

SELECTION & SPECIFICATION DATA

Generic Type	Cycloaliphatic (MIO) Amine Epoxy
Description	Thermaline 451 is a (MIO) flake filled cycloaliphatic amine cured epoxy phenolic novolac. This product has been formulated for use in immersion service in water and hydrocarbons such as fuel oil, diesel fuel, and gasoline. It may also be used under thermal insulation at elevated temperatures. Thermaline 451 has been modified with micaceous iron oxide (MIO) to provide excellent edge protection, one coat high build application properties, high temperature resistance and reinforced film properties. This product is self priming and resistant to 425-450 °F (218-232 °C).
Features	<ul style="list-style-type: none"> • Extreme chemical resistance • Excellent thermal shock resistance • Excellent internal film reinforcement • Excellent edge protection • Excellent abrasion/impact resistance
Color	Grey only
Finish	Semi-Gloss
Primer	This product may be applied directly to steel and concrete surfaces.
Dry Film Thickness	7 - 9 mils (178 - 229 microns) per coat Typically applied as a single coat system @7-9 mils (Do not apply over 9.0 mils for service above 300°F)
Solids Content	By Volume 76% +/- 2%
Theoretical Coverage Rate	1219 ft ² /gal at 1.0 mils (29.9 m ² /l at 25 microns) 174 ft ² /gal at 7.0 mils (4.3 m ² /l at 175 microns) 135 ft ² /gal at 9.0 mils (3.3 m ² /l at 225 microns) Allow for loss in mixing and application.
VOC Values	As Supplied : 1.69 lbs/gal (203 g/l) Thinner 2 : 10%: 2.18 lbs/gal (262 g/l)
Under Insulation Resistance	Continuous: 425°F (218°C) Non-Continuous: 450°F (232°C)
Topcoats	Not Applicable

SUBSTRATES & SURFACE PREPARATION

General	All surfaces must be thoroughly cleaned to remove dirt, grease, mill scale, loose rust, and any other contaminants that can reduce adhesion via SSPC-SP1 solvent cleaning before proceeding with recommended surface preparation.
Concrete or CMU	Concrete shall be designed, placed, cured, and prepared per NACE No. 6/SSPC-SP 13, latest edition. Abrade to remove all laitance, loose concrete, etc. and to create surface profile in accordance with ICRI CSP 2-5.

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Previously Painted Surfaces	If the paint is glossy, sand to dull the surface. Apply test areas, allow to cure and test for adhesion and compatibility with existing coatings. Scrape loose, scaly or peeling paint and sand the edges smooth. Remove rust and scale from ferrous metal. IF mildew is present, remove completely by sterilizing the surface with mildew remover and detergent. Rinse well and allow to dry before painting.
Special Instruction	Do not apply if material, substrate or ambient temperature is below 50 °F (10 °C) or above 120 °F (49 °C). Old coatings should be tested for lifting before applying Thermaline 451. If substrate temperatures are above 100 °F (38 °C) for more than 72 hours, pretreatment may be required before an additional coat of Thermaline 451 is applied. When recoating beyond 1 month, additional surface preparation may be required. Spread rates are based on volume solids and do not take in to account loss factors, porosity or roughness of the surface being coated, application tools, techniques or any other variables. Relative humidity 85% maximum.
Metal	For maintenance work hand tool clean per SSPC-SP2, Sandblasting is recommended to remove rust and mill scale. Use commercial blast to SSPC-SP6 for mild exposures and near white blast SSPC-SP10 for severe exposures or immersion service.

MIXING & THINNING

Mixing	Thoroughly stir each component. Pour component B into component A (mixing ratio by volume: 4 parts component A, to 1 part component B). Mix well with a drill type mechanical mixer. No induction time is necessary. Do not mix more than can be applied within the specified pot life at the given temperature; allow additional time to clean lines and equipment.
Thinning	Thin up to 10% by volume with Thinner 2. Thin only if allowed by local air quality and air pollution regulations.
Pot Life	2 hours at 75 °F (24 °C)

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.

Conventional Spray	Binks Model 95 spray gun or equal, reduce coating as needed up to 10% by volume if allowable. Fluid nozzle 66, air nozzle 66PR, 65-80 psi atomizing air pressure, 15-25 psi fluid pressure. Apply using a 45:1 pump at 3600 psi minimum.
Airless Spray	Material Hose: 3/8 – 1/2" x 100; max Tip Size: 0.019-0.021" High Pressure Filter: 30 mesh
Brush	Apply using a natural bristle brush.
Roller	Roll using a 3/8" solvent resistant core cover. Keep roller wet. Roll in one direction, rewet, then cross roll.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Handle	Minimum Recoat Time	Maximum Recoat Time	Dry Hard
50°F (10°C)	6 Hours	18 Hours	48 Hours	30 Days	20 Days
75°F (24°C)	3 Hours	7 Hours	18 Hours	30 Days	7 Days
100°F (38°C)	1 Hour	2 Hours	5.5 Hours	30 Days	3 Days

Dry times are calculated with a 12.0 mil wet film at 50% relative humidity. Expect longer dry times in periods of higher humidity or lower temperatures or when applying thicker films. If the maximum re-coat window is exceeded the film must be mechanically abraded before re-coating.

CLEANUP & SAFETY

Cleanup	Clean up all tools and equipment promptly with Thinner 2. Flush out all spray tips, fluid lines and pressure pots immediately after use.
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Use adequate ventilation. Keep container closed when not in use

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 24 months at 75 °F (24 °C) Part B: 24 months at 75 °F (24 °C) *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	40-110 °F (4-43 °C) 0-90% RH
Storage	Store in protected, dry area.
Shipping Weight (Approximate)	5 Gal Kit - 77 lbs (35 kg)
Flash Point (Setflash)	Part A: 89 °F (32 °C) Part B: >200°F (>93 °C)

WARRANTY

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