

Selection Data

GENERIC TYPE : Modified epoxy-phenolic, amine adduct cured. Part A and B mixed prior to application.

GENERAL PROPERTIES : A high performance, immersion grade coating system which has excellent resistance to wet/dry cycling conditions at elevated temperatures.

- Temperature resistant to 400°F
- 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.

RECOMMENDED USES : Used to protect steel substrates under thermal insulation

NOT RECOMMENDED FOR : Continuous immersion in water over 130°F(54°C), strong mineral and organic acids.

TYPICAL CHEMICAL RESISTANCE :

<u>Exposure</u>	<u>Fumes</u>
Acids/Mineral	Good
Alkalies	Excellent
Solvents	Good-Excellent
Salt	Excellent
water	Excellent

TEMPERATURE RESISTANCE :

Continuous : 400°F(204°C)
Non-continuous : 450°F(232°C)

SUBSTRATES : Apply over suitably prepared steel, or others as recommended. Do not apply to substrates over 110°F(43°C) during initial application.

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THEORETICAL SOLIDS CONTENT OF MIXED MATERIAL :

	<u>By Volume</u>
Thermaline 400 PRIMER	65% ± 2%
Thermaline 400 FINISH	63% ± 2%

VOLATILE ORGANIC CONTENT :

The following are nominal values :

AS SUPPLIED :

Primer : 2.5 lbs/gal (300 g/l)
Finish : 2.6 lbs/gal (312 g/l)

THINNED : Utilizing THINNER #2

	<u>%Thinned</u>	<u>Fluid Ounces/Gal</u>	<u>Pounds /Gallon</u>	<u>Grams /Liter</u>
Primer	25	32	3.42	410
Finish	25	32	3.50	420

RECOMMENDED DRY FILM THICKNESS PER COAT :

Typical System :

- 1c. Thermaline 400 Primer 5 mils (125μ)
1c. Thermaline 400 Finish 5 mils (125μ)

THEORETICAL COVERAGE PER MIXED GALLON :

Thermaline 400 Primer

1043 mil sq. ft (26 sq. m/l at 25μ)
209 sq. ft at 5 mils (5 sq. m/l at 125μ)

Thermaline 400 Finish

1011 mil sq. ft (25 sq. m/l at 25μ)
202 sq. ft at 5 mils (5 sq. m/l at 125μ)

Mixing and application losses will vary and must be taken into consideration when estimating job requirements.

STORAGE CONDITIONS : Store indoors.

Temperature : 40~110 (4~43°C)
Humidity : 0~90%

SHELF LIFE : Twenty-four months when stored at 75°F (24°C)

COLORS : Primer-Brick Red (0500) only.
Finish-Gray (6797).

Coating discoloration can be expected when exposed to 400°F (204°C). This discoloration does not affect performance.

GLOSS : Flat

Ordering Information

Prices may be obtained from your local Carboline Sales Representative or Carboline Customer Service Department.

APPROXIMATE SHIPPING WEIGHT :

	<u>1's</u>	<u>5's</u>
Thermaline 400 Primer & Finish	13 lbs.(6 kg)	63 lbs.(29 kg)
Carboline Thinner #2	8 lbs.(4 kg)	39 lbs.(18 kg)

FLASH POINT : (Pensky-Martens Closed Cup)

Thermaline 400 Finish Part A	46°F(8°C)
Thermaline 400 Primer Part A	46°F(8°C)
Thermaline 400 Part B	85°F(29°C)
Carboline Thinner #2	24°F(-5°C)

Thermaline[®] 400

SURFACE PREPARATIONS : Remove any oil or grease from surface to be coated in accordance with SSPC-SP 1.

Steel : Abrasive blast to a Near White Metal Finish in accordance with SSPC-SP 10 (or NACE #2) to obtain a 1.5-3 mil (37.5-75µ) 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.

NOTE : 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.

MIXING : Power mix separately, then combine and mix in the following proportions.

	<u>1 Gal. Kit</u>	<u>5 Gal. Kit</u>
Thermaline 400	.8 gallons	4 gallons
Primer or Finish PART A		
Thermaline 400 Part B	.2 gallons	1 gallon

THINNING : May be thinned up to one quart per mixed gallon(25%) with THINNER #2 for spray application.

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 expressed or implied.

POT LIFE : Four hours at 75°F(24°C) and less at higher temperatures. Pot life ends when coating loses body and begins to sag.

APPLICATION TEMPERATURES :

	<u>Material</u>	<u>Surfaces</u>
Normal	60-85°F(18-29°C)	65-85°F(18-29°C)
Minimum	55°F(13°C)	50°F(10°C)
Maximum	90°F(32°C)	110°F(43°C)
	<u>Ambient</u>	<u>Humidity</u>
Normal	65-85°F(18-29°C)	30-60%
Minimum	50°F(10°C)	0%
Maximum	100°F(38°C)	85%

Do not apply when the surface temperature is less than 5°F(3°C) above the dew point.

Special thinning and application techniques may be required above or below normal conditions.

SPRAY : The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVibiss and Graco.

CONVENTIONAL : Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, 0.055-0.070" I.D. fluid tip and appropriate air cap.

Airless :

Pump Ratio	: 30 : 1 (min.)
GPM Output	: 3.0 (min.)
Material Hose	: 3/8" I.D.(min.)
Tip Size	: 0.015~0.019"
Output PSI	: 2100~2300
Filter Size	: 60 mesh

* Teflon packings are recommended and are available from the pump manufacturer.

BRUSH OR ROLLER : For striping of welds, 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.

DRYING TIMES : These times are based on the recommended dry film thickness. Excessive film thickness or inadequate ventilating conditions after application require longer dry times and will cause premature failure in extreme cases.

<u>Temperature</u>	<u>Between Coats</u>	<u>Final Cure Before Placing Into Service</u>
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

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.

VENTILATION & SAFETY : WARNING : VAPORS MAY CAUSE EXPLOSION. when used in enclosed areas, thorough air circulation must be present 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, fresh air respirators or fresh air hoods must be used by all application personnel in enclosed areas. Non-sparking shoes, non-conductive equipment and clothing must be used. Explosion-proof lighting equipment and clothing must be used. Hypersensitive persons should wear clean protective clothing, gloves and/or protective cream on face, hands and all exposed areas.

CLEAN UP : Use Thinner #2.

CAUTION : READ FOLLOW ALL CAUTION STATEMENTS ON THIS PRODUCT DATA SHEET AND ON THE MATERIAL SAFETY DATA SHEET FOR THIS PRODUCT.

CAUTION: CONTAINS FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIRLINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRIC EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST. WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES.

