Protective & Marine Coatings
PRODUCT DATA SHEET

PHENICON® HS
EPOXY NOVOLAC PHENOLIC TANK LINING

Revised: October 3, 2023

PRODUCT DESCRIPTION

PHENICON HS is a thin film, epoxy phenolic novolac lining for tanks, pipes and secondary containment.

INTENDED USES

An API 652 compliant thin film, internal lining for the storage of crude and refined petrochemicals (full compliance with the performance and purity requirements of EI Standard 1541 for Aviation Fuel Storage - replacement for obsoleted MIL-PRF-4556F specification) as well as a wide range of solvents.

PRODUCT DATA

Finish: Semi-Gloss

Colors: Off White, Light Gray, and Light Blue

Volume Solids: 75% ± 2%, mixed

VOC (EPA Method 24): <250 g/L; 2.08 lb/gal

Mix Ratio: 4:1 by volume

Typical Thickness:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**7.0** (175)	**9.0** (225)
Dry mils (microns)	**5.0** (125)	**7.0** (175)
~Coverage sq ft/gal (m^2/L)	**200** (4.9)	**240** (5.9)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1200** (29.4)	

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

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

Flash Point: 98°F (37°C), mixed

Reducer: Not recommended

Clean Up: Reducer #005

Weight: 12.45 ± 0.2 lb/gal ; 1.5 Kg/L, mixed

Average Drying Times @ 7.0 mils wet (175 microns):

With standard hardener	55°F (13°C)	77°F (25°C) *50% RH*	120°F (49°C)
Touch:	7 hours	3 hours	1 hour
Handle:	48 hours	18 hours	4 hours
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 low temp hardener	35°F (1.6°C)	55°F (13°C)	77°F (25°C) *50% RH*
Touch:	12 hours	4 hours	2 hours
Handle:	24 hours	18 hours	12 hours
Recoat:			
minimum:	24 hours	18 hours	12 hours
maximum:	30 days	30 days	30 days
Cure to service:	7 days	5 days	5 days
Pot Life:	4 hours	2 hours	1 hour
Sweat-in-time:	15 minutes	none	none

Pot life is dependent upon temperature and mass

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

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.

Minimum recommended surface preparation:

Iron & Steel: Immersion: SSPC-SP10/NACE 2/ISO8501-1:2007 Sa 2.5, 2-3 mil (50-75 micron) sharp and angular profile [Medium (G) (ISO 8503-2)]

Concrete & Masonry: Immersion: SSPC-SP13/NACE 6-4.3.1 or 4.3.2, or ICRI No. 310.2R CSP 2-3

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APPLICATION

Airless Spray
Pressure.....3000 psi minimum (206 bar)
Hose.....3/8"-1/2" ID (9.5-12.7 mm)
Tip.....017"-.021" (0.43-0.53 mm)
Filter.....60 mesh

Conventional Spray
Gun.....Binks 95
Tip and Needle.....66/65
Air Cap.....65 PR
Atomization Pressure.....65-75 psi (4.5-5.1 bar)
Fluid Pressure.....15-20 psi (1.0-1.4 bar)

Brush
Brush.....Nylon/Polyester or Natural Bristle

Roller
Cover.....3/8" woven with solvent resistant core

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

RECOMMENDED SYSTEMS

Dry Film Thickness / ct.		Mils	(Microns)
Steel, Immersion & Atmospheric			
2 Cts.	Phenicon HS	5.0-7.0	(125-175)
Concrete/Masonry, Smooth, Immersion & Atmospheric			
2 Cts.	Phenicon HS	5.0-7.0	(125-175)

NOTE: Phenicon HS may be applied at alternate thicknesses, up to 16 mils (400 microns) total dft, depending on application conditions. Consult your Sherwin-Williams representative for additional information.

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

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.

APPLICATION CONDITIONS

Temperature (air & surface):
Standard Hardener: 55°F (13°C) minimum, 120°F (49°C) maximum
Low Temp Hardener: 35°F (1.6°C) minimum, 80°F (27°C) maximum
At least 5°F (2.8°C) above dew point

Material should be mixed at 55°F (13°C) minimum.

Relative humidity: 85% maximum

APPROVALS

- This product meets specific design requirements for non-safety related nuclear plant applications in Level II, III and Balance of Plant, and DOE nuclear facilities*
- Acceptable for use in Canadian Food Processing facilities categories: D3 and E8 (Confirm acceptance of specific part numbers / rexes with your SW Sales Representative)
- In compliance with EI Standard 1541, Section 2.2

* Nuclear qualifications are NRC license specific to the facility

ADDITIONAL NOTES

Tinting is acceptable for use in guide coat or prime coat only. Use Maxitoner Colorants up to 1/4 oz per gallon maximum.

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

Do not mix previously catalyzed material with new.

Low temperature hardener not recommended for use at application temperatures above 80°F (27°C).

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.

Suitable for use with cathodic protection systems.

Light Blue contains Opti-Check OAP pigment technology for rapid holiday detection with safe blue light inspection lamps.

HEALTH AND SAFETY

Refer to the SDS 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.

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 Sheet.