



# VersaRoof FR™

## Fire Rated Roofing Membrane

### Technical Data Sheet

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#### Selection and Specification Data

##### DESCRIPTION:

**VersaRoof FR** is a 100% solids, plural component, elastomeric, spray-applied coating system that forms a seamless waterproofing membrane. **VersaRoof FR** has specially designed formulation, making it ideal for roofing applications which require UL790 Class A Fire Rating. **VersaRoof FR** may be applied as low as -20°F over a variety of substrates and cures quickly for a fast return to service in a wide range of application environments.

##### IDEAL FOR:

- Roofs and Balconies
- Plaza and Podium Decks
- IRMA and Green Roofs
- Planters and Retention Tanks
- Re-Roof and Un-reinforced substrates

##### FEATURES:

- ASTM E108/UL790 Class A Fire Rated
- ASTM E84 Certified Class A
- 100% Solids, Zero VOC's
- Seamless, monolithic, waterproofing membrane
- Installation range of -20 - 200°F
- Rapid cure, for fast return to service

##### COLORS:

**VersaRoof FR** is available in tan as a standard color. Custom colors are available that require a 10-business day lead time for production. Review the Versaflex "ColorFlex" color charts on [www.versaflex.com](http://www.versaflex.com) for further information.

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

Description	Method	Result
VOC (g/l)	Calculated	0
Gel Time	Internal	5 sec.
Tack Free Time	ASTM D1640	40 sec
Tensile Strength	ASTM D638	<1,300 psi
Elongation	ASTM D638	250%
Flame Spread	ASTM E84	15
Smoke Development	ASTM E84	90
Die C Tear Strength	ASTM D624	<130 psi
Shore A Hardness	ASTM D2240	80
Shore D Hardness	ASTM D2240	30
Adhesion to Steel <sup>2</sup>	ASTM D4541	>500 psi
Adhesion to Concrete <sup>3</sup>	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/or field application conditions may produce variances in the final system values.

##### Footnotes

1. 1000 g, 1000 revs.
2. Steel prepared in accordance with SSPC-SP 6/NACE N° 3. 2+ mil profile
3. Concrete prepared in accordance with SSPC-SP 13/NACE N° 6

##### COVERAGE RATE:

**VersaRoof FR** is designed for a variety of substrates. Application method, substrate roughness, profile, and porosity will effect coverage rates. Install **VersaRoof** at a minimum rate of 20 ft<sup>2</sup> per gallon (80 mils)



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#### Recommended Primer:

<b>Concrete and Masonry:</b>	VersaProof Primer S VersaProof Primer F VersaProof Primer E	<b>Non Ferrous Metal:</b>	VersaProof Primer S Vinyl Wash Primer
<b>Ferrous Metal (Optional):</b>	VersaProof Primer S	<b>Wood and Lumber</b>	VersaProof Primer E
<b>Cement Cover Board</b>	VersaProof Primer E	<b>Built-Up Roof</b>	VersaProof Primer S
<b>VersaProof Membrane:</b>	VersaProof Primer RC	Consult VersaFlex Technical Services and Installation Guide for more information.	

#### 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. Refer to the Installation Guide for more information.

##### MAXIMUM MOISTURE CONTENT CONCRETE:

Calcium Chloride Test – 3 lb/24 hr./1,000 ft<sup>2</sup>  
5% maximum as per ASTM F2160 or ASTM F2420

##### STEEL (ATMOSPHERIC/NON-IMMERSION SERVICE):

Visible deposits of oil, grease, or other contaminants shall be removed according to SSPC-SP 1. Prepare in accordance with SSPC-SP6/NACE No. 3 Commercial Blast Cleaning. Provide a sharp angular anchor profile of 3.0 or greater.

##### FIBERGLASS, PVC, AND OTHER PLASTICS:

Use a low-pressure washer to remove dirt, biologic growth and other contaminants. Apply a de-greaser and wash clean. Clean contamination with a silicone and wax remover such as DuPont Prep-Sol™ 3919S. Sand with 80-grit paper to a dull finish. Consult VersaFlex Technical Service for primer recommendation.

##### NON-FERROUS METALS:

Reference SSPC SP-16 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals. Contact VersaFlex Technical Services for primer recommendation and additional information.

##### CEMENT COVER BOARD:

Ensure substrate is clean, sound, dry, and free of any dirt, dust, debris, contamination or deleterious material.

##### 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. 03732.

##### MODIFIED BITUMEN/BUILT-UP ROOFING:

Use a low-pressure washer to remove loose granules, dirt, biologic growth and other contaminants. Apply a de-greaser and wash clean.

##### WOOD AND LUMBER:

Ensure substrate is clean, sound, dry, and free of any dirt, dust, debris, contamination or deleterious material. Particular care should be taken when coating over treated wood products. Only install over kiln dried, or air dried treated wood.

##### OTHER SUBSTRATES:

Refer to the Installation Guide or contact VersaFlex Technical Services for more information.



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#### Mixing, Thinning and Pre-Warming

##### Mixing:

B Side component must be thoroughly agitated prior to use. Mix using a manufactures recommended 3-tier, collapsible blade power mixer through the center bung hole. Mixer diameter should be 1/3 diameter of the container. Mix for at least 30 minutes prior to processing. Color should be a consistent uniform color without striations.

##### Components & Mix Ratio:

Mix ratio is 1:1 by volume

##### 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:

**VersaRoof FR** 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 psi
Dynamic Pressure Differential	200 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 PROPORTIONING EQUIPMENT:

Graco	Reactor E-XP2
	Reactor H-XP2
	Reactor H-XP3

##### RECOMMENDED SPRAY GUN CONFIGURATIONS:

Graco	Fusion AP	AR/AF 2929
		AR/AF 3737
		AR/AF 4242
Graco	Fusion MP	MR/MF 3535
		MR/MF 4747
Graco	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.



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Application and Service Conditions	
<p><b>ENVIRONMENTAL &amp; SUBSTRATE CONDITIONS:</b></p> <p>Material and equipment temperatures must be kept at 70°F or above. Lower substrate and ambient temperatures will reduce cure time.</p> <p>Substrate temperatures must be greater than -20°F.</p>	<p>The substrate must be 5°F above dew point and rising before application of coating materials.</p> <p>If the substrate is below freezing, tradition methods of determining moisture content are not effective. Additional steps should be taken to ensure moisture content is less than 5%. Refer to the Installation Guide for more information.</p>
Application and Service Conditions	
<p><b>SERVICE TEMPERATURES (TEMPERATURE RESISTANCE):</b></p> <p>Dry temperature resistance is -40°F to 250°F.</p> <p><b>LIMITATIONS:</b></p> <p><b>VersaRoof</b> is not recommended for direct contact with extremely high or low pH chemicals.</p>	<p>Refer to the VersaFlex Chemical Resistance Technical Bulletin or contact Technical Services for more information and recommendations. <b>VersaRoof FR</b> is an aromatic based membrane. Discoloration from exposure to ultraviolet light may occur without affecting the performance characteristics.</p>
Curing Schedule, Re-Coat Windows, and Top Coats	
<p><b>CURE TIME:</b></p> <p>Full cure is achieved in 14 days at 72°F.</p> <p><b>TOP COATING:</b></p> <p><b>VersaRoof FR</b> can be top-coated after curing for 30 minutes. Consult VersaFlex Technical Services or Installation Guide for more information and product recommendations.</p>	<p><b>RE-COAT TIME:</b></p> <p><b>VersaRoof FR</b> can be re-coated up to 12 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 shall be clean, dry, and free of all dirt, dust, debris, contamination, or deleterious material. Use <b>VersaProof RC Primer</b> as a re-activating primer. Consult VersaFlex Technical Service for product and application recommendations.</p>



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Cleanup and Safety	
<p><b>CLEANUP:</b> Cured product may be disposed of without restriction. Product containers that are “drip free” may be disposed of according to local, state, and federal laws.</p> <p><b>SAFETY:</b> Review SDS at <a href="http://www.versaflex.com">www.versaflex.com</a></p>	<p><b>CAUTION:</b> Consult the SDS prior to use. <b>VersaRoof FR</b> contains isocyanate. All safety precautions must be followed including proper skin protection and breathing protection. Consult SDS for proper safety suggestions.</p>
Packaging, Handling, and Storage	
<p><b>PACKAGING:</b></p> <p><b>One Hundred Ten Gallon Kit:</b> 55 gallons of ‘A’ side and 55 gallons of ‘B’ side. Drums filled by weight.</p> <p><b>Ten Gallon Kit:</b> 5 gallons of ‘A’ side and 5 gallons of ‘B’ Side.</p>	<p><b>SHELF LIFE AND STORAGE:</b> One year from date of shipment, in original, unopened factory containers, stored in a sheltered area between 60°F - 95°F. Seal tightly after use to prevent introduction of moisture laden air. Store open ‘A’ side with a nitrogen cap after each use.</p>
Warranty	
<p><b>Limited Warranty.</b> 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.</p> <p><b>Limitation of Liability.</b> 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.</p>	