Phenoline 341

PRODUCT DATA SHEET

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, 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 internationally acceptable** for use as a lining for potable water tanks and pipes.
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) * Tested and approved to AS 4020:2005 for potable water service (see Approvals NZ/AU, page 4) Excellent flexibility Excellent corrosion protection Impact resistant High-build application in one coat Low temperature cure 2°C (35°F) * (Valid if manufactured at a certified location.)
Colour	Grey
Finish	High Gloss Epoxies lose gloss, discolour and eventually chalk in sunlight exposure.
Primer	Self-priming
Dry Film Thickness	<u>For potable water applications:</u> 1 coat at 375-750 microns or 2 coats for a total of 750-1500 microns for a maximum of 1500 microns <u>For all other applications:</u> 1 coat at 400-625 microns. May be applied up to 750 microns max in a single coat or multiple coats if desired for the application.
Solid(s) Content	By Volume: 99% +/- 1%
Theoretical Coverage Rates	10.0 m^2 per litre at 100 microns DFT 2.6 m^2 per litre at 375 microns DFT 2.0 m^2 per litre at 500 microns DFT 1.6 m^2 per litre at 625 microns DFT 1.3 m^2 per litre at 750 microns DFT Allow for losses in mixing and application
VOC Values	**As Supplied** : 7 g/l These are nominal values and may vary slightly with colour.

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Dry Temp. Resistance	Continuous: 121°C (250°F) Non-Continuous: 149°C (300°F) Discolouration 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 in accordance with SSPC-SP1, (AS 1627.1). All burrs, weld slag and other matter shall be removed to achieve a smooth surface prior to blasting.
Steel	**Immersion:** Abrasive blast to SSPC-SP10 (AS 1627.4 Sa 2½) and achieve a uniform jagged blast profile of 75µm. **Non-Immersion:** Minimum SSPC SP6 (AS1627.4 Class 2) **Surface Profile:** 50-75 microns
Concrete or CMU	Ensure surfaces are clean and dry. Remove all loose, unsound concrete. **Do not apply coating unless concrete has cured at least 28 days at 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 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	27°C (81°F)	2°C (36°F)	2°C (36°F)	10%
Maximum	32°C (90°F)	43°C (109°F)	43°C (109°F)	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)
2°C (35°F)	72 Hours	7 Days	15 Days	10 Days
10°C (50°F)	36 Hours	5 Days	10 Days	7 Days
24°C (75°F)	10 Hours	3 Days	7 Days	3 Days
38°C (100°F)	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 24°C for 15 minutes followed by 3½ hour bake cycle @ 54°C (130°F).
***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 3½ 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 (30-60 MIL) RANGE (ONE OR TWO COAT SYSTEM).

Surface Temp.	Dry to Handle or Recoat	Cure for Most Immersion Services	Potable Water Service
2°C (35°F)	6 Days	20 Days	15 Days
10°C (50°F)	3 Days	15 Days	10 Days
24°C (75°F)	24 Hours	7 Days	7 Days
38°C (100°F)	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 10°C (50°F) and 14 days for temperatures between 10°C and 38°C (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 discolouration and may result in a surface haze. Any haze or blush must be removed by water washing if recoating.

APPROVALS

Approvals NZ/AU	**Potable Water** Approved to AS 4020:2005 as a lining for potable water tanks and pipes. Ref. AWQC Report ID : 82127 Taint free and zero toxicity at 52.5 cm^2 per litre.

APPROVALS

Underwriters Laboratories, Inc	**Potable Water** Approved to ANSI/NSF 61-2007a, "Drinking Water System Components - Health Effects". Ref. Certificate Number 20090728- MH26118F Taint free and zero toxicity at 98 cm^2 per litre; maximum service temperature 23°C.

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

PACKAGING, HANDLING & STORAGE

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.
Storage Temperature & Humidity	4°- 43°C 0-80% Relative Humidity
Flash Point (Setaflash)	Phenoline 341 Part A: >96°C Phenoline 341 Part B: >110°C Phenoline 341 Mixed: 99°C
Shipping Weight (Approximate)	1 Gallon Kit (3.78 lt) - 6.3 kg 5 Gallon Kit (18.9 lt) - 31 kg
Storage	Store Indoors.

WARRANTY

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