

## Selection & Specification Data

**Generic Type** Solventless, two-component, cross-linked epoxy.

**Description** Phenoline 341 is a solventless, epoxy lining for a variety of cargoes including water, potable water, wastewater, 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 400 litres (100 US gallons) or larger and pipe diameters of 460 mm (18 inches) or larger.

- Features**
- Single coat, high performance protection.
  - Low to no odour.
  - Easy to apply by standard equipment.
  - Excellent chemical resistance.
  - Fast cure.
  - Tough abrasion resistant film
  - Suitable for potable water use (complies with ANSI/NSF Standard 61)
  - Excellent flexibility
  - Excellent corrosion protection.
  - Impact resistant.
  - Hi-build application in one coat.
  - Low temperature cure 2°C (35°F).

**Gloss** High Gloss  
(Epoxy loses gloss, discolor and eventually chalk in sunlight exposure).

**Colour** Grey

**Primers** Self priming.  
Where priming / blast holding required refer to Carboline Technical Service for primer suited to exposure.

**Dry Film Thickness** **For potable water applications:**  
1 coat at 375-750 microns or 2 coats for a total of 750-1500 microns for a maximum of 1500 microns.

**For all other applications:**  
1 coat at 400-625 microns. May be applied up to 760 microns max in a single coat or multiple coats if desired for the application.

**Solids Content** By Volume: 99% ± 1%

**Theoretical Coverage Rate** 38.6 m<sup>2</sup>/l at 25 microns  
2.56 m<sup>2</sup>/l at 375 microns  
Allow for loss in mixing and application.

**Mix Ratio** 4:1 by volume (Part A : Part B)

**VOC Values** As supplied: 7 g/l  
Thinned: Thinning is not required or recommended.  
These are nominal values and may vary slightly with color.

**Dry Temp. Resistance** Continuous: 121°C  
Non-Continuous: 149°C  
Discoloration and loss of gloss is observed above 93°C.

## 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 or Altex P40 Cleaner (refer to Surface Cleaner 3 or Altex P40 Cleaner 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 AS 1627.4 Class 2½ (SSPC-SP 10) and obtain a 75 micron blast profile.

**Concrete** Clean and dry. Remove all loose, unsound concrete. Do not apply coating unless concrete has cured at least 28 days @ 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.

## Performance Data

Exposure	Splash & Spillage
Acids	Very Good
Alkalis	Excellent
Solvents	Very Good
Salt	Excellent
Water	Excellent

## Application Equipment

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. **General Guidelines:**

**Spray Application (General)** The following spray equipment has been found suitable and is available from manufacturers such as DeVilbiss and Graco.

**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 0.5-0.65mm (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.

# Phenoline® 341

## Mixing & Thinning

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

**Mixing** Premix each component separately, than add together and mix until uniform.

**Ratio** 4:1 by volume (Part A : Part B)

**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.

**Pot Life** 30 minutes (large kit) at 27°C. The pot life ends when the material becomes too viscous to use.

## 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** 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 vapour 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 OSH approved supplied air respirator.

**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 local electric code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

## Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	27°C	16°-29°C	16°-29°C	40-80%
Minimum	27°C	2°C	2°C	10%
Maximum	32°C	43°C	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

The following cure schedule is based on film thickness and service conditions (single coat system).

Surface Temp & 50% RH	Dry to Handle	Cure for Immersion Service		
		Crude Oil 300-400µm	Potable Water up to 750µm	All other services 400-625µm
2°C	72 hours	7 days	30 days	10 days
10°C	36 hours	5 days	21 days	7 days
24°C	10 hours	3 days	15 days	3 days
38°C	6 hours	36 hours	7 days	36 hours

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

Ambient Cure. at 24°C	Then Bake at Surface Temperature of 54°C*
15 minutes	3½ hours

\*Note: For the bake cycle, increase the surface temperature from 24°C to 54°C at a rate not exceeding 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 750-1500 micron range (one or two coat system).

Surface Temperature 50% RH	Dry to Handle or Recoat	Standard Cure for Immersion Service	Cure for Potable Water Service
2°C	6 days	20 days	60 days
10°C	3 days	15 days	40 days
24°C	24 hours	7 days	30 days
38°C	12 hours	3 days	15 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 10°C and 14 days for temperatures between 10°C and 38°C. 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.

## Packaging, Handling & Storage

**Shipping Weight & Pack Sizes**  
1 Gallon Kit 6.3 kg (14 lbs)  
5 Gallon Kit 31 kg (69 lbs)

**Flash Point (Setaflash)**  
Phenoline 341 Part A: > 96°C  
Phenoline 341 Part B: > 110°C

**Storage Temperature & Humidity**  
Store under cover. KEEP DRY  
4°- 43°C  
0-80% Relative Humidity

**Shelf Life**  
Part A: 24 months at 24°C  
Part B: 18 months at 24°C

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

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