



ArmorSeal Heavy Duty Floor Coatings

ARMORSEAL® 8100 WATER BASED EPOXY FLOOR COATING

PART A
PART A
PART B

B70-8100 SERIES
B70-8160 SERIES
B70V8100

GLOSS
SATIN
HARDENER

Revised: June. 15, 2016

PRODUCT INFORMATION

8.18

PRODUCT DESCRIPTION

ARMORSEAL 8100 is the next generation in water based epoxy floor coatings; a two-component polyamine epoxy with excellent chemical and abrasion resistance that is breathable. It is designed for use in commercial, industrial and residential floor applications. A LEED 4.2 compliant material that offers improved performance while maintaining ease of application properties common to water based materials. This versatile material is self-priming over concrete, can be used as a stand alone coating or as a receiver coat for paint chip floors. Available in a gloss or satin finish

- Breathable
- <50 g/L
- Color Retention, resists yellowing
- Resists disbondment due to Moisture Vapor Transmission (MVT)
- Ease of application

PRODUCT CHARACTERISTICS

Finish: Gloss or Satin
Color: Clear*, Tile Red, Deck Gray, Haze Gray and a wide range of tinted colors using CCE colorants
Safety Colors Gloss only

* For Clear, use the Ultra Deep Base (for more detail, see Application Bulletin Performance Tips)

Volume Solids: 41% ± 2%, mixed, may vary by color
Weight Solids: 50% ± 2%, mixed, may vary by color
VOC (EPA Method 24): <50 g/L; 0.42 lb/gal, mixed
Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	10.0 (250)
Dry mils (microns)	2.0 (50)	4.0 (100)
~Coverage sq ft/gal (m²/L)	160 (4.1)	320 (8.1)

NOTE: Brush or roll to cove base or vertical surfaces may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 7.0 mils wet (175 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	1 hour	45 minutes	25 minutes
To recoat*:			
minimum:	8 hours	6 hours	3 hours
maximum:	30 days	30 days	30 days
To Cure	7 days	7 days	7 days
Foot Traffic:		18 hours	
Heavy Traffic:		48 hours	
<i>Drying time is temperature, humidity, and film thickness dependent.</i>			
<i>*If recoating after 30 days, abrade surface first.</i>			
Pot Life:	8 hours	5½ hours	3½ hours
Sweat-in-Time:	None	None	None

Shelf Life: Part A: 24months, unopened
Part B: 36 months
Store indoors at 40°F (4.5°C) to 100°F (38°C)
Flash Point: >230°F (110°C), Seta Flash, mixed
Reducer/Clean Up: Water

RECOMMENDED USES

Durable epoxy floor coating for general purpose use in industrial and commercial environments, such as:

- Warehouse Floors
- Garages
- Residential
- Automotive Showrooms
- Industrial and Commercial Floors
- Light manufacturing Plants
- Acceptable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Substrate: Concrete

Surface Preparation: Clean, dry, sound

System Tested:

2 cts. ArmorSeal 8100 @ 2.0 - 4.0 mils (50-100 microns) dft

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	150 mg loss
Adhesion	ASTM D4541	550 psi concrete
Finish	Satin Gloss	15-25 units@ 85° 90+ units @ 60°
Flexibility	ASTM D 522	180° bend 1/8" mandrel
Impact Resistance	ASTM D2794	Direct 100 in.lb. Indirect 80 in.lb.
Pencil Hardness	ASTM D3363	H
Slip Resistance, Floors	ASTM C1028**, .60 Minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive
WVP Perms (US)	Grains(hr ft ² in Hg)	Gloss – 2.0 Satin – 5.0
Hot Tire Pick-up	ITM @ 140°F (60°C)	Passes

**Test method withdrawn in 2014 without replacement



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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
Concrete Floors, unpainted:		
1 ct. ArmorSeal 8100 Finish (reduced with one pint of water per gallon)	2.0-4.0	(50-100)
2 cts. ArmorSeal 8100 Finish	2.0-4.0	(50-100)
Concrete Floors, previously painted:		
1 ct. Spot prime bare areas with ArmorSeal 8100 Finish	2.0-4.0	(50-100)
2 cts. ArmorSeal 8100 Finish	2.0-4.0	(50-100)

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

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.

Do not use hydrocarbon solvents for cleaning.

Minimum recommended surface preparation:
Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP1-3

TINTING

Tint part A with CCE colorants at 100% strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

APPLICATION CONDITIONS

Temperature: 50°F (10°C) minimum, 100°F (38°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) above dew point
Relative humidity: 75% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging: 1 gallon (3.78L) and 5 gallon (18.9L) containers
Weight: 9.9 ± 0.2 lb/gal ; 1.12 Kg/L
mixed, may vary by color

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

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WARRANTY

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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.

Do not use hydrocarbon solvents for cleaning.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3. 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.

Previously Painted Surfaces

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

APPLICATION CONDITIONS

Temperature: 50°F (10°C) minimum, 100°F (38°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

APPLICATION EQUIPMENT

The following is a guide. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean UpWater
Clear/Ultradeep tint base
requires reduction of 5% by volume

Brush

Brush.....Nylon/Polyester or Natural Bristle
Reduction.....as needed up to 10% by volume, for primer coat only

Roller

Cover 1/4"-3/8" woven with solvent resistant core
Reduction.....as needed up to 10% by volume, for primer coat only

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

Surface Preparation Standards

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



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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 four parts by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation.

If reducer is used, add only after both components have been thoroughly mixed.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	10.0 (250)
Dry mils (microns)	2.0 (50)	4.0 (100)
~Coverage sq ft/gal (m ² /L)	160 (4.1)	320 (8.1)

NOTE: Brush or roll to cover base or vertical surfaces may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 7.0 mils wet (175 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	1 hour	1 hour	30 minutes
To recoat*:			
minimum:	8 hours	6 hours	3 hours
maximum:	30 days	30 days	30 days
To Cure	7 days	7 days	7 days
Foot Traffic:	36 hours	18 hours	8 hours
Drying time is temperature, humidity, and film thickness dependent.			
*If recoating after 30 days, abrade surface first.			
Pot Life:	8 hours	5½ hours	3½ hours
Sweat-in-Time:	None	None	None

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 soap and warm water. Clean hands and tools immediately after use with soap and warm water.

DISCLAIMER

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PERFORMANCE TIPS

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. Plan painting schedules to avoid these influences during the first 16-24 hours of curing.

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.

For Clear applications, use the Ultra Deep Base, reduce 5% with potable water. When first mixed and applied, the material is white, but will dry Clear. DO NOT exceed 10 mils WFT. Avoid puddling material at edges or in depressions as it may not dry clear.

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

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

Always test adhesion by applying a test patch of 2-3 square feet. Allow to dry one week before checking adhesion.

Do not use hydrocarbon solvents for cleaning.

Anti-slip additives, such as H&C SharkGrip® or ArmorSeal Hi-Wear Additive, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

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

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

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WARRANTY

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- Breathable
- <50 g/L
- Color Retention, resists yellowing
- Resists disbondment due to Moisture Vapor Transmission (MVT)
- Ease of application

PRODUCT CHARACTERISTICS

Finish: Gloss or Satin
Color: Clear*, Tile Red, Deck Gray, Haze Gray and a wide range of tinted colors using CCE colorants
Safety Colors Gloss only

* For Clear, use the Ultra Deep Base (for more detail, see Application Bulletin Performance Tips)

Volume Solids: 41% ± 2%, mixed, may vary by color
Weight Solids: 50% ± 2%, mixed, may vary by color
VOC (EPA Method 24): <50 g/L; 0.42 lb/gal, mixed
Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	10.0 (250)
Dry mils (microns)	2.0 (50)	4.0 (100)
~Coverage sq ft/gal (m²/L)	160 (4.1)	320 (8.1)

NOTE: Brush or roll to cove base or vertical surfaces may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 7.0 mils wet (175 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	1 hour	45 minutes	25 minutes
To recoat*:			
minimum:	8 hours	6 hours	3 hours
maximum:	30 days	30 days	30 days
To Cure	7 days	7 days	7 days
Foot Traffic:		18 hours	
Heavy Traffic:		48 hours	
<i>Drying time is temperature, humidity, and film thickness dependent.</i>			
<i>*If recoating after 30 days, abrade surface first.</i>			
Pot Life:	8 hours	5½ hours	3½ hours
Sweat-in-Time:	None	None	None

Shelf Life: Part A: 24 months, unopened
Part B: 36 months
Store indoors at 40°F (4.5°C) to 100°F (38°C)

Flash Point: >230°F (110°C), Seta Flash, mixed

Reducer/Clean Up: Water

RECOMMENDED USES

Durable epoxy floor coating for general purpose use in industrial and commercial environments, such as:

- Warehouse Floors
- Garages
- Residential
- Automotive Showrooms
- Industrial and Commercial Floors
- Light manufacturing Plants
- Acceptable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Substrate: Concrete

Surface Preparation: Clean, dry, sound

System Tested:

2 cts. ArmorSeal 8100 @ 2.0 - 4.0 mils (50-100 microns) dft

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	150 mg loss
Adhesion	ASTM D4541	550 psi concrete
Finish	Satin Gloss	15-25 units @ 85° 90+ units @ 60°
Flexibility	ASTM D 522	180° bend 1/8" mandrel
Impact Resistance	ASTM D2794	Direct 100 in.lb. Indirect 80 in.lb.
Pencil Hardness	ASTM D3363	H
Slip Resistance, Floors	ASTM C1028**, .60 Minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive
WVP Perms (US)	Grains(hr ft ² in Hg)	Gloss – 2.0 Satin – 5.0
Hot Tire Pick-up	ITM @ 140°F (60°C)	Passes

**Test method withdrawn in 2014 without replacement



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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
Concrete Floors, unpainted:		
1 ct. ArmorSeal 8100 Finish (reduced with one pint of water per gallon)	2.0-4.0	(50-100)
2 cts. ArmorSeal 8100 Finish	2.0-4.0	(50-100)
Concrete Floors, previously painted:		
1 ct. Spot prime bare areas with ArmorSeal 8100 Finish	2.0-4.0	(50-100)
2 cts. ArmorSeal 8100 Finish	2.0-4.0	(50-100)

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

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.

Do not use hydrocarbon solvents for cleaning.

Minimum recommended surface preparation:
Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP1-3

TINTING

Tint part A with CCE colorants at 100% strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

APPLICATION CONDITIONS

Temperature: 50°F (10°C) minimum, 100°F (38°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) above dew point
Relative humidity: 75% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging: 1 gallon (3.78L) and 5 gallon (18.9L) containers
Weight: 9.9 ± 0.2 lb/gal ; 1.12 Kg/L
mixed, may vary by color

SAFETY PRECAUTIONS

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Relative humidity: 85% maximum

APPLICATION EQUIPMENT

The following is a guide. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean UpWater
Clear/Ultradeep tint base
requires reduction of 5% by volume

Brush

Brush.....Nylon/Polyester or Natural Bristle
Reduction.....as needed up to 10% by volume, for primer coat only

Roller

Cover 1/4"-3/8" woven with solvent resistant core
Reduction.....as needed up to 10% by volume, for primer coat only

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

Surface Preparation Standards

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



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If reducer is used, add only after both components have been thoroughly mixed.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
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~Coverage sq ft/gal (m ² /L)	160 (4.1)	320 (8.1)

NOTE: Brush or roll to cover base or vertical surfaces may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 7.0 mils wet (175 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	1 hour	1 hour	30 minutes
To recoat*:			
minimum:	8 hours	6 hours	3 hours
maximum:	30 days	30 days	30 days
To Cure	7 days	7 days	7 days
Foot Traffic:	36 hours	18 hours	8 hours
Drying time is temperature, humidity, and film thickness dependent.			
*If recoating after 30 days, abrade surface first.			
Pot Life:	8 hours	5½ hours	3½ hours
Sweat-in-Time:	None	None	None

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 soap and warm water. Clean hands and tools immediately after use with soap and warm water.

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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.

For Clear applications, use the Ultra Deep Base, reduce 5% with potable water. When first mixed and applied, the material is white, but will dry Clear. DO NOT exceed 10 mils WFT. Avoid puddling material at edges or in depressions as it may not dry clear.

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

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

Always test adhesion by applying a test patch of 2-3 square feet. Allow to dry one week before checking adhesion.

Do not use hydrocarbon solvents for cleaning.

Anti-slip additives, such as H&C SharkGrip® or ArmorSeal Hi-Wear Additive, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

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ARMORSEAL® 1000 HS

PART A
PART B

B67-2000
B67V2002

SERIES
HARDENER

Revised: May 10, 2016

PRODUCT INFORMATION

8.22

PRODUCT DESCRIPTION

ARMORSEAL 1000 HS is a high solids, heavy duty, two-component, catalyzed, polyamide epoxy coating formulated for demanding marine and industrial requirements. Dries rapidly to a tough, high gloss finish with excellent resistance to alkalies, abrasion, corrosion, and chemical attack.

- Chemical Resistant
- Impact Resistant
- Abrasion Resistant
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:	Gloss
Color:	Clear, Haze Gray, Deck Gray, White, Sandstone, Tile Red, Safety Yellow, and a wide range of tinted colors
Volume Solids, mixed:	colors - 65% ± 2% may vary by color clear - 61% ± 2%
Weight Solids, mixed:	74% ± 2%, may vary by color
VOC (EPA Method 24), mixed, may vary by color:	Unreduced: <340 g/L; 2.8 lb/gal clear <400 g/L; 3.33 lb/gal
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	8.0 (200)
Dry mils (microns)	3.0 (75)	5.0 (125)
~Coverage sq ft/gal (m ² /L)	206 (5.0)	350 (8.6)
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	1040 (25.5)	

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

Drying Schedule @ 6.0 mils (150 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	4 hours	2 hours	30 minutes
To recoat:			
minimum:	24 hours	8 hours	4 hours
maximum:	7 days	7 days	7 days
Foot traffic:	48 hours	24 hours	12 hours
Heavy traffic:	4-5 days	48-72 hours	24-36 hours
To cure:	10 days	7 days	4 days
If maximum recoat time is exceeded, abrade surface before topcoating.			
Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	6 hours	4 hours	2 hours
Sweat-in-Time:	2 hours	30 minutes	10 minutes

Shelf Life:	36 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C)
Flash Point:	>105°F (41°C), Seta, mixed
Reducer/Clean Up:	Reducer #54, R7K54

RECOMMENDED USES

- For industrial, commercial, or marine applications where a heavy duty epoxy coating is required.
- Superior resistance to chemicals, moisture, abrasion, and impact
- Meets ADA requirements for slip resistance for floors
- Excellent resistance to alkalies, dilute acids, spillage of solvents, chemicals, jet fuel, grease, etc.
- Clear finish for interior use only
- Suitable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Substrate*: Concrete

Surface Preparation*: Clean, dry, sound

System Tested*:

1 ct. ArmorSeal 1000 HS (reduced)

1 ct. ArmorSeal 1000 HS @ 3.0-5.0 mils (75-125 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 Kg load	64.8 mg loss
Adhesion, over concrete	ASTM D4541	350 psi, 100% concrete failure
Direct Impact Resistance (steel)	ASTM D2794	58 in. lbs
Dry Heat Resistance	ASTM D2485	180°F (82°C)
Flexibility (steel)	ASTM D522, 180° bend, 1/8" mandrel	Passes
Pencil Hardness	ASTM D3363	HB
Slip Resistance, Floors	ASTM C1028**, .60 minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive

**Test method withdrawn in 2014 without replacement

Epoxy coatings may darken or yellow following application and curing.



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RECOMMENDED SYSTEMS

Dry Film Thickness / ct.

Mils (Microns)

Concrete/Wood:

1 ct.	ArmorSeal 1000 HS	2.5-4.0 (63-100)
	(reduced as necessary up to 1 pt/gal with R7K54)*	
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)
	(with anti-slip aggregate if required)	

Concrete:

1 ct.	ArmorSeal 33 Epoxy Primer/Sealer	8.0 (200)
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)
	(with anti-slip aggregate if required)	

Steel:

1 ct.	Recoatable Epoxy Primer	4.0-5.0 (100-125)
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)

Painted Surfaces in Sound Condition:

1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)
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*Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

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

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:	SSPC-SP6/NACE 3
Concrete & Masonry:	SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3
Wood, interior:	Clean, smooth, dust free
*Primer Required	

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	C St 2	C St 2	SP 2	-
Rusted	D St 2	D St 2	SP 2	-
Pitted & Rusted	D St 3	D St 3	SP 3	-
Power Tool Cleaning	D St 3	D St 3	SP 3	-

TINTING

White and Ultradeep may be tinted with Maxitoner Colorants at 200% tinting strength into Part A. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

APPLICATION CONDITIONS

Temperature:	50°F (10°C) minimum, 120°F (49°C) maximum (air, surface, and material) 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:	1 gallon (3.78L) containers
Part B:	1 gallon (3.78L) containers (clear available in 5 gallon /18.9L containers)
Weight:	12.51 ± 0.2 lb/gal ; 1.5 Kg/L mixed, may vary by color

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.

DISCLAIMER

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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 Commercial Blast Cleaning per SSPC-SP6/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3. 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.

Previously Painted Surfaces

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

APPLICATION CONDITIONS

Temperature: 50°F (10°C) minimum, 120°F (49°C) maximum
(air, surface, and material)
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.

Reducer/Clean Up Reducer #54, R7K54

Airless Spray

Pressure.....2500 psi
Hose.....3/8" ID
Tip0.015" - .021"
Filter60 mesh
Reduction.....As needed up to 10% by volume

Brush

Nylon/Polyester or Natural Bristle
Reduction.....As needed up to 10% by volume

Roller

Cover3/8" woven with solvent resistant core
Reduction.....As needed up to 10% by volume

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

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 2	4
Hand Tool Cleaning	CSa 2	CSa 2	SP 2	-
Rusted	CSa 1	CSa 1	SP 2	-
Pitted & Rusted	CSa 2	CSa 2	SP 2	-
Rusted	CSa 3	CSa 3	SP 3	-
Power Tool Cleaning	DSt 3	DSt 3	SP 3	-
Pitted & Rusted	DSt 3	DSt 3	SP 3	-



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with low speed power agitation. Combine one Part A with one Part B by volume and mix for 3 minutes and until uniform. Allow the material to sweat-in as indicated. Re-stir before using.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	8.0 (200)
Dry mils (microns)	3.0 (75)	5.0 (125)
~Coverage sq ft/gal (m ² /L)	206 (5.0)	350 (8.6)
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	1040 (25.5)	

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

Drying Schedule @ 6.0 mils (150 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	4 hours	2 hours	30 minutes
To recoat:			
minimum:	24 hours	8 hours	4 hours
maximum:	7 days	7 days	7 days
Foot traffic:	48 hours	24 hours	12 hours
Heavy traffic:	4-5 days	48-72 hours	24-36 hours
To cure:	10 days	7 days	4 days
<i>If maximum recoat time is exceeded, abrade surface before topcoating.</i>			
<i>Drying time is temperature, humidity, and film thickness dependent.</i>			
Pot Life:	6 hours	4 hours	2 hours
Sweat-in-Time:	2 hours	30 minutes	10 minutes

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 Reducer #54, R7K54. Clean tools immediately after use with Reducer #54, R7K54. Follow manufacturer's safety recommendations when using any solvent.

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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.

No reduction of material is recommended as it can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #54, R7K54

Material can not be sprayed if anti-slip aggregate is use.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Anti-slip additive may be mixed into the final coat just prior to application. Exception: if anti-slip is desired with Clear finish, it should be hand broadcast.

Prime coat for concrete may be reduced up to 1 pint per gallon.

Clear is for interior use only.

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

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PRODUCT INFORMATION

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PRODUCT DESCRIPTION

ARMORSEAL 1000 HS is a high solids, heavy duty, two-component, catalyzed, polyamide epoxy coating formulated for demanding marine and industrial requirements. Dries rapidly to a tough, high gloss finish with excellent resistance to alkalies, abrasion, corrosion, and chemical attack.

- Chemical Resistant
- Impact Resistant
- Abrasion Resistant
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:	Gloss
Color:	Clear, Haze Gray, Deck Gray, White, Sandstone, Tile Red, Safety Yellow, and a wide range of tinted colors
Volume Solids, mixed:	colors - 65% ± 2% may vary by color clear - 61% ± 2%
Weight Solids, mixed:	74% ± 2%, may vary by color
VOC (EPA Method 24), mixed, may vary by color:	Unreduced: <340 g/L; 2.8 lb/gal clear <400 g/L; 3.33 lb/gal
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	8.0 (200)
Dry mils (microns)	3.0 (75)	5.0 (125)
~Coverage sq ft/gal (m ² /L)	206 (5.0)	350 (8.6)
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	1040 (25.5)	

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

Drying Schedule @ 6.0 mils (150 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	4 hours	2 hours	30 minutes
To recoat:			
minimum:	24 hours	8 hours	4 hours
maximum:	7 days	7 days	7 days
Foot traffic:	48 hours	24 hours	12 hours
Heavy traffic:	4-5 days	48-72 hours	24-36 hours
To cure:	10 days	7 days	4 days
If maximum recoat time is exceeded, abrade surface before topcoating.			
Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	6 hours	4 hours	2 hours
Sweat-in-Time:	2 hours	30 minutes	10 minutes

Shelf Life:	36 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C)
Flash Point:	>105°F (41°C), Seta, mixed
Reducer/Clean Up:	Reducer #54, R7K54

RECOMMENDED USES

- For industrial, commercial, or marine applications where a heavy duty epoxy coating is required.
- Superior resistance to chemicals, moisture, abrasion, and impact
- Meets ADA requirements for slip resistance for floors
- Excellent resistance to alkalies, dilute acids, spillage of solvents, chemicals, jet fuel, grease, etc.
- Clear finish for interior use only
- Suitable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Substrate*: Concrete

Surface Preparation*: Clean, dry, sound

System Tested*:

1 ct. ArmorSeal 1000 HS (reduced)

1 ct. ArmorSeal 1000 HS @ 3.0-5.0 mils (75-125 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 Kg load	64.8 mg loss
Adhesion, over concrete	ASTM D4541	350 psi, 100% concrete failure
Direct Impact Resistance (steel)	ASTM D2794	58 in. lbs
Dry Heat Resistance	ASTM D2485	180°F (82°C)
Flexibility (steel)	ASTM D522, 180° bend, 1/8" mandrel	Passes
Pencil Hardness	ASTM D3363	HB
Slip Resistance, Floors	ASTM C1028**, .60 minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive

**Test method withdrawn in 2014 without replacement

Epoxy coatings may darken or yellow following application and curing.



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RECOMMENDED SYSTEMS

Dry Film Thickness / ct.

Mils (Microns)

Concrete/Wood:

1 ct.	ArmorSeal 1000 HS	2.5-4.0 (63-100)
	(reduced as necessary up to 1 pt/gal with R7K54)*	
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)
	(with anti-slip aggregate if required)	

Concrete:

1 ct.	ArmorSeal 33 Epoxy Primer/Sealer	8.0 (200)
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)
	(with anti-slip aggregate if required)	

Steel:

1 ct.	Recoatable Epoxy Primer	4.0-5.0 (100-125)
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)

Painted Surfaces in Sound Condition:

1-2 cts.	ArmorSeal 1000 HS	3.0-5.0 (75-125)
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*Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

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

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:	SSPC-SP6/NACE 3
Concrete & Masonry:	SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3
Wood, interior:	Clean, smooth, dust free
*Primer Required	

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	C St 2	C St 2	SP 2	-
Rusted	D St 2	D St 2	SP 2	-
Pitted & Rusted	D St 3	D St 3	SP 3	-
Power Tool Cleaning	D St 3	D St 3	SP 3	-

TINTING

White and Ultradeep may be tinted with Maxitoner Colorants at 200% tinting strength into Part A. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

APPLICATION CONDITIONS

Temperature:	50°F (10°C) minimum, 120°F (49°C) maximum (air, surface, and material) 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:	1 gallon (3.78L) containers
Part B:	1 gallon (3.78L) containers (clear available in 5 gallon /18.9L containers)
Weight:	12.51 ± 0.2 lb/gal ; 1.5 Kg/L mixed, may vary by color

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.

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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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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 Commercial Blast Cleaning per SSPC-SP6/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3. 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.

Previously Painted Surfaces

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

APPLICATION CONDITIONS

Temperature: 50°F (10°C) minimum, 120°F (49°C) maximum
(air, surface, and material)
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.

Reducer/Clean UpReducer #54, R7K54

Airless Spray

Pressure.....2500 psi
Hose.....3/8" ID
Tip0.015" - .021"
Filter60 mesh
Reduction.....As needed up to 10% by volume

Brush

Nylon/Polyester or Natural Bristle
Reduction.....As needed up to 10% by volume

Roller

Cover3/8" woven with solvent resistant core
Reduction.....As needed up to 10% by volume

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

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 2	4
Hand Tool Cleaning	CSa 2	CSa 2	SP 2	-
Rusted	CSa 1	CSa 1	SP 2	-
Pitted & Rusted	CSa 2	CSa 2	SP 2	-
Rusted	CSa 3	CSa 3	SP 3	-
Power Tool Cleaning	DSt 3	DSt 3	SP 3	-
Pitted & Rusted	DSt 3	DSt 3	SP 3	-



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with low speed power agitation. Combine one Part A with one Part B by volume and mix for 3 minutes and until uniform. Allow the material to sweat-in as indicated. Re-stir before using.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	5.0 (125)	8.0 (200)
Dry mils (microns)	3.0 (75)	5.0 (125)
~Coverage sq ft/gal (m ² /L)	206 (5.0)	350 (8.6)
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	1040 (25.5)	

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

Drying Schedule @ 6.0 mils (150 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	4 hours	2 hours	30 minutes
To recoat:			
minimum:	24 hours	8 hours	4 hours
maximum:	7 days	7 days	7 days
Foot traffic:	48 hours	24 hours	12 hours
Heavy traffic:	4-5 days	48-72 hours	24-36 hours
To cure:	10 days	7 days	4 days
If maximum recoat time is exceeded, abrade surface before topcoating. Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	6 hours	4 hours	2 hours
Sweat-in-Time:	2 hours	30 minutes	10 minutes

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 Reducer #54, R7K54. Clean tools immediately after use with Reducer #54, R7K54. Follow manufacturer's safety recommendations when using any solvent.

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

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.

No reduction of material is recommended as it can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #54, R7K54

Material can not be sprayed if anti-slip aggregate is use.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Anti-slip additive may be mixed into the final coat just prior to application. Exception: if anti-slip is desired with Clear finish, it should be hand broadcast.

Prime coat for concrete may be reduced up to 1 pint per gallon.

Clear is for interior use only.

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.

Material Safety Data Sheets

MATERIAL SAFETY DATA SHEET

B70W8111
10 00

DATE OF PREPARATION
May 28, 2016

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B70W8111

PRODUCT NAME

ARMORSEAL® 8100 Gloss (Part A), Extra White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 524-5979 www.sherwin-williams.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
19	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic skin reaction in susceptible persons.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMIS Codes

Health	2*
Flammability	0
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT

Not Applicable

LEL

Not

Applicable

UEL

Not

Applicable

FLAMMABILITY CLASSIFICATION

Not Applicable

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally.

Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Required for long or repeated contact.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	10.30 lb/gal	1233 g/l
SPECIFIC GRAVITY	1.24	
BOILING POINT	212 - 213 °F	100 - 100 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	56%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	> 2.0, < 11.5	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
0.00 lb/gal	0 g/l	Less Water and Federally Exempt Solvents
0.00 lb/gal	0 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
13463-67-7	Titanium Dioxide	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

Not Regulated for Transportation.

Canada (TDG)

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IATA/ICAO

Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
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No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

B70V8100
06 00

DATE OF PREPARATION
Jun 29, 2015

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B70V8100

PRODUCT NAME

ARMORSEAL® 8100 (Part B), Hardener

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 524-5979 www.sherwin-williams.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
2	9046-10-0	Poly(oxypropylene)diamine		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
28	Proprietary	Polyamine		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Causes burns.

SKIN: Causes burns.

INHALATION: Irritation of the upper respiratory system.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic skin reaction in susceptible persons or skin sensitization.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMIS Codes

Health	3
Flammability	0
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention **IMMEDIATELY**.

SKIN: Wash affected area thoroughly with soap and water.

If irritation persists or occurs later, get medical attention.

Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	Not Applicable	Not Applicable	Not Applicable

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally.

Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Do not get in eyes or on skin. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

To prevent skin contact, wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

To prevent eye contact, wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.68 lb/gal	1040 g/l
SPECIFIC GRAVITY	1.04	
BOILING POINT	212 - 213 °F	100 - 100 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	69%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	> 2.0, < 11.5	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.00 lb/gal 0 g/l Less Water and Federally Exempt Solvents
 0.00 lb/gal 0 g/l Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
9046-10-0	Poly(oxypropylene)diamine			
	LC50 RAT	4HR	Not Available	
	LD50 RAT		Not Available	
Proprietary	Polyamine			
	LC50 RAT	4HR	Not Available	
	LD50 RAT		Not Available	

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

Not Regulated for Transportation.

Canada (TDG)

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IATA/ICAO

Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
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No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

B67W2001
15 00

DATE OF PREPARATION
May 28, 2016

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B67W2001

PRODUCT NAME

ARMORSEAL® 1000 HS Epoxy (Part A), Extra White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 524-5979 www.sherwin-williams.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
2	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
11	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
2	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
6	100-51-6	Phenylmethanol		
		ACGIH TLV	Not Available	0.15 mm
		OSHA PEL	Not Available	
3	108-65-6	1-Methoxy-2-Propanol Acetate		
		ACGIH TLV	Not Available	1.8 mm
		OSHA PEL	Not Available	
2	9046-10-0	Poly(oxypropylene)diamine		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
2	140-31-8	n-Aminoethyl Piperazine		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
14	68410-23-1	Polyamide		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
38	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Causes burns.

SKIN: Causes burns.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the nervous system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic skin reaction in susceptible persons or skin sensitization.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMIS Codes

Health	3*
Flammability	2
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention **IMMEDIATELY**.

SKIN: Wash affected area thoroughly with soap and water.

If irritation persists or occurs later, get medical attention.

Remove contaminated clothing and laundry before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

105 °F PMCC

LEL

0.7

UEL

13.1

FLAMMABILITY CLASSIFICATION

Combustible, Flash above 99 and below 200 °F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

DOL Storage Class II

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are COMBUSTIBLE. Keep away from heat and open flame.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally.

Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Do not get in eyes or on skin. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

To prevent skin contact, wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

To prevent eye contact, wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	12.51 lb/gal	1499 g/l
SPECIFIC GRAVITY	1.51	
BOILING POINT	277 - 405 °F	136 - 207 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	41%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
3.14 lb/gal	376 g/l	Less Water and Federally Exempt Solvents
3.14 lb/gal	376 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
100-51-6	Phenylmethanol	LC50 RAT LD50 RAT	4HR	Not Available Not Available
108-65-6	1-Methoxy-2-Propanol Acetate	LC50 RAT LD50 RAT	4HR	Not Available 8500 mg/kg
9046-10-0	Poly(oxypropylene)diamine	LC50 RAT LD50 RAT	4HR	Not Available Not Available
140-31-8	n-Aminoethyl Piperazine	LC50 RAT LD50 RAT	4HR	Not Available 2140 mg/kg
68410-23-1	Polyamide	LC50 RAT LD50 RAT	4HR	Not Available Not Available
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be Classed as a Combustible Liquid for U.S. Ground.

UN1263, PAINT, 3, PG III, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Butyl benzyl phthalate 100 lb RQ

Xylenes (mixed isomers) 100 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):

RQ, UN1263, PAINT, 3, PG III, (XYLENES (MIXED ISOMERS)), (ERG#128)

Canada (TDG)

May be Classed as a Combustible Liquid for Canadian Ground.

UN1263, PAINT, 3, PG III, (ERG#128)

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT, 3, PG III, (41 C c.c.), EmS F-E, S-E

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT, 3, PG III, (41 C c.c.), EmS F-E, S-E

IATA/ICAO

UN1263, PAINT, 3, PG III

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene	11	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

B67V2002
10 00

DATE OF PREPARATION
May 28, 2016

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B67V2002

PRODUCT NAME

ARMORSEAL® 1000 HS Epoxy (Part B), Hardener

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 524-5979 www.sherwin-williams.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
3	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
15	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
4	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
3	2426-08-6	Butyl Glycidyl Ether		
		ACGIH TLV	3 ppm (Skin)	0.6 mm
		OSHA PEL	50 PPM	
19	25068-38-6	Epoxy Polymer		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
58	67924-34-9	Epoxy Polymer		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

HMIS Codes

Health	3*
Flammability	3
Reactivity	0

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver

- the urinary system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic skin reaction in susceptible persons or skin sensitization.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.
If irritation persists or occurs later, get medical attention.
Remove contaminated clothing and laundry before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

98 °F PMCC

LEL

1.0

UEL

7.0

FLAMMABILITY CLASSIFICATION

RED LABEL -- Flammable, Flash below 100 °F (38 °C)

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

DOL Storage Class IC

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally.

Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use of barrier cream on exposed skin is recommended.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.88 lb/gal	1063 g/l
SPECIFIC GRAVITY	1.07	
BOILING POINT	277 - 337 °F	136 - 169 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	27%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
1.88 lb/gal	226 g/l	Less Water and Federally Exempt Solvents
1.88 lb/gal	226 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable**CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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TOXICOLOGY DATA

CAS No.	Ingredient Name			
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		LD50 RAT		3500 mg/kg
1330-20-7	Xylene	LC50 RAT	4HR	5000 ppm
		LD50 RAT		4300 mg/kg
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
2426-08-6	Butyl Glycidyl Ether	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
25068-38-6	Epoxy Polymer	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
67924-34-9	Epoxy Polymer	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

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US Ground (DOT)

5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. (PAINT OR RELATED).

Larger Containers are Regulated as:

UN1263, PAINT RELATED MATERIAL, 3, PG III, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Xylenes (mixed isomers) 100 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):

RQ, UN1263, PAINT RELATED MATERIAL, 3, PG III, (XYLENES (MIXED ISOMERS)), (ERG#128)

Canada (TDG)

UN1263, PAINT RELATED MATERIAL, 3, PG III, LIMITED QUANTITY, (ERG#128)

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT RELATED MATERIAL, 3, PG III, (37 C c.c.), EmS F-E, S-E

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT RELATED MATERIAL, 3, PG III, (37 C c.c.), EmS F-E, S-E

IATA/ICAO

UN1263, PAINT RELATED MATERIAL, 3, PG III

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

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SECTION 16 — OTHER INFORMATION

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The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.