

Selection & Specification Data

Generic Type	Amine adduct cured, modified epoxy-phenolic
Description	A high performance, immersion grade coating system which has excellent resistance to wet/dry cycling conditions at elevated temperatures.
Features	<ul style="list-style-type: none"> ▪ Temperature resistance up to 400°F (204°C) ▪ Very good flexibility ▪ Excellent overall chemical resistance ▪ Very good abrasion resistance ▪ Easily applied by spray ▪ Acceptable for use over stainless steels ▪ Meets stringent VOC (volatile organic content) regulations
Color	Primer: Red (0500) only Finish: Gray (6797)
Finish	Flat Gloss
Dry Film Thickness	Thermaline 400 Primer: 5 mils (125 microns) Thermaline 400 Finish: 5 mils (125 microns).
Solids Content	By Volume: Primer: 65% ± 2% Finish: 63% ± 2%
Theoretical Coverage Rate	Primer: 1043 mil ft ² (26 m ² /l at 25 microns) 209 mil ft ² (5 m ² /l at 125 microns) Finish: 1011 mil ft ² (25 m ² /l at 25 microns) 202 mil ft ² (5 m ² /l at 125 microns) Mixing and application losses will vary and must be taken into consideration when estimating job requirements.
VOC Values	As supplied: Primer: 2.5 lbs/gal (300 g/l) Finish: 2.6 lbs/gal (312 g/l)
Dry Temp. Resistance	Continuous: 400°F (204°C) Non-Continuous: 450°F (232°C)

Substrates & Surface Preparation

General	Remove any oil or grease from surface to be coated in accordance with SSPC-SP1.
Steel	Abrasive blast to a Near White Metal Finish in accordance with SSPC-SP10 (or NACE #2) to obtain a 1.5-3 mil (37.5-75 micron) blast profile. Weld slag must be removed and welds ground to a rounded contour. Striping of properly prepared welds with Thermaline 400 Primer by brush or spray is recommended. After abrasive blasting, all dust, foreign particles and spent abrasives must be removed by blowing down with clean, dry, oil-free air, brushing and vacuum cleaning.

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 Binks, DeVilbiss and Graco.												
Conventional Spray	Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .055-.070" I.D. fluid tip and appropriate air cap.												
Airless Spray	<table> <tr> <td>Pump Ratio:</td> <td>30:1 (min.)*</td> </tr> <tr> <td>GPM Output:</td> <td>3.0 (min.)</td> </tr> <tr> <td>Material Hose:</td> <td>3/8" I.D. (min.)</td> </tr> <tr> <td>Tip Size:</td> <td>.015-.019"</td> </tr> <tr> <td>Output PSI:</td> <td>2100-2300</td> </tr> <tr> <td>Filter Size:</td> <td>60 mesh</td> </tr> </table> <p>*Teflon packings are recommended and available from the pump manufacturer.</p>	Pump Ratio:	30:1 (min.)*	GPM Output:	3.0 (min.)	Material Hose:	3/8" I.D. (min.)	Tip Size:	.015-.019"	Output PSI:	2100-2300	Filter Size:	60 mesh
Pump Ratio:	30:1 (min.)*												
GPM Output:	3.0 (min.)												
Material Hose:	3/8" I.D. (min.)												
Tip Size:	.015-.019"												
Output PSI:	2100-2300												
Filter Size:	60 mesh												
Brush or Roller	For striping of welds and touch-up of small areas only. Use a natural bristle brush applying with full strokes. Avoid rebrushing. If rolled, use a short nap mohair roller with phenolic core. Avoid rerolling.												

Thermaline® 400

Mixing & Thinning

Mixing Power mix separately, then combine and power mix in the following proportions:

1 Gal. Kit 5 Gal. Kit

Thermaline 400

Primer or Finish Pt. A .8 gallons 4 gallons
Thermaline 400 Pt B .2 gallons 1 gallon

Thinning May be thinned up to 1 quart (25%) with Thinner #2. Refer to Specification Data for VOC information. Use of thinners other than those supplied or approved by Carboline may adversely affect product performance and will void product warranty whether express or implied.

Pot Life 4 Hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating loses body and begins to sag.

Cleanup & Safety

Cleanup Use Thinner #2

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 When used 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. 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 MSHA/NIOSH approved supplied air respirator.

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.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	65°-85°F (18°-29°C)	65°-85°F (18°-29°C)	65°-85°F (18°-29°C)	30-60%
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%

Do not apply when the surface temperature is less than 5°F above the dew point. Special thinning and application techniques may be required above or below normal conditions.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Between Coats	Final Cure
50°F (10°C)	4 days	N/R
60°F (16°C)	2 days	15 days
75°F (24°C)	24 hours	7 Days
90°F (32°C)	12 hours	2 days

These times are based on the recommended dry film thicknesses. Excessive film thickness or inadequate ventilating conditions after application require longer dry times and will cause premature failure in extreme cases. Excessive humidity or condensation on the surface during curing may result in surface haze or blush; any haze or blush should be removed by washing with water before recoating.

Packaging, Handling & Storage

Shipping Weight (Approximate) 1 Gallon Kit 5 Gallon Kit
13 lbs (6 kg) 63 lbs (29 kg)

Flash Point (Setaflash) Thermaline 400 Primer Part A: 46°F (8°C)
Thermaline 400 Finish Part B: 46°F (8°C)
Thermaline 400 Part B: 85°F (29°C)

Storage (General) Store Indoors.

Storage Temperature & Humidity 40° - 110°F (4°-43°C)
0-90% Relative Humidity

Shelf Life 24 months when stored at 75°F (24°C)

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



350 Hanley Industrial Court, St. Louis, MO 63144-1599
314/644-1000 314/644-4617 (fax) www.carboline.com

An **RPM** Company

June 2006 replaces June 2005

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 or injuries resulting from use. Liability, if any, is limited to replacement of products. 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. Carboline® and Thermaline® are registered trademarks of Carboline Company.