

## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Polyamine Epoxy Novolac
<b>Description</b>	Single-coat, plural-component applied, ultra-high build coating for use on steel and concrete substrates where rapid cure characteristics are required. Phenoline 380 has the same application and physical properties of Phenoline 379 but also provides rapid cure to handle and cure characteristics.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Rapid cure-to-handle and cure-to-service characteristics</li> <li>• Single coat application reduces labor costs</li> <li>• Ultra-high build capabilities provide a void-free film and excellent edge protection.</li> <li>• Resistant to inorganic and organic acids, caustics and most solvents</li> <li>• Exceptional bond strength</li> <li>• Can be mat reinforced where exposure conditions dictate</li> <li>• VOC compliant to current AIM regulations</li> </ul>
<b>Color</b>	Standard in gray (F744).
<b>Finish</b>	Eggshell
<b>Primer</b>	Self-priming
<b>Dry Film Thickness</b>	<p>20 - 30 mils (508 - 762 microns) per coat</p> <p>Most applications are applied in a single coat at 20-30 mils (500-750 microns). May be applied at heavier thicknesses up to 60 mils (1500 microns) as needed or specified. See Shelf Life for film build limitations.</p>
<b>Solids Content</b>	By Volume 99% +/- 2%
<b>Theoretical Coverage Rate</b>	<p>1588 ft<sup>2</sup>/gal at 1.0 mils (39.0 m<sup>2</sup>/l at 25 microns)</p> <p>79 ft<sup>2</sup>/gal at 20.0 mils (1.9 m<sup>2</sup>/l at 500 microns)</p> <p>53 ft<sup>2</sup>/gal at 30.0 mils (1.3 m<sup>2</sup>/l at 750 microns)</p> <p>Allow for loss in mixing and application.</p>
<b>VOC Values</b>	<p><b>As Supplied</b> : 0.1 lbs/gal (12 g/l)</p> <p>These are nominal values and may vary slightly with color.</p>
<b>Dry Temp. Resistance</b>	<p>Continuous: 140°F (60°C)</p> <p>Non-Continuous: 180°F (82°C)</p> <p>Discoloration and loss of gloss is observed above 140°F (60°C).</p>
<b>Limitations</b>	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.
<b>Topcoats</b>	Not Recommended

## SUBSTRATES & SURFACE PREPARATION

<b>General</b>	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.
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### SUBSTRATES & SURFACE PREPARATION

<b>Steel</b>	Immersion: SSPC-SP10 Profile: 3 mils (76 microns) minimum
<b>Concrete or CMU</b>	The concrete must be cured for 28 days (at 75°F/50% R.H.) or until the concrete reaches its designated compressive strength. Prepare and clean the surface in accordance with SSPC-SP13/ NACE No. 6 guidelines. Test for moisture by conducting a plastic sheet testing in accordance with ASTM D4263.

### MIXING & THINNING

<b>Mixing</b>	Power mix each component separately. Phenoline 380 is applied with plural component airless spray machine.
<b>Thinning</b>	Not recommended. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
<b>Ratio</b>	4:1 Ratio (A to B)
<b>Pot Life</b>	15-20 minutes at 75°F (24°C). Pot life ends when material starts to heat up. Pot life times will be less at higher temperatures. This product exotherms, particularly in a mass.

### 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.

<b>Spray Application (General)</b>	Recommended for application by 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. Contact Carboline Technical Service for plural component equipment recommendations.
<b>Conventional Spray</b>	Not recommended.
<b>Plural Component Airless Spray</b>	Recommended for application by 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. Contact Carboline Technical Service for plural component equipment recommendations.

### APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	90°F (32°C)	35°F (2°C)	35°F (2°C)	0%
Maximum	130°F (54°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. 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.	Final Cure General	Minimum Recoat Time
35°F (2°C)	36 Hours	18 Hours
60°F (16°C)	18 Hours	12 Hours
75°F (24°C)	12 Hours	6 Hours
90°F (32°C)	4 Hours	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 re-coating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. In all cases follow intercoat adhesion procedure to ensure proper adhesion. If the maximum recoat time is exceeded, the surface must be washed with detergent and water and then abraded prior to the application of additional coats.

**Final cure for immersion service 35°F (2°C): Crude oil and aliphatic carbons - 36 hours. All others five days. For force curing, contact Carboline Technical Service for specific requirements.**

## CLEANUP & SAFETY

<b>Cleanup</b>	Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
<b>Safety</b>	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions.
<b>Ventilation</b>	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

<b>Shelf Life</b>	The cure mechanism of this product is not affected for a minimum of 24 months. Film build (per coat) decreases with age. <i>Fresh:</i> Over 60 mils; <i>3-6 months:</i> 50-30 mils; <i>After 6 months:</i> 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.
<b>Storage Temperature &amp; Humidity</b>	50° - 85°F (11°-30°C)L 0-100% Relative Humidity
<b>Storage</b>	Store Indoors.
<b>Shipping Weight (Approximate)</b>	1 Gallon Kit - 22 lbs (10 kg) 20 Gallon Kit - 172 lbs (78 kg)
<b>Flash Point (Setaflash)</b>	Part A: >205°F (96°C) Part B: >205°F (96°C)

# Phenoline<sup>®</sup> 380

## PRODUCT DATA SHEET

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### **WARRANTY**

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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.