Phenoline® 379

MARINE/OFFSHORE COATINGS product data

Selection & Specification Data

Generic Type Polyamine Epoxy Novolac

Description Single-coat, airless-applied, ultra-high build coating for use on steel and concrete substrates subject to aggressive chemical exposure. Phenoline 379 has the same application and physical properties of Phenoline 309 but provides enhanced chemical protection for a broader and more concentrated range of acids.

Features

- Single coat application reduces labor costs
- Ultra-high build capabilities provides a voidfree film and excellent edge protection
- Resistant to inorganic and organic acids, caustics and most solvents
- Can be mat reinforced where exposure conditions dictate
- Application by airless spray equipment (plural component acceptable but not required)
- VOC compliant to current AIM regulations

Color Standard in gray

Finish Eggshell

Primers Self-priming

Topcoats Not Recommended

Dry Film Thickness 20.0 - 30.0 mils (508 - 762 microns) per coat

2 coat system: 20-25 mils (500-625 microns) per coat.
Millages of up to 50 mils (1250 microns) in a single coat can be achieved if fresh material is used.

Solids Content By Volume 99% +/- 1%

Theoretical Coverage Rate

1588 ft^2 at 1 mil (39 m^2/l at 25 microns)
79 ft^2 at 20 mils (2 m^2/l at 500 microns)
53 ft^2 at 30 mils (1 m^2/l at 750 microns)

Allow for loss in mixing and application.

VOC Values As Supplied 0.1 lbs/gal (12 g/l)

These are nominal values and may vary slightly with color.

Dry Temp. Resistance
Continuous: 140 °F (60 °C)
Non-Continuous: 180 °F (82 °C)

Discoloration and loss of gloss occurs above 140°F (60°C).

Limitations Epoxies lose gloss, discolor and eventually chalk in sunlight exposure. This coating commonly develops an amine-blush during cure. While this condition will not adversely affect performance of the coating, this blush must be removed before applying additional coats and may require removal before placing into service.

Substrates & Surface Preparation

General Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.

Steel SSPC-SP10 Surface Profile: 2-4 mils (50-100 microns) minimum.

Concrete or CMU Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

Mixing & Thinning

Mixing Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Thinning Not recommended. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Ratio 4:1 Ratio (A to B)

Pot Life 45 minutes at 75°F (24°C). Pot life ends when material begins to thicken and starts to heat up. Pot life times will be less at higher temperatures.

Application Equipment Guidelines

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General) Recommended for application by single or plural component airless spray. This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers.

Conventional Spray Not recommended

Airless Spray
Pump Ratio: 45:1 (min.)*
GPM Output: 3.0 (min.)
Material Hose: ½" I.D. (min.)
Tip Size: .035-.042"
Output PSI: 2700-3000
Filter Size: 60 mesh
*PTFE packings are recommended and available from the pump manufacturer. Contact Carboline Technical Service for plural component equipment recommendations.

Brush & Roller (General) Not recommended for tank lining applications except when striping welds.

Brush For touch up and limited areas only.

Roller For touch up and limited areas only.

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Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum	50 °F (10 °C)	50 °F (10 °C)	50 °F (10 °C)	0%
Maximum	90 °F (32 °C)	125 °F (52 °C)	110 °F (43 °C)	90%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions. To reduce outgassing when applying to concrete substrates, do not apply in direct sunlight or when surface temperatures are increasing. Best results are obtained when ambient and surface temperatures are decreasing or constant.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Final Cure General	Maximum Recoat Time	Minimum Recoat Time
50 °F (10 °C)	7 Days	7 Days	30 Hours
60 °F (16 °C)	72 Hours	4 Days	24 Hours
75 °F (24 °C)	36 Hours	2 Days	12 Hours
90 °F (32 °C)	24 Hours	1 Days	4 Hours

These times are based on a 20.0 mil (500 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times. Condensation on the surface or humidity above 25% during application and curing will result in a surface haze or blush. Any haze or blush must be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the maximum recoat time is exceeded, the surface must be washed with detergent and water, then abraded by sweep blasting prior to the application of additional coats. **For force curing, contact Carboline Technical Service for specific requirements.**

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation Vapors and/or spray mist may cause explosion. When used as a tank lining or in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. In addition to ensuring proper ventilation, appropriate respirators must be used by all application personnel.

Packaging, Handling & Storage

Shelf Life The cure mechanism of this product is not affected for a minimum of 24 months. Film build (per coat) decreases with age.
Fresh: Over 60 mils; *3-6 months:* 40-50mils;
After 6 months: less than 30 mils.
Follow intercoat preparation requirements.

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

Shipping Weight (Approximate) 1 Gallon Kit - 12 lbs. (5 kg)
5 Gallon Kit - 55 lbs. (25 kg)

Storage Temperature & Humidity 50°- 85°F (11°-30°C)
0-100% Relative Humidity

Flash Point (Setaflash) Part A: >205°F (96°C)
Part B: >205°F (96°C)

Storage Store Indoors.

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