Phenoline® 1205

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Amine-Cured Novolac Epoxy
Description	Glass flake-filled coating with dense cross-linking that exhibits excellent overall chemical resistance to a variety of aggressive chemicals. Glass reinforcement provides added abrasion resistance, permeation resistance and internal reinforcement. 1205 exhibits very good acid resistance. Excellent for use as a lining for tanks or pipes in process facilities where hot water or abrasive conditions exist.
Features	• Excellent resistance to ethanol, gasoline, jet fuels and solvents. • Excellent abrasion resistance. • Excellent thermal shock resistance (0 to 300° F). • VOC compliant to current AIM regulations. • Excellent resistance to deionized or demineralized water up to 203°F (95°C). • Excellent resistance to crude oil up to 250°F (121°C). • Excellent for crude oil storage and transportation up to 250° F (121° C) • Recommended for CS-1,3,4 and SS-1,2,3 systems of NACE SP0198 Standard Practice for coatings to control Corrosion Under Insulation (CUI).
Color	Red (0500); Grey (5742)
Finish	Satin
Primer	Self-priming. May be applied over epoxies and phenolics as recommended.
Dry Film Thickness	6 - 8 mils (152 - 203 microns) mils per coat. Can be applied up to 18 mils DFT per coat, as needed. 12 mils DFT minimum for Immersion Service Do not exceed 18 mils DFT in a single coat Do not exceed 30 mils total DFT
Solids Content	By Volume 70% +/- 2%
Theoretical Coverage Rate	1123 ft²/gal at 1.0 mils (27.6 m²/l at 25 microns) 187 ft²/gal at 6.0 mils (4.6 m²/l at 150 microns) 140 ft²/gal at 8.0 mils (3.4 m²/l at 200 microns) Allow for loss in mixing and application.
VOC Values	Thinner 2 : 13 oz/gal: 2.54 lbs/gal (305 g/l) Thinner 213 : 13 oz/gal: 2.58 lbs/gal (308 g/l) **As Supplied** : 2.08 lbs/gal (250 g/l) These are nominal values.
Dry Temp. Resistance	Continuous: 425°F (218°C) Non-Continuous: 450°F (232°C) Discoloration is observed above 200°F (93°C)
Limitations	For immersion applications, metal tanks should be insulated if operating temperature exceeds 140°F (60°C).

SELECTION & SPECIFICATION DATA

Temperature Resistance (Immersion)	Water/Brine: 203°F (95°C) Crude Oil: 250°F (121°C) Crude Oil/Water: 250°F (121°C) Demineralized water: 203°F (95°C) Ethanol: 130°F (54°C)

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	**Immersion:** SSPC-SP10 **Non-Immersion:** SSPC-SP6 **Surface Profile:** 2.0-3.0 mils (50-75 micron)
Stainless Steel	SSPC SP-16 to achieve a dense nominal profile of 2 - 3 mils.
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 D4258-05 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	System	Results
Cyclic Steam-Out Simulation 300°F	Blasted Steel 1 ct.	No blistering, cracking or delamination
Temperature Cycling Test Modified Freeze /Thaw test cycling from 0°F-425°F for 11 days	Blasted steel 2 cts	No blistering, cracking, checking, delamination or loss of adhesion.

Test reports and additional data available upon written request.

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
Thinning	May be thinned up to 13 oz/gal (10%) Thinner #213. For application on horizontal surfaces, may be thinned up to 13 oz/gal (10)% with Thinner #2. Agitate Thinner #213 before use. Thinner #213 will have a thick viscous appearance, which is normal. 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	3 Hours at 75°F (24°C) Pot life ends when coating loses body and begins to sag. 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)	The following spray equipment has been found suitable and is available from manufacturers.
Conventional Spray	Pressure pot equipped with dual regulators, ½" I.D. minimum material hose, .110" I.D. fluid tip and appropriate air cap.
Airless Spray	Pump Ratio: 45:1 (min.)* GPM Output: 3.0 (min.) Material Hose: 3/8 - ½" I.D. (min.) Tip Size: 0.035-0.041" Output PSI: 2200-2500 *PTFE packings are recommended and available from the pump manufacturer.
Brush	Recommended for touch up and striping of welds only. Use a natural bristle brush with full strokes. Avoid rebrushing.
Roller	Not recommended.

APPLICATION PROCEDURES

Application	For detailed procedures on application, please consult the Phenoline 1205 Application Guide which can be obtained through Carboline's Technical Service group or your local Carboline sales representative.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	55°F (13°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	90°F (32°C)	110°F (43°C)	100°F (38°C)	85%

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	Dry to Recoat or Topcoat	Maximum Recoat Time	Final Cure Immersion
50°F (10°C)	18 Hours	48 Hours	21 Days	21 Days
60°F (16°C)	12 Hours	32 Hours	14 Days	14 Days
75°F (24°C)	6 Hours	16 Hours	7 Days	7 Days
90°F (32°C)	3 Hours	8 Hours	4 Days	4 Days

These times are based on a 15.0 mil (375 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. 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 before re-coating. If the maximum re-coat time is exceeded, the surface must be 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 SDS for this product. Employ normal workmanlike safety precautions.
Ventilation	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.
Caution	This product contains flammable solvents. 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.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A & B: Min. 36 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) 0-90% Relative Humidity
Storage	Store Indoors.
Shipping Weight (Approximate)	1 Gallon Kit - 12 lbs (5.5 kg) 5 Gallon Kit - 58 lbs (26.3 kg)
Flash Point (Setaflash)	Part A: 53°F (12°C) Part B: 200°F (93°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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.