point and rising before application of coating materials.

Service Temperatures (Temperature Resistance):

Dry temperature resistance is -40°F to 250°F.

Limitations:

WATERSAFE™ III is not recommended for direct contact with extremely high or low pH chemicals.

Refer to the Chemical Resistance Technical Bulletin or contact Technical Services for more information and recommendations.

WATERSAFE™ III is an aromatic based polyurea. Discoloration from exposure to ultraviolet light may occur without affecting the performance characteristics.

Curing Schedule, Re-Coat Windows, and Top Coats

<p>Cure Time</p> <p>Return to service is determined by ambient temperature, the service environment and exposures. Foot and light vehicle traffic can typically be allowed within 2 hrs. Full cure is achieved in 14 days at 72°F.</p> <p>Top Coating</p> <p>WATERSAFE™ III can be built to thickness or touched up immediately during application.</p>	<p>Re-coat Time</p> <p>WATERSAFE™ III can be re-coated up to 24 hours after application at 72°F. Warmer temperatures will reduce the re-coat window. If the re-coat window is exceeded, additional preparation is required. Prior to coating WATERSAFE™ III shall be clean, dry, and free of all dirt, dust, debris, contamination, or deleterious material. Use a tack coat as re-activating adhesion promoters.</p>
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Cleanup and Safety

<p>Cleanup</p> <p>Cured product may be disposed of without restriction. Excess material should be mixed together and allowed to cure and disposed of in a normal manner. Product containers that are “drip free” may be disposed of according to local, state, and federal laws.</p> <p>Caution: WATERSAFE™ III contains isocyanate. All safety precautions must be followed including proper skin protection and breathing protection. Consult SDS for proper safety suggestions.</p>	<p>Safety</p> <p>Read, understand, and follow all recommendations on the SDS. Review SDS at www.specialty-products.com</p> <p>Wash thoroughly after handling, and before eating, drinking, or smoking. Have proper First Aid and PPE on site prior to opening or processing the material. Use chemical safety glasses, or goggles with splash shields. Use impervious body coverings including long sleeve clothing and boots. Use neoprene or nitrile chemical resistant gloves. Use a combination particulate filter and organic vapor respirator.</p>
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Packaging, Handling, and Storage

<p>Packaging</p> <p>WATERSAFE™ III is available 10, 30, 60, 110, and 530-gallon kits. Containers filled by weight.</p>	<p>Handling and Storage</p> <p>One year from date of shipment, in original, unopened factory containers, stored in a sheltered area between 60°F - 80°F. Seal tightly after use to prevent introduction of moisture laden air. Store open ‘A’ side with a nitrogen cap after each use.</p>
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Warranty

Limited Warranty. Company warrants its goods to be free of manufacturing defects. Goods manufactured by Company will comply with all applicable federal, state and local laws and regulations. Company makes no warranty as to any parts or equipment manufactured by others. Customer shall look solely and only to the manufacturer of such parts or equipment with respect to any warranty claims. Company hereby assigns to Customer the original manufacturer’s warranties to all such equipment and parts, to the full extent permitted. THE AFORESAID IS THE EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY, THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Limitation of Liability. COMPANY’S LIABILITY FOR DEFECTIVE OR NON-CONFORMING GOODS SHALL BE LIMITED TO, AND SHALL IN NO EVENT EXCEED, THE AMOUNT PAID BY CUSTOMER FOR SUCH DEFECTIVE OR NON-CONFORMING GOODS. UNDER NO CIRCUMSTANCES SHALL COMPANY BE LIABLE FOR ANY SPECIAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOST PROFITS. In no event may any claim by Customer arising from or relating to any sale of any goods or services referenced herein be brought more than one year after the date of delivery of such Goods.