Protective & Marine Coatings

SHER-GLASS FF
GLASS FLAKE REINFORCED EPOXY

PART A	B62-525	SERIES
PART B	B62V525	STANDARD HARDENER
PART B	B62V526	LOW TEMP HARDENER

Revised: March 28, 2013

PRODUCT INFORMATION

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PRODUCT DESCRIPTION

SHER-GLASS FF is a glass flake reinforced amine epoxy coating formulated for immersion service or where steel or concrete protection is desired, in a wide range of harsh industrial environments.

- The use of pre-wetted glass flake allows for consistent mixing and application
- Re-inforced film enhances performance and edge protection
- Excellent immersion service performance
- Corrosion, impact, abrasion resistant
- Direct to metal application for tanks and structural steel
- Up to 20.0 mils (500 microns) dry in a single coat

PRODUCT CHARACTERISTICS

Finish:	Semi-Gloss
Color:	Red Oxide, Black, Haze Gray, White OAP
Volume Solids:	76% ± 2% mixed, (calculated)
Weight Solids:	87% ± 2% mixed, (calculated)
Mix Ratio:	4:1 (2 components)
VOC (EPA Method 24): (mixed)	Unreduced: <250 g/L; 2.08 lb/gal 10% Reduced: <276 g/L; 2.30 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**10.0** (250)	**26.0** (625)
Dry mils (microns)	**8.0** (200)	**20.0** (500)
~Coverage sq ft/gal (m^2/L)	**61** (1.5)	**152** (3.7)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1216** (29.8)	

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 15.0 mils wet (375 microns):

With B62V525	**@ 55°F/13°C**	**@ 77°F/25°C *50% RH***	**@ 120°F/49°C**
To touch:	7 hours	4 hours	80 minutes
To handle:	9 hours	4.5 hours	90 minutes
To recoat:			
minimum:	48 hours	18 hours	4 hours
maximum:	60 days	60 days	45 days
To cure:	14 days	7 days	3 days
Heat Cure:	8 hours @ ambient, then 16 hours @ 140°F (60°C)		
Pot Life:	4 hours	2 hours	30 minutes
Sweat-in-time:	30 minutes	15 minutes	none

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Drying Schedule @ 15.0 mils wet (375 microns):

With B62V526*	**@ 40°F/4.5°C**	**@ 77°F/25°C *50% RH***
To touch:	24 hours	2 hours
To handle:	48 hours	2.5 hours
To recoat:		
minimum:	48 hours	8 hours
maximum:	30 days	14 days
To cure:	10 days	5 days
Heat Cure:	8 hours @ ambient, then 16 hours @ 140°F (60°C)	
Pot Life:	2 hours	30 minutes
Sweat-in-Time:	10 minutes	none

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

***Do not use Sher-Glass Low Temp Hardener above 80°F (27°C)**

PRODUCT CHARACTERISTICS (CONT'D)

Shelf Life:	Part A: 24 months Part B: 36 months Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	80°F (27°C), PMCC, mixed
Reducer/Clean Up:	Xylene R2K4, or R7K100

RECOMMENDED USES

For use over prepared steel or concrete in the following environments:

- Petro-chemical and power plants
- Immersion in fresh or salt water
- Water and waste water facilities
- Marine - ships, barges, and offshore structures
- High humidity and moisture areas
- Areas requiring good chemical resistance to splash, spillage, and fumes
- Acceptable for use in areas of high H2S
- Acceptable for use with cathodic protection systems

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP10/NACE 2

System Tested*:

1 ct. Sher-Glass FF @ 15.0 mils (375 microns) w/ Standard Hardener

*unless otherwise noted below

Test Name	Test Method	Results
Adhesion	ASTM D4541, Patti Tester	1100 psi
Corrosion Weathering Resistance	ASTM D5894, 12 cycles, 4032 hours	Rating 10 per ASTM D714 for Blistering; Rating 10 per ASTM D610 for Rusting
Direct Impact Resistance	ASTM D2794	32 in. lbs.
Dry Heat Resistance	ASTM D2485, Method A, Water Quench Test	400°F (204°C) (discolors)
Flexibility	ASTM D522	6% elongation - Passes 3/4 inch mandrel
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 4200 hours	Rating 10 per ASTM D714 for Blistering; Rating 10 per ASTM D610 for Rusting
Pencil Hardness	ASTM D3363	3H
Salt Fog Resistance	ASTM B117, 4200 hours	Rating 10 per ASTM D714 for Blistering; Rating 10 per ASTM D610 for Rusting

Epoxy coatings may darken or yellow following application and curing.

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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	(Microns)
Immersion Service:			
Steel:			
2 cts.	Sher-Glass FF	8.0-20.0	(200-500)
or			
1 ct.	Dura-Plate 235	4.0-8.0	(100-200)
1 ct.	Sher-Glass FF	8.0-20.0	(200-500)
or			
1 ct.	Copoxy Shop Primer	3.0-5.0	(75-125)
1 ct.	Sher-Glass FF	8.0-20.0	(200-500)
Concrete (Smooth):			
1 ct	Corobond 100	4.0-6.0	(100-150)
2 cts.	Sher-Glass FF	8.0-20.0	(200-500)
Concrete (Rough):			
1 ct.	Steel -Seam FT910, as required to fill voids and provide a continuous substrate, up to 1".*		
2 cts.	Sher-Glass FF	8.0-20.0	(200-500)
Atmospheric Service:			
Steel:			
1-2 cts.	Sher-Glass FF	8.0-20.0	(200-500)
or			
1 ct.	Dura-Plate 235	4.0-8.0	(100-200)
1 ct.	Sher-Glass FF	8.0-20.0	(200-500)
or			
1 ct.	Copoxy Shop Primer	3.0-5.0	(75-125)
1 ct.	Sher-Glass FF	8.0-20.0	(200-500)
Steel, Urethane topcoat:			
1ct.	Sher-Glass FF	8.0-20.0	(200-500)
1 ct.	Acrolon 218 HS Polyurethane	3.0-6.0	(75-150)

*Kem Cati-Coat Epoxy Filler/Sealer may also be acceptable.

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:
- Atmospheric: SSPC-SP12NACE 5, WJ-4 (with existing profile) or SSPC-SP3 or SSPC-SP2
- Immersion: SSPC-SP10/NACE 2, 2-3 mil (50-75 micron)profile or SSPC-SP12/NACE 5, WJ-2/SC-2 (with existing profile)

Concrete & Masonry:
- Atmospheric: SSPC-SP 13/NACE 6, or ICRI No. 310.2, CSP 1-3
- Immersion: SSPC-SP 13/NACE 6, 6-4.3.1 or 4.3.2, or ICRI No. 310.2, CSP 1-3

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	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:

Standard Hardener:	Air & Material	55°F (13°C) minimum
	Surface	120°F (49°C) maximum
Low Temp Hardener:	Air & Material	40°F (4.5°C) minimum
	Surface	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.

Do not use low temperature hardener above 80°F (27°C)

ORDERING INFORMATION

Packaging: 5 gallons (18.9L) mixed
- Part A: 4 gallons (15.1L) in a slack filled five gallon container
- Part B: 1 gallon (3.78L)

Weight: 11.54 ± 0.3 lb/gal ; 1.4 Kg/L (mixed)

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.

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APPLICATION BULLETIN

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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 (atmospheric service)
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Ultra High Pressure Water Jetting for Steel per SSPC-SP12/NACE 5, WJ-4 (with existing profile) or SSPC-SP3 Power Tool Clean or SSPC-SP2 Hand Tool Clean. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Coat any bare steel the same day as it is cleaned or before flash rusting occurs.

Iron & Steel, Immersion Service:
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 or SSPC-SP12/NACE 2. For SSPC-SP10, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). For SSPC-SP12/NACE 2, all surfaces to be coated shall be cleaned in accordance with WJ-2/SC-2 standards. Pre-existing profile should be approximately 2 mils (50 microns). Light rust bloom is allowed. Remove all weld spatter and round all sharp edges. Prime any bare steel the same day as it is cleaned.

Note: If blast cleaning with steel media is used, an appropriate amount of steel grit blast media may be incorporated into the work mix to render a dense, angular 2.0-3.0 mil (50-75 micron) surface profile. This method may result in improved adhesion and performance.

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:
Standard Hardener: Air & Material 55°F (13°C) minimum; Surface 120°F (49°C) maximum
Low Temp Hardener: Air & Material 40°F (4.5°C) minimum; Surface 120°F (49°C) maximum
At least 5°F (2.8°C) above dew point.
Relative humidity: 85% maximum

Do not use low temperature hardener above 80°F (27°C)

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.

Reducer/Clean Up
Reducer R2K4
Use of any other solvent than xylene, R2K4 may affect the performance or compliance of this product for its intended service

Airless Spray
Pump.....45:1 minimum
Pressure.....3600 psi minimum
Hose.....3/8" ID
Tip.....0.031" - 0.041"
Filter.....none
Reduction.....as needed up to 10% by volume

Conventional Spray
Gun.....Binks 95
Fluid Nozzle.....66
Air Nozzle.....68 PB
Atomization Pressure.....80 psi
Fluid Pressure.....30 psi
Reduction.....as needed up to 10% by volume

Keep pressure pot at level of applicator to avoid blocking of fluid line due to weight of material. Blow back coating in fluid line at intermittent shutdowns, but continue agitation at pressure pot.

Brush
Brush.....Nylon/Polyester Natural Bristle
Reduction.....not recommended

Roller
Cover.....3/8"-1/2" woven with solvent resistant core
Reduction.....not recommended

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

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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with low speed power agitation. Make certain no pigment remains on the bottom of the can. Then combine 4 parts by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation at slow speeds. Allow the material to sweat-in as indicated. Prior to use, pour through a 30-60-mesh screen and re-stir before using.

If reducer solvent is used, add only after components have been thoroughly mixed, after sweat-in.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**10.0** (250)	**26.0** (625)
Dry mils (microns)	**8.0** (200)	**20.0** (500)
~Coverage sq ft/gal (m^2/L)	**61** (1.5)	**152** (3.7)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1216** (29.8)	

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 15.0 mils wet (375 microns):

With B62V525	**@ 55°F/13°C**	**@ 77°F/25°C *50% RH***	**@ 120°F/49°C**
To touch:	7 hours	4 hours	80 minutes
To handle:	9 hours	4.5 hours	90 minutes
To recoat:			
minimum:	48 hours	18 hours	4 hours
maximum:	60 days	60 days	45 days
To cure:	14 days	7 days	3 days
Heat Cure:	8 hours @ ambient, then 16 hours @ 140°F (60°C)		
If maximum recoat time is exceeded, abrade surface before recoating.			
Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	4 hours	2 hours	30 minutes
Sweat-in-time:	30 minutes	15 minutes	none

Drying Schedule @ 15.0 mils wet (375 microns):

With B62V526*	**@ 40°F/4.5°C**	**@ 77°F/25°C *50% RH***
To touch:	24 hours	2 hours
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Heat Cure:	8 hours @ ambient, then 16 hours @ 140°F (60°C)	
If maximum recoat time is exceeded, abrade surface before recoating.		
Drying time is temperature, humidity, and film thickness dependent.		
Pot Life:	2 hours	30 minutes
Sweat-in-Time:	10 minutes	none

***Do not use Sher-Glass Low Temp Hardener above 80°F (27°C)**

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

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 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, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance and adhesion.

Excessive film build, poor ventilation, and cool temperatures may cause solvent entrapment and premature coating failure.

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

Do not mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

Do not use the Low Temp Hardener above 80°F (27°C)

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

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with R2K4, or R7K100. Clean tools immediately after use with R2K4, or R7K100. Follow manufacturer's safety recommendations when using any solvent.

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