Thermaline 400 EU

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Modified epoxy-phenolic, amine adduct cured.
Description	A high performance, immersion grade coating system which has excellent resistance to wet/dry cycling conditions at elevated temperatures. Used to protect steel substrates under thermal insulation.
Features	• Temperature resistant up to 204ºC • Very good flexibility • Excellent overall chemical resistance • Very good abrasion resistance • Easily applied by spray • Acceptable for use over stainless steels
Color	Primer red Finish White and grey Coating discolouration can be expected when exposed to elevated temperatures. This discolouration does not affect performance.
Finish	Semi-Gloss
Dry Film Thickness	Th 400 EU Primer : 125 - 150 µm Th 400 EU Finish : 125 - 150 µm Dry film thickness above 250 microns per coat is not recommended.
Solid(s) Content	Th 400 EU Primer : 55 ± 2% Th 400 EU Finish : 51 ± 2%
Theoretical Coverage Rates	**Th 400 EU Primer** DFT 125 microns 4,4 sq.m/l DFT 150 microns 3,6 sq.m/l **Th 400 EU Finish** DFT 125 microns 4,0 sq.m/l DFT 150 microns 3,4 sq.m/l Mixing and application losses will vary and must be taken into consideration when estimating job requirements.
Dry Temp. Resistance	Continuous: 204°C (399°F) Non-Continuous: 232°C (450°F)
Limitations	Not recommended for strong mineral and organic acids.

SUBSTRATES & SURFACE PREPARATION

General	Surface must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants in accordance with Standard SSPC-SP1.
Steel	Abrasive blast to ISO 8501-1 Sa 2½ to obtain a 35 – 75 µm blast profile. Alternative Ultra High Pressure water jetting (UHPWJ) to the standard of min. CHB2 M, provided existing surface profile (e.g. maintenance projects)
Stainless Steel	Blast cleaning with non-metallic abrasive to obtain 25 – 50 µm profile.

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix for a minimum of two minutes. **DO NOT MIX PARTIAL KITS.**
Thinning	May be thinned up to 25% by volume with Thinne #2 or Thinner #33 for spray application. Use of thinners other than those supplied or approved by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Ratio	2 : 1 Ratio by volume (A to B)
Pot Life	4 hours at 24ºC and less at higher temperatures. Pot life ends when coating loses body and begins to sag.

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.

General	Th 400 EU Primer & Finish are high solid coatings and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. 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	Pump ratio: 30:1 (min.) * GMP Output: 3.0 (min.) Material Hose: 3/8” I.D. (min.) Tip Size: .015 - .019” Output PSI: 2100 - 2300 Filter Size: 60 mesh * Teflon packings are recommended and available from the pump manufacturer.
Brush & Roller (General)	Recommended for touch-up, striping of weld seams and hard-to-reach areas only. Apply in full strokes, avoid re-brushing or re-rolling. Use a natural bristle brush and short nap mohair roller with phenolic core.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	13°C (55°F)	5°C (41°F)	5°C (41°F)	0%
Maximum	35°C (95°F)	75°C (167°F)	40°C (104°F)	85%

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. Do not apply when the surface temperature is less than 3°C above the dew-point.

CURING SCHEDULE

Surface Temp.	Between Coats	Final Cure Immersion
5°C (41°F)	24 Hours	NR
10°C (50°F)	15 Hours	4 Days
15°C (59°F)	10 Hours	3 Days
25°C (77°F)	6 Hours	2 Days

These times are based on the recommended dry film thickness. Excessive film thickness or inadequate ventilation conditions after application require longer dry times and will cause premature failure in extreme cases.
Maximum recoat time is normally 60 days. If exceeded and depending on curing time and exposure, pretreatment may be required prior to overcoating. Contact Carboline for further information.
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.

CLEANUP & SAFETY

Cleanup	Use Carboline Thinner #2. 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 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 applicable regulations. In areas where explosion hazards exist, workmen should be required to use nonferrous tools and wear conductive and nonsparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	24 months at 24ºC
Storage Temperature & Humidity	4° - 43ºC 0 - 95% relative humidity
Flash Point (Setaflash)	THERMALINE 400 EU Primer Part A: 18°C THERMALINE 400 EU Finish Part A: 18°C THERMALINE 400 EU Part B: 18°C Thinner #2 : -5°C
Storage	Stores indoors.
Packaging	Part A 13,3 litres Part B 6,7 litres

WARRANTY

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