

## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Novolac Epoxy Phenalkamine Primer filled with Micaceous Iron Oxide
<b>Description</b>	A tank lining holding primer that has a variety of attributes including low-temperature cure, fast recoat times, moisture tolerance during application and cure, and excellent blast-hold protection. Phenoline 311 Primer is often used with thick film lining systems as a holding primer (maintain blast cleaning) and is suitable for both new tanks and relines. It exhibits excellent surface wetting characteristics and quick cure for handling. It contains high levels of inert flake reinforcement. Excellent for use as a bonding primer for linings when damp concrete or masonry substrates are encountered.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Approved for potable water, ANSI/NSF standard 61*</li> <li>• Approved for potable water, AS/NZS 4020: 2005 - taint-free at 1000 mm<sup>2</sup> / litre; contaminant-free at 15,000 mm<sup>2</sup> / litre</li> <li>• Low temperature cure -7°C</li> <li>• Excellent blast-hold protection</li> <li>• Suitable for use over damp concrete</li> <li>• Excellent application characteristics</li> <li>• Fast recoat times</li> <li>• Moisture tolerance during application</li> </ul> <p>* Valid if manufactured at certified location</p>
<b>Colour</b>	Red
<b>Finish</b>	Flat
<b>Primer</b>	Self-Priming
<b>Dry Film Thickness</b>	25 - 76 microns (1 - 3 mils) Typical <b>Do not exceed 3 mils.</b>
<b>Solids Content</b>	By Volume 47% +/- 2%
<b>Theoretical Coverage Rate</b>	18.5 m <sup>2</sup> at 25 microns (754 ft <sup>2</sup> at 1.0 mils) 6.2 m <sup>2</sup> at 75 microns (251 ft <sup>2</sup> at 3.0 mils) Allow for loss in mixing and application.
<b>VOC Values</b>	<b>As Supplied</b> : 231 g/l mixed  These are nominal values and may vary slightly with colour.
<b>Dry Temp. Resistance</b>	Continuous: 82°C (180°F) Non-Continuous: 104°C (220°F)
<b>Limitations</b>	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.
<b>Topcoats</b>	Topcoat selection will depend on exposure

# Phenoline 311 Primer

## PRODUCT DATA SHEET



### SUBSTRATES & SURFACE PREPARATION

<b>General</b>	<p><b>Steel:</b> Remove any oil or grease from surface to be coated with clean rags soaked in Carboline Thinner #2, or toluene.</p> <p><b>Concrete:</b> Do not apply coating unless concrete has cured at least 28 days @ 21°C and 50% RH or equivalent.</p>
<b>Steel</b>	<p><b>For immersion applications:</b> Abrasive blast to a Near-White Metal Finish in accordance with SSPC SP10 (AS 1627.4 Class 2½) and obtain a 60-100 microns blast profile.</p> <p><b>For non-immersion applications:</b> Abrasive blast to a minimum Commercial Finish in accordance with SSPC SP6 (AS 1627.4 Class 2) and obtain a 40-50 micron) blast profile for moderate to severe exposures.</p> <p>For mild environments, Hand Tool or Power Tool clean in accordance with SSPC SP2/3 (AS 1627.2 St2/3) to produce a rust-scale free surface. For applications over damp surfaces, brush and roller is the preferred method.</p>
<b>Concrete</b>	<p><b>Concrete:</b> Remove all loose, unsound concrete. All surfaces must be coarsely abraded to provide a surface profile between 200 and 1,000µm (depending on build of coatings &amp; exposure. Can be applied to damp concrete with no visible water present. Consult Carboline Technical Service for more specific recommendations.</p>

### MIXING & THINNING

<b>Mixing</b>	<p>Mix separately, then combine and mix in the following proportions (3:1 ratio):</p> <p><b>8 Litre Kit</b> Part A: 6 litres Part B: 2 litres</p>
<b>Thinning</b>	<p>Thinning not normally required. May be thinned up to 5% with Thinner #2.</p> <p>Maintain constant agitation to ensure consistency and avoid pigment settling.</p> <p><b>Tip:</b> If spraying is stopped for more than 10 minutes it is advisable to recirculate the material lines.</p>
<b>Pot Life</b>	<p>3 hours at 24°C and less at higher temperatures. Pot life ends when coating becomes too viscous to use.</p>

### 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>	<p>Hold gun ~350 mm from the surface and at a right angle to the surface.</p>
<b>Conventional Spray</b>	<p>Pressure pot equipped with dual regulators, 9.5 mm (3/8") I.D. minimum material hose, 1.8 mm (0.070") I.D. fluid tip and appropriate air cap.</p>
<b>Airless Spray</b>	<p>Pump Ratio: 30:1 min.* Output: 11 lt/minute minimum Material Hose: 9.5 mm (3/8") I.D. min. Tip Size: 0.015-0.019" Output Pressure: 2000-2500 psi *PTFE packings are recommended and available from pump manufacturer.</p>

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<b>Brush &amp; Roller (General)</b>	Multiple coats may be required to obtain desired appearance, recommended dry film thickness, and adequate hiding.
	Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 24°C. Use a short-nap synthetic roller cover with solvent resistant core

## APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	7°C (45°F)	-7°C (20°F)	-7°C (20°F)	0%
Maximum	32°C (90°F)	49°C (120°F)	38°C (100°F)	95%

Industry standards are for substrate temperatures to be above the dew point. Phenoline 311 Primer is unique in that it can tolerate damp substrates. See Brush or Roller above. Special thinning and application techniques may be required above or below normal conditions.

## CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Topcoat Minimum	Maximum Recoat Time
-7°C (20°F)	36 Hours	24 Hours	45 Days
2°C (35°F)	16 Hours	2 Hours	45 Days
10°C (50°F)	10 Hours	1 Hour	30 Days
24°C (75°F)	3 Hours	30 Minutes	30 Days
32°C (90°F)	90 Minutes	30 Minutes	3 Days

**Note:** Minimum cure time, prior to placing in potable water service, is 7 days.

These times are based on a 50 micron dry film thickness per coat. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. While this product can tolerate excessive humidity during curing, check for blush or haze and remove, if present, by water washing before recoating. If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements. For application and cure conditions below 2°C, dehumidify before, during, and after application to prevent ice formation on the surface. **Do not apply to substrates with ice or ice crystal formation.** Dehumidify or raise the temperature to eliminate ice on the substrate. Exposure to elevated temperatures (e.g. 26°C or greater) or sunlight can dramatically reduce the maximum recoat times. Contact Carboline Technical Service for specifics.

## 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 MSDS for this product. Employ normal workmanlike safety precautions.
<b>Ventilation</b>	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 vapour concentration from reaching the lower explosion limit for the solvents used. 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.

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### CLEANUP & SAFETY

<b>Caution</b>	This product contains flammable materials. 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.
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### PACKAGING, HANDLING & STORAGE

<b>Shelf Life</b>	Part A: 12 months at 24°C Part B: 24 months at 24°C  *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
<b>Shipping Weight (Approximate)</b>	8 Litre Kit - 14.4 kg
<b>Storage Temperature &amp; Humidity</b>	4°C-38°C 0-95% Relative Humidity
<b>Flash Point (Setaflash)</b>	Part A: 21°C Part B: 33°C
<b>Storage</b>	Store Indoors. <b>KEEP DRY.</b>

### WARRANTY

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