



*SeaGuard
Marine &
Specialty
Coatings*

9.42 MIL-DTL-24441C(SH) TYPE III

F159 EPOXY POLYAMIDE ZINC RICH PRIMER

PART A N10A359
PART B N10V359

**GRAY/GREEN
BINDER**

PRODUCT INFORMATION

Revised 4/06

PRODUCT DESCRIPTION		RECOMMENDED USES																																									
<p>MIL-DTL-24441C Type III F159 is a two component, VOC compliant, epoxy polyamide zinc rich primer. This product offers excellent cathodic protection as well as adhesion, water resistance, and chemical resistance.</p>		<p>For use over aluminum and steel substrates to provide chemical and corrosion resistance.</p> <ul style="list-style-type: none"> Complies with MIL-DTL-24441C, F159, Type III. 																																									
PRODUCT CHARACTERISTICS		PERFORMANCE CHARACTERISTICS																																									
<p>Finish: Flat</p> <p>Color: Gray Green, Formula 159</p> <p>Volume Solids: 64.6% ± 2%, mixed</p> <p>Weight Solids: 84.9% ± 2%, mixed</p> <p>VOC (EPA Method 24): Unreduced: <340 g/L; 2.80 lb/gal</p> <p>Zinc Content in Dry Film: 85% by weight</p> <p>Mix Ratio: 2 components, premeasured 1:4 by volume, 2.5 gallon mix</p> <p>Recommended Spreading Rate per coat: Wet mils: 5.0 - 6.0 Dry mils: 3.0 - 4.0 Coverage: 250 - 336 sq ft/gal approximate</p> <p>NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.</p> <p>Drying Schedule 5.0 mils wet @ 50% RH:</p> <table border="1"> <thead> <tr> <th>Temperature</th> <th>dry to touch</th> <th>minimum recoat</th> <th>maximum recoat</th> <th>cure to service</th> </tr> </thead> <tbody> <tr> <td>35-40°F</td> <td>12 hours</td> <td>24 hours</td> <td>14 days</td> <td>6 days</td> </tr> <tr> <td>41-60°F</td> <td>8 hours</td> <td>18 hours</td> <td>12 days</td> <td>5 days</td> </tr> <tr> <td>61-80°F</td> <td>6 hours</td> <td>12 hours</td> <td>10 days</td> <td>4 days</td> </tr> <tr> <td>81-100°F</td> <td>4 hours</td> <td>8 hours</td> <td>7 days</td> <td>64 hours</td> </tr> </tbody> </table> <p>Pot Life: 4 hours at 77°F, 50% RH</p> <p>Sweat-in Time:</p> <table border="1"> <thead> <tr> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>35-60°F</td> <td>2 hours</td> </tr> <tr> <td>61-70°F</td> <td>1-1½ hours</td> </tr> <tr> <td>71-90°F</td> <td>30 minutes - 1 hour</td> </tr> <tr> <td>90°F+</td> <td>none</td> </tr> </tbody> </table> <p>Shelf Life: 36 months, unopened Store indoors at 40°F to 100°F.</p> <p>Flash Point: 99°F, SETA Flash, mixed</p> <p>Reducer/Clean Up: Hi-Flash Naphtha, 154-8767 (Singles) 154-4576 (Fives)</p>	Temperature	dry to touch	minimum recoat	maximum recoat	cure to service	35-40°F	12 hours	24 hours	14 days	6 days	41-60°F	8 hours	18 hours	12 days	5 days	61-80°F	6 hours	12 hours	10 days	4 days	81-100°F	4 hours	8 hours	7 days	64 hours	Temperature	Time	35-60°F	2 hours	61-70°F	1-1½ hours	71-90°F	30 minutes - 1 hour	90°F+	none	<ul style="list-style-type: none"> Complies with Military Specification MIL-DTL-2444C, F159, Type III. For use where SCAQMD Rule 102 air pollution regulations for solvent in marine coatings apply. <table border="1"> <thead> <tr> <th>Color</th> <th>Product/Rex Number</th> </tr> </thead> <tbody> <tr> <td>Zinc Primer Gray/Green 159, Part A</td> <td>N10A359</td> </tr> <tr> <td>Zinc Primer, Part B</td> <td>N10V359</td> </tr> </tbody> </table>		Color	Product/Rex Number	Zinc Primer Gray/Green 159, Part A	N10A359	Zinc Primer, Part B	N10V359
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PRODUCT INFORMATION

RECOMMENDED SYSTEMS	SURFACE PREPARATION
<p>Steel: 1 ct. MIL-DTL-24441C, Type III F159 Primer @ 3.0 - 4.0 mils dft 2 cts. MIL-DTL-24441C, Type III Epoxy @ 3.0 - 4.0 mils dft/ct</p> <p>Steel: 1 ct. MIL-DTL-24441C, Type III F159 Primer @ 3.0 - 4.0 mils dft 2 cts. MIL-DTL-24441C, Type IV Epoxy @ 4.0 - 6.0 mils dft/ct</p> <p>The systems listed above are representative of the product's use. Other systems may be appropriate.</p>	<p>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.</p> <p>Refer to product Application Bulletin for detailed surface preparation information.</p> <p>Minimum recommended surface preparation: Iron & Steel Atmospheric: SSPC-SP6/NACE 3, 2.0 mil profile Immersion: SSPC-SP10/NACE 2, 1.0 - 3.0 mil profile</p> <p style="text-align: center;">TINTING</p> <p>Do not tint.</p> <p style="text-align: center;">APPLICATION CONDITIONS</p> <p>Temperature: air and surface: 35°F minimum, 100°F maximum material: 60°F minimum At least 5°F above dew point Relative humidity: 85% maximum</p> <p>Refer to product Application Bulletin for detailed application information.</p> <p style="text-align: center;">ORDERING INFORMATION</p> <p>Packaging: Part A: 1/2 gallon Part B: 2 gallons in a 3 gallon container</p> <p>Weight per gallon: 23.74 ± 0.5 lb, mixed</p> <p style="text-align: center;">SAFETY PRECAUTIONS</p> <p>Refer to the MSDS sheet before use.</p> <p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>
DISCLAIMER	WARRANTY
<p>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.</p>	<p>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.</p>



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APPLICATION BULLETIN

Revised 4/06

SURFACE PREPARATION	APPLICATION CONDITIONS		
<p>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.</p> <p>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/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (1-3 mils). Remove all weld spatter and round all sharp edges by grinding. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.</p> <p>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. 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). Remove all weld spatter and round all sharp edges by grinding. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.</p>	<p>Temperature: air and surface: 35°F minimum, 100°F maximum material: 60°F minimum At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p> <p>Refer to product Application Bulletin for detailed application information.</p> <tr> <th colspan="2" data-bbox="829 764 1515 806">APPLICATION EQUIPMENT</th> </tr> <p>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.</p> <p>Reducer/Clean Up Hi-Flash Naphtha, 154-8767 (Singles) 154-4576 (Fives)</p> <p>Airless Spray (use Teflon packings and continuous agitation) Pressure 2000 - 3000 psi Hose 3/8" ID Tip019" Filter none Reduction As needed up to 5% by volume</p> <p>Conventional Spray (continuous agitation required) Gun Binks 95 Fluid Nozzle 68 Air Nozzle 68P Atomization Pressure .. 50 psi Fluid Pressure 20 psi Reduction As needed up to 5% by volume</p> <p>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.</p> <p>Brush Brush Small areas only; Natural Bristle Reduction Not recommended</p> <p>If specific application equipment is not listed above, equivalent equipment may be substituted.</p>	APPLICATION EQUIPMENT	
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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of Part B thoroughly with power agitation. Make certain no pigment remains on the bottom of the can. Then combine one part by volume of Part A with four parts by volume of Part B. Thoroughly agitate the mixture with power agitation. After mixing, pour through a 60 mesh screen. Allow the material to sweat-in as indicated below prior to application. Re-stir before using.

Continuous agitation of mixture during application is required, otherwise zinc dust will quickly settle out.

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

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

Recommended Spreading Rate per coat:

Wet mils:	5.0 - 6.0
Dry mils:	3.0 - 4.0
Coverage:	250 - 336 sq ft/gal approximate

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

Drying Schedule 5.0 mils wet @ 50% RH:

Temperature	dry to touch	minimum recoat	maximum recoat	cure to service
35-40°F	12 hours	24 hours	14 days	6 days
41-60°F	8 hours	18 hours	12 days	5 days
61-80°F	6 hours	12 hours	10 days	4 days
81-100°F	4 hours	8 hours	7 days	64 hours

Pot Life: 4 hours at 77°F, 50% RH

Sweat-in Time:	35-60°F	2 hours
	61-70°F	1-1½ hours
	71-90°F	30 minutes - 1 hour
	90°F+	none

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.

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 Hi-Flash Naphtha, 154-8767 (Singles), 154-4576 (Fives).

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

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Hi-Flash Naphtha, 154-8767 (Singles), 154-4576 (Fives). Clean tools immediately after use with Hi-Flash Naphtha, 154-8767 (Singles), 154-4576 (Fives). Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

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WARRANTY

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