Protective & Marine Coatings

CERTIFIED UL WATER QUALITY

SHERFLEX™
ELASTOMERIC POLYURETHANE

PART A	B65H910	BEIGE
PART B	B65V910	HARDENER

Revised: September 9, 2016

PRODUCT INFORMATION

TRM.69

PRODUCT DESCRIPTION

SHERFLEX ELASTOMERIC POLYURETHANE is a high solids, spray applied, aromatic polyurethane coating and lining. It can be applied at thicknesses of 30-250 mils (750-6250 microns) in multiple passes during a single application.

- Fast cure - short down time
- High build and flexible
- Crack bridging capabilities
- Seamless and waterproof
- Impact, tear, and abrasion resistant
- Chemical resistant
- Low permeability

PRODUCT CHARACTERISTICS

Finish:	Semi-gloss
Colors:	Beige
Volume Solids:	98% ± 2
Mix Ratio:	3:1
VOC (calculated):	0 g/L

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**30.0** (750)	**250.0** (6250)
Dry mils (microns)	**30.0** (750)	**250.0** (6250)
~Coverage sq ft/gal (m^2/L)	**6** (0.72)	**53** (6.4)
Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft	**1600** (39.2)	

Drying Schedule @ 30.0 mils wet (750 microns):

	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*	@ 120°F/49°C
To touch:	3 hours	45 minutes	30 minutes
Tack free:	5 hours	2.5 hours	1.5 hours
To recoat maximum:	30 days	30 days	30 days
To cure:	5 days	1 day	1 day

Drying time is temperature, humidity, and film thickness dependent.

If maximum recoat time is exceeded, abrade surface before recoating.

Pot Life:	None	None	None
Sweat-in-Time:	None	None	None

For **Potable Water Service**, allow a minimum cure time of 1 day @ 77°F (25°C) prior to placing in service. Sterilize and rinse per AWWA C652.

Shelf Life:	12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C). Drums must be rotated every 90 days.
Flash Point:	240°F (115°C), Closed Cup Part A 390°F (198°C), Closed Cup Part B
Reducer:	Not recommended
Clean Up:	Xylene R2K4 or MEK R6K10

RECOMMENDED USES

Potable Water Tank Restrictions:
Water contact temperature: 23°C
Tanks ≥ 3,000 gallons
Pipes ≥ 61"
Maximum DFT: 100 mils

Designed for use in immersion service as a tough, flexible, impact resistant, waterproof coating and lining system.

Not recommended for use with cathodic protection systems.

For use in areas including:
- Wet wells
- Grit chambers
- Aeration basins
- Sewer manholes
- Cooling tower linings
- Water & wastewater linings
- Secondary containment
- Potable water (Beige)

Acceptable for immersion service in Jet-A Fuel and JP-5 Jet Fuel.

Suitable for use in the Mining & Minerals Industry.

PERFORMANCE CHARACTERISTICS

Substrate*: Concrete

Surface Preparation*: SSPC-SP13/NACE6, or ICRI No. 310.2, CSP 3-5

System Tested*:
1 ct. Corobond LT Epoxy Primer @ 4.0 mils (100 microns) dft
1 ct. SherFlex Elastomeric @ 60.0 mils (1500 microns) dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	106 mg loss
Adhesion	ASTM D4541	Concrete: 350 psi (concrete failure); Steel: 1800 psi
Dielectric Strength	ASTM D149-92a, method A	430 volts/mil
Direct Impact	ASTM D2794 on steel pipe	160 in./lb, no failures
Durometer Hardness	ASTM D2240	43 Shore D
Elongation	ASTM D638	45% at 25°C (77°F)
Flexibility	ASTM D1737	No effect bending 0.5 mm plate coated with 20 mils (500 microns) over mandrel of 8 mm diameter
Permeability	ASTM E96	0.189 grains/ hr ft ^{2}Hg U.S. Perms
Tensile Strength	ASTM D638	1988 psi at 25°C (77°F)
Thermal Conductivity	ASTM C177	0.000550 cal./sec. cm^2°C per cm at 25°C (0.133 BTU/ HR.ft.°F per ft at 77°F)

Meets ASTM D16, Type V

continued on back

Protective & Marine Coatings

CERTIFIED UL WATER QUALITY

SHERFLEX™
ELASTOMERIC POLYURETHANE

PART A	B65H910	BEIGE
PART B	B65V910	HARDENER

Revised: September 9, 2016

PRODUCT INFORMATION

TRM.69

RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	(Microns)
Concrete:			
1 ct	Corobond Conductive Epoxy Primer	2.0-4.0	(50-100)
1 ct	SherFlex Elastomeric	60.0-250.0*	(1500-6250)
Concrete			
1 ct	Corobond LT Epoxy Primer	4.0-8.0	(100-200)
1 ct	SherFlex Elastomeric	60.0-250.0*	(1500-6250)

Other acceptable primers:
- Dura-Plate UHS Primer
- Corobond HS Primer
- Dura-Plate 235
- Corothane I- PrePrime (Smooth Concrete, air and surface temperature below 70° F)
- FasTop Primer (for new concrete) 3.0-5.0 (75-125)

Steel:			
1 ct.	SherFlex Elastomeric	30.0 -250.0*	(750-6250)
or			
1 ct.	Copoxy Shop Primer (as a hold primer)	1.0	(25)
1 ct.	SherFlex Elastomeric	30.0 -250.0*	(750-6250)
Steel, Potable Water (lining)			
1 ct.	SherFlex Elastomeric	30.0-100.0*	(750-2500)
Steel, with holding primer, Potable Water Full System (lining)			
1 ct.	Copoxy Shop Primer	1.0 -1.5	(25-40)
1 ct.	SherFlex Elastomeric	30.0-100.0*	(750-2500)
Concrete, Potable Water (lining)			
1 ct.	Copoxy Shop Primer	3.0-4.0	(75-100)
1 ct.	SherFlex Elastomeric	60.0-100.0*	(1500-2500)

* Potable Water Applications:
- Maximum DFT allowed is 100 mils (2500 microns)
- SherFlex S may be applied up to 80 mils (2000 microns) dft. If applied over SherFlex, the dft of the SherFlex S should not exceed 30 mils (750 microns).

The systems listed above are representative of the product's use, other systems may be appropriate.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel
Immersion: SSPC-SP10/NACE 2, 3.0 mil (75 micron) profile minimum

Concrete
Immersion: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 3-5

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	Sa 3	Sa 3	SP 5	1
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast	Sa 2	Sa 2	SP 6	3
Brush-Off Blast	Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning Rusted	C St 2	C St 2	SP 2	-
Hand Tool Cleaning Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning Pitted & Rusted	D St 3	D St 3	SP 3	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:
Material: 140°F (60°C) minimum, 160°F (71°C) maximum
Air and surface: -20°F (-29°C) minimum, 120°F (49°C) maximum
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Part A: 5 gal (18.9L) cans or 53 gallon (200L) drums
Part B: 5 gal (18.9L) cans or 53 gallon (200L) drums

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Protective & Marine Coatings

CERTIFIED UL WATER QUALITY

SHERFLEX™
ELASTOMERIC POLYURETHANE

PART A B65H910 BEIGE
PART B B65V910 HARDENER

Revised: September 9, 2016

APPLICATION BULLETIN

TRM.69

SURFACE PREPARATIONS

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (3 mils/75 microns or greater). Remove all weld spatter and round all sharp edges by grinding. Coat all steel before flash rusting occurs.

Concrete and Masonry
For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2, CSP 3-5. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:
ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
SSPC-SP 13/Nace 6 Surface Preparation of Concrete.
ICRI No. 310.2R Concrete Surface Preparation.

Concrete, Immersion Service:
For surface preparation, refer to SSPC-SP13/NACE 6, Section 4.3.1 or 1.3.2 or ICRI No. 310.2, CSP 3-5.

Surface Preparation Standards

	Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal		Sa 3	Sa 3	SP 5	1
Near White Metal		Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast		Sa 2	Sa 2	SP 6	3
Brush-Off Blast		Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:	
Material:	140°F (60°C) minimum, 160°F (71°C) maximum
Air and surface:	-20°F (-29°C) minimum, 120°F (49°C) maximum At least 5°F (2.8°C) above dew point
Relative humidity:	85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reduction .....Not recommended

Clean Up .....Xylene R2K4, MEK R6K10

Purge Solvent .....MEK R6K10, Acetone

Recommended Spray Equipment*

Pump	Graco Hydra-Cat or Xtreme mix system with remote manifold (restriction required on Hardener side)
Pressure	3000 psi working pressure
Hose	3/8" Resin,1/4" Hardener, 1/4" whip hose from Mixing Manifold to Gun, 10 ft maximum 5" Static Mixing Tube with disposable plastic insert.
Tip	.025" - .035"

Conventional Spray .....Not recommended

Brush .....Repairs and touch-up only

*Application training is required and spray equipment must be approved by Sherwin-Williams Technical Service.

If specific application equipment is not listed above, equivalent equipment may be substituted.

continued on back

Protective & Marine Coatings

CERTIFIED UL WATER QUALITY

SHERFLEX™
ELASTOMERIC POLYURETHANE

PART A B65H910 BEIGE
PART B B65V910 HARDENER

Revised: September 9, 2016

APPLICATION BULLETIN

TRM.69

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Agitate components thoroughly with low speed power agitation before use to disperse pigment and assure homogeneity. Do not reduce (thin). Do not mix resins A and B together. CAUTION: Do not agitate in air and moisture. Both components should be heated to approximately 140°F-160°F (60°C-71°C) to achieve spray pattern consistency.

Plural component application required, 3:1 mix ratio.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**30.0** (750)	**250.0** (6250)
Dry mils (microns)	**30.0** (750)	**250.0** (6250)
~Coverage sq ft/gal (m^2/L)	**6** (0.72)	**53** (6.4)
Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft	**1600** (39.2)	

Drying Schedule @ 30.0 mils wet (750 microns):

	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*	@ 120°F/49°C
To touch:	3 hours	45 minutes	30 minutes
Tack free:	5 hours	2.5 hours	1.5 hours
To recoat maximum:	30 days	30 days	30 days
To cure:	5 days	1 day	1 day

Drying time is temperature, humidity, and film thickness dependent.

If maximum recoat time is exceeded, abrade surface before recoating.

Pot Life:	None	None	None
Sweat-in-Time:	None	None	None

For **Potable Water Service**, allow a minimum cure time of 1 day @ 77°F (25°C) prior to placing in service. Sterilize and rinse per AWWA C652.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Xylene R2K4, or MEK R6K10. Clean tools and equipment immediately after use (including both A and B sides of plural component spray system) with Xylene R2K4, or MEK R6K10.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

PERFORMANCE TIPS

For immersion applications, a minimum total dry film thickness of 30 mils (750 microns) for steel and 60 mils (1500 microns) for concrete is required.

For Immersion Service: (if required) Holiday test in accordance with ASTM D5162 for steel, or ASTM D4787 for concrete.

Use only heated, plural component equipment capable of producing 4,000 psi output consistently.

In order to prevent blockage of spray equipment, clean equipment before use or before periods of extended downtime with Xylene R2K4, or MEK R6K10

While spraying, use 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness, or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, climatic conditions, and excessive film build.

Do not agitate in air and moisture.

For concrete, refer to moisture content testing per SSPC SP-13/ NACE No. 6. Do not proceed with MVE >3lbs.

Consult your Sherwin-Williams representative for specific application and performance recommendations.

* Potable Water Applications:
- Maximum DFT allowed is 100 mils (2500 microns)
- SherFlex S may be applied up to 80 mils (2000 microns) dft. If applied over SherFlex, the dft of the SherFlex S should not exceed 30 mils (750 microns).

Refer to Product Information sheet for additional performance characteristics and properties.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.