



ControlTech

Tank Linings,
Containment &
Corrosion Control
Coatings

PART A 920-W-A11
PART A 920-A-175
PART B 700-C-685
PART B 700-C-825

TRM.25
PHENICON® HS

OFF WHITE
LIGHT GRAY
HARDENER
LOW TEMPERATURE HARDENER

PRODUCT INFORMATION

Revised 5/06

PRODUCT DESCRIPTION	RECOMMENDED USES																																																																
<p>PHENICON HIGH SOLIDS is a VOC-compliant epoxy novolac phenolic coating formulated for use as an internal lining for tanks used to hold crude oil and most refined petroleum products including unleaded gasoline, MTBE, aromatic solvents, and most octane booster blending stocks. Also formulated for secondary containment uses.</p> <ul style="list-style-type: none"> • Chemical Resistant • Low temperature hardener available for applications from 35°F minimum to 80°F maximum 	<ul style="list-style-type: none"> • Internal tank lining for most petroleum products such as: crude oil, unleaded gasoline, most aromatic solvents, motor fuels, alkalies, and brines. • Secondary containment. • Heavy duty exterior structural coating • Low temperature hardener not recommended for use at application temperatures above 80°F • Acceptable for use with cathodic protection systems 																																																																
PRODUCT CHARACTERISTICS	PERFORMANCE CHARACTERISTICS																																																																
<p>Finish: Semi-Gloss</p> <p>Color: Off White, Light Gray</p> <p>Volume Solids: 75% ± 2%, mixed</p> <p>Weight Solids: 86% ± 2%, mixed</p> <p>VOC (calculated): <250 g/L; 2.08 lb/gal, mixed</p> <p>Mix Ratio: 4:1 by volume</p> <p>Recommended Spreading Rate per coat: Wet mils: 7.0 - 8.0 Dry mils: 5.0 - 6.0 Coverage: 200 -240 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 @ 7.0 mils wet @ 50% RH: With 700-C-685 Hardener:</p> <table border="0"> <tr> <td></td> <td>@ 55°F</td> <td>@ 77°F</td> <td>@ 120°F</td> </tr> <tr> <td>To touch:</td> <td>7 hours</td> <td>3 hours</td> <td>1 hour</td> </tr> <tr> <td>To recoat:</td> <td></td> <td></td> <td></td> </tr> <tr> <td> minimum:</td> <td>48 hours</td> <td>18 hours</td> <td>4 hours</td> </tr> <tr> <td> maximum:</td> <td>30 days</td> <td>30 days</td> <td>30 days</td> </tr> <tr> <td>Cure to service:</td> <td>14 days</td> <td>7 days</td> <td>3 days</td> </tr> <tr> <td>Pot Life:</td> <td>4 hours</td> <td>2 hours</td> <td>30 minutes</td> </tr> <tr> <td>Sweat-in Time:</td> <td>30 minutes</td> <td>15 minutes</td> <td>None</td> </tr> </table> <p>With 700-C-825 Hardener:</p> <table border="0"> <tr> <td></td> <td>@ 35°F</td> <td>@ 55°F</td> <td>@ 77°F</td> </tr> <tr> <td>To touch:</td> <td>12 hours</td> <td>4 hours</td> <td>2 hours</td> </tr> <tr> <td>To recoat:</td> <td></td> <td></td> <td></td> </tr> <tr> <td> minimum:</td> <td>24 hours</td> <td>18 hours</td> <td>12 hours</td> </tr> <tr> <td> maximum:</td> <td>30 days</td> <td>30 days</td> <td>30 days</td> </tr> <tr> <td>Cure to service:</td> <td>7 days</td> <td>5 days</td> <td>3 days</td> </tr> <tr> <td>Pot Life:</td> <td>4 hours</td> <td>2 hours</td> <td>1 hour</td> </tr> <tr> <td>Sweat-in Time:</td> <td>15 minutes</td> <td>None</td> <td>None</td> </tr> </table> <p>If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent</p> <p>Shelf Life: 36 months, unopened Store indoors at 40°F to 100°F.</p> <p>Flash Point: 80°F, PMCC, mixed</p> <p>Reduction: Not recommended</p> <p>Clean Up: 255-C-005</p>		@ 55°F	@ 77°F	@ 120°F	To touch:	7 hours	3 hours	1 hour	To recoat:				minimum:	48 hours	18 hours	4 hours	maximum:	30 days	30 days	30 days	Cure to service:	14 days	7 days	3 days	Pot Life:	4 hours	2 hours	30 minutes	Sweat-in Time:	30 minutes	15 minutes	None		@ 35°F	@ 55°F	@ 77°F	To touch:	12 hours	4 hours	2 hours	To recoat:				minimum:	24 hours	18 hours	12 hours	maximum:	30 days	30 days	30 days	Cure to service:	7 days	5 days	3 days	Pot Life:	4 hours	2 hours	1 hour	Sweat-in Time:	15 minutes	None	None	<p>RESISTANCE GUIDE</p> <p>IMMERSION (Ambient temperature)</p> <ul style="list-style-type: none"> • Alkalies Recommended • Crude oil Recommended • Diesel fuel Recommended • Lubricating oils Recommended • Fuel oils Recommended • Aromatic solvents Recommended • Hi-aromatic gasoline Recommended • Ethanol gasohol Recommended • MTBE, ETBE, TAME Recommended • Ether/fuel blends (reformed gas) Recommended • Acids Recommended* • Methanol, ethanol, or blends Recommended** • Aviation Gasoline/Jet Fuel Recommended <p>SECONDARY CONTAINMENT (Immersion service up to 72 hours)</p> <ul style="list-style-type: none"> • Alkalies Recommended • Crude oil Recommended • Diesel fuel Recommended • Lubricating oils Recommended • Fuel oils Recommended • Aromatic solvents Recommended • Hi-aromatic gasoline Recommended • Ethanol gasohol Recommended • MTBE, ETBE, TAME Recommended • Ether/fuel blends (reformed gas) Recommended • Dilute acids Recommended • Methanol, ethanol, or blends Recommended • Aviation Gasoline/Jet Fuel Recommended <p>Epoxy coatings may darken or yellow following application and curing.</p> <p>* Consult your Sherwin-Williams representative for specific application, temperature, concentration, and exposure recommendations.</p> <p>** Not recommended when using Low Temperature Hardener</p>
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PRODUCT INFORMATION

RECOMMENDED SYSTEMS	SURFACE PREPARATION
<p>Steel: 2 cts Phenicon HS Epoxy Phenolic @ 5.0 - 6.0 mils dft/ct</p> <p>Steel: 1 ct Phenicon HS Flake Filled @ 5.0 - 6.0 mils dft 1-2 cts Phenicon HS Epoxy Phenolic @ 5.0 - 6.0 mils dft/ct</p> <p>Steel, with hold primer: 1 ct Copoxy Shop Primer @ 1.0 - 1.5 mils dft 2 cts Phenicon HS Epoxy Phenolic @ 5.0 - 6.0 mils dft/ct</p> <p>Concrete, smooth: 2 cts Phenicon HS Epoxy Phenolic @ 5.0 - 6.0 mils dft/ct</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: Immersion SSPC-SP10/NACE 2, 2 mil profile</p> <p>Concrete & Masonry: Immersion SSPC-SP13/NACE 6, or ICRI 03732, CSP 2-3</p>
<p>Concrete, rough: 1 ct. Corobond 100 Epoxy Primer/Sealer @ 4.0 - 6.0 mils dft 1-2 cts. Kem Cati-Coat HS Epoxy Filler/Sealer @ 10.0 - 20.0 mils dft/ct, as required to fill voids and provide a continuous substrate 1-2 cts Phenicon HS Epoxy Phenolic @ 5.0 - 6.0 mils dft/ct</p>	<p style="text-align: center;">TINTING</p> <p>Tinting is acceptable for use in guide coat or prime coat only. Use 844 Colorants up to 1/4 oz per gallon maximum.</p>
<p>The systems listed above are representative of the product's use. Other systems may be appropriate.</p>	<p style="text-align: center;">APPLICATION CONDITIONS</p> <p>Temperature: (air and surface) 700-C-685 Hardener: 55°F minimum, 120°F maximum 700-C-825 Hardener: 35°F minimum, 80°F maximum Material must be mixed at 55°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>
	<p style="text-align: center;">ORDERING INFORMATION</p> <p>Packaging: 5 gallons mixed Part A: 4 gallons in a 5 gallon container Part B: 1 gallon</p> <p>Weight per gallon: 12.45 ± 0.2 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 5/06

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 (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>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. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.</p> <p>Poured Concrete New For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI 03732, CSP 2-3. Surfaces must be clean, dry, sound and offer sufficient profile to achieve adequate adhesion. Minimum substrate cure is 28 days at 75°F. Remove all form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. Refer to ASTM D4260. Rinse thoroughly to achieve a final pH between 8.0 and 11.0. Allow to dry thoroughly prior to coating.</p> <p>Old Surface preparation is done in much the same manner as new concrete, however, if the concrete is contaminated with oils, grease, chemicals, etc., they must be removed by cleaning with a strong detergent. Refer to ASTM D4258. Form release agents, hardeners, etc. must be removed by sandblasting, shot blasting, mechanical scarification, or suitable chemical means. If surface deterioration presents an unacceptably rough surface, Kem Cati-Coat HS Epoxy Surfacer is recommended to patch and resurface damaged concrete. Fill all cracks, voids and bugholes with Steel Seam VSE.</p> <p>Always follow the standard methods listed below: 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. ICRI 03732</p> <p>Immersion Service: In addition to the above surface preparation, abrasive blasting of the concrete surface is required.</p>	<p>Temperature: (air and surface) 700-C-685 Hardener: 55°F minimum, 120°F maximum 700-C-825 Hardener: 35°F minimum, 80°F maximum Material must be mixed at 55°F minimum At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p> <tr> <th colspan="2" data-bbox="829 764 1521 808">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>Reduction Not recommended</p> <p>Cleanup 255-C-005</p> <p>Airless Spray: Pressure 3000 psi minimum Hose 3/8" - 1/2" ID Tip017" - .021" Filter 60 mesh</p> <p>Conventional Spray: Gun Binks 95 Tip and Needle 66/65 Air Cap 65 PR Atomization Pressure ... 65-75 psi Fluid Pressure 15-20 psi</p> <p>Brush: Brush Nylon/Polyester or Natural Bristle</p> <p>Roller: Cover 3/8" woven with phenolic core</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 each component thoroughly, by using 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. 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:

Wet mils:	7.0 - 8.0
Dry mils:	5.0 - 6.0
Coverage	200 -240 sq ft/gal approximate

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

**Drying Schedule @ 7.0 mils wet @ 50% RH:
 With 700-C-685 Hardener:**

	@ 55°F	@ 77°F	@ 120°F
To touch:	7 hours	3 hours	1 hour
To recoat:			
minimum:	48 hours	18 hours	4 hours
maximum:	30 days	30 days	30 days
Cure to service:	14 days	7 days	3 days
Pot Life:	4 hours	2 hours	30 minutes
Sweat-in Time:	30 minutes	15 minutes	None

With 700-C-825 Hardener:

	@ 35°F	@ 55°F	@ 77°F
To touch:	12 hours	4 hours	2 hours
To recoat:			
minimum:	24 hours	18 hours	12 hours
maximum:	30 days	30 days	30 days
Cure to service:	7 days	5 days	3 days
Pot Life:	4 hours	2 hours	1 hour
Sweat-in Time:	15 minutes	None	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.

Reduction of material will affect film build, appearance, and adhesion.

Do not mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with reducer 255-C-005

Low temperature hardener recommended for applications below 55°F. Low temperature hardener not recommended for use at application temperatures above 80°F

Use of low temperature hardener may cause accelerated yellowing of the coating.

Do not use low temperature hardener for immersion service in methanol, ethanol, or blends.

Holiday Detection: Use a wet sponge-type detector such as KD Bird Dog or equivalent equipment per manufacturer's recommendation. Test only cured coating, as solvent entrapment in fresh films may provide false readings.

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

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Reducer 255-C-005. Clean tools immediately after use with Reducer 255-C-005. Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

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DISCLAIMER

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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.