

SELECTION & SPECIFICATION DATA

Generic Type	Solventless, two-component, cross-linked epoxy.
Description	Phenoline 341 is a solventless epoxy lining for a variety of cargos including water, potable water, seawater, fuels, crude oils, and other solutions. It is applied by standard airless spray equipment, as a single coat lining for ballast tanks or other storage vessels. It is acceptable for use as a lining for potable water tanks of 75 gal or larger and pipe diameters of 16 inches or larger.
Features	<ul style="list-style-type: none"> • Single coat, high performance protection • Low to no odor • Easy to apply by standard equipment • Excellent chemical resistance • Fast cure • Tough abrasion resistant film • Excellent flexibility • Excellent corrosion protection • Impact resistant • Hi-build application in one coat • Low temperature cure (35°F) <p>* (Valid if manufactured at a certified location.)</p>
Color	Blue, Grey, Dark Grey, Off White
Finish	High Gloss (Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.)
Primer	Self-priming
Dry Film Thickness	<p>15 - 30 mils (381 - 762 microns) per coat 16 - 25 mils (406 - 635 microns) per coat</p> <p><u>For potable water applications:</u> 1 coat at 15-30 mils (375-750 microns) or 2 coats for a total of 30-60 mils (750-1500 microns) for a maximum of 60 mils (1500 microns). <u>For all other applications:</u> May be applied in one or two coats at 15 to 25 mils (375-635 microns) per coat. Not to exceed 30 mils (762 microns) maximum in a single coat.</p>
Solids Content	By Volume 99% +/- 1%
Theoretical Coverage Rate	<p>1588 ft²/gal at 1.0 mils (39.0 m²/l at 25 microns) 106 ft²/gal at 15.0 mils (2.6 m²/l at 375 microns) 53 ft²/gal at 30.0 mils (1.3 m²/l at 750 microns) Allow for loss in mixing and application.</p>
VOC Values	<p>As Supplied : 0.06 lbs./gal (7 g/l)</p> <p>These are nominal values and may vary slightly with color.</p>
Dry Temp. Resistance	<p>Continuous: 250°F (121°C) Non-Continuous: 300°F (149°C)</p> <p>Discoloration and loss of gloss is observed above 200°F (93°C)</p>

SUBSTRATES & SURFACE PREPARATION

General	Remove all oil or grease from the surface to be coated with clean rags soaked in Thinner 2 or Carboline Surface Cleaner 3 (refer to Surface Cleaner 3 instructions) in accordance with SSPC-SP1. For girth weld areas, all burrs, weld slag and other matter shall be removed to achieve a smoother surface prior to blasting.
Steel	Abrasive blast to a Near White Metal Finish in accordance with SSPC-SP 10 and obtain a 3.0 mil (75 micron) blast profile.
Concrete or CMU	Clean and dry. Remove all loose, unsound concrete. Do not apply coating unless concrete has cured at least 28 days at 70°F (21°C) and 50% RH or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require filling/surfacing.

MIXING & THINNING

Mixing	Premix each component separately, than add together and mix until uniform.
Thinning	Thinning is not normally required. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Ratio	4:1 Ratio (A to B)
Pot Life	30 minutes (large kit) at 80°F (27°C). The pot life ends when the material becomes too viscous to use. *These are general guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

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)	The following spray equipment has been found suitable and is available from manufacturers.
Airless Spray	Airless spray equipment capable of 6000 psi (minimum 64:1 airless pump) is required for the application of this material. Recommended tip size is 0.21-0.25". Contact Carboline Technical Service for additional information. Plural component equipment may also be used if the material can not be sprayed within the working time of the mixed material. Note: To facilitate spray application when starting up, condition the spray hose to the same temperature as the material.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	80°F (27°C)	35°F (2°C)	35°F (2°C)	10%
Maximum	90°F (32°C)	110°F (43°C)	110°F (43°C)	80%

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.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Immersion Service (Crude Oil, 12-16mils)	Immersion Service (Potable Water, up to 30 mils)	Immersion Service (All Others, 16-25 mils)
35°F (2°C)	72 Hours	7 Days	15 Days	10 Days
50°F (10°C)	36 Hours	5 Days	10 Days	7 Days
75°F (24°C)	10 Hours	3 Days	7 Days	3 Days
100°F (38°C)	6 Hours	36 Hours	3 Days	36 Hours

The above cure scheduling is based on 50% relative humidity and film thickness and service conditions (single coat system).

Force Cure Bake Cycle (optional for all services except potable water)

Ambient Cure @ 75°F (24°C) for 15 minutes followed by 3.5 hour bake cycle @ 130°F (54°C).

***Note:** For the bake cycle, increase the surface temperature from 75°F (24°C) to 130°F (54°C) at a rate not exceeding 30°F (16°C) every 15 minutes. Following the 3.5 hour cure, allow the lining to air dry for an additional two hours prior to placing in service.

THE FOLLOWING CURE SCHEDULE IS FOR FILM THICKNESSES IN THE 30-60 MIL RANGE (ONE OR TWO COAT SYSTEM).

Surface Temp.	Dry to Handle or Recoat	Cure for Most Immersion Services	Potable Water Service
35°F (2°C)	6 Days	20 Days	15 Days
50°F (10°C)	3 Days	15 Days	10 Days
75°F (24°C)	24 Hours	7 Days	7 Days
100°F (38°C)	12 Hours	3 Days	4 Days

Maximum Recoat: When using Phenoline 341 for touch-up or multi-coat applications, the maximum recoat schedule is 21 days for temperatures less than 50°F and 14 days for temperatures between 50°F and 100°F. Abrading the surface is required for cure times that exceed these guidelines.

Insufficient ventilation or cooler temperatures will require longer cure times. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing if recoating.

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 SDS for this product. Employ normal workmanlike safety precautions.
Ventilation	While this is a solventless epoxy, it is common practice when used as a tank lining or in enclosed areas to circulate the air during and after application until the coating is cured. Minimal protection is needed when proper ventilation is achieved. The ventilation system should be capable of preventing any solvent vapor concentration from reaching the lower explosion limit for any solvents that may be present. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.

Phenoline[®] 341

PRODUCT DATA SHEET



CLEANUP & SAFETY

Caution	This product may contain flammable solvents if thinned. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.
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PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 24 months at 75°F (24°C) Part B: 18 months at 75°F (24°C) *Shelf life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	40° - 110°F (4° - 43°C) 0-80% Relative Humidity
Storage	Store Indoors.
Shipping Weight (Approximate)	1 Gallon Kit - 14 lbs. (6.3 kg) 5 Gallon Kit - 69 lbs. (31 kg)
Flash Point (Setaflash)	Phenoline 341 Part A: >205°F (96°C) Phenoline 341 Part B: >230°F (110°C) Phenoline 341 Mixed: 211°F (99°C)

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.