Dampney® Protective Coatings

Thurmalox® 884C-085 Green
Air Dry Temperature Indicating Coating

Description
A heat-resistant one component modified silicone coating system designed for temperature indicating applications requiring a single stage irreversible color change. When applied to refinery and petrochemical process equipment which operate at elevated temperatures the color change provided by Thurmalox 884C-085 indicates vessel overheating due to failure of refractory linings, system malfunction or bypassing of hot gases. Thurmalox 884C-085 is suitable for maximum continuous operating temperatures up to 550˚F (288˚C).

Color Change Summary

Ambient to 550˚F (288˚C)	Green
650˚ (343˚C) to 950˚F (510˚C)	Green to White

Note: Color change is dependent on variables such as time, temperature and thickness of steel surface. Color change or drift is possible based on these variables. Thurmalox 884C-085 may require repainting every 18-24 months depending on operating conditions.

Recommended Uses
- Provides an indicator of process vessel overheating or refractory failure
- Provides an indicator in the heat treating or annealing process
- Ideal for the OEM industry where an indicator is required on components as part of a heating or curing process

Features
- Complies with SCAQMD Rule 1113 as a Color Indicating Safety Coating
- Complies with BAAQMD Definition 8-3-301 as a Temperature Indicating Safety Coating
- Sharp visual color change
- Can be easily recoated with itself after repairs
- Apply over suitable inorganic zinc rich primers, heat resistant silicone primers or existing coated surfaces (consult Dampney for specific recommendations)
- Apply by brush, roller, conventional or airless spray methods
- Contains no heavy metals
- Suitable for shop or field application

Not Recommended For:
- Immersion service
- Interiors of stacks, breechings and scrubbers
- Use under insulation

Typical Systems for Carbon Steel:
Please see specific primer's data sheet for required surface preparation details.

Primer	Intermediate	Finish
Endcor 835*	Thurmalox 884C-085	Thurmalox 884C-085
Thurmalox 225HD	None	Thurmalox 884C-085
Thurmalox 245/245C	Thurmalox 884C-085	Thurmalox 884C-085

*Endcor 835 primer may not be used for applications above 750°F (399˚C). Please see alternate primers listed above.

Stainless Steel and Other Non-Ferrous Metals
Surfaces must be clean and dry. Remove all oil, grease, oil and other foreign matter by methods outlined in Steel Structures Painting Council Specification SSPC-SP-1, "Solvent Cleaning". Surface to be coated shall be prepared in accordance with SSPC-SP-16 or equivalent with a MBX Bristle Blaster. A sharp angular blast profile of 0.75-1.0 mils (20-25 µm) is required.
Apply two coats Thurmalox 884C-085 to a dry film thickness of 1.0-2.0 mils (25-50 µm) per coat allowing for proper curing between coats.

Existing Coated Surfaces
Thurmalox 884C-085 may be applied over existing coated surfaces which have been abraded and/or power washed to remove surface contamination. Dampney assumes no liability for existing coated surfaces and suggests a test patch be applied to ensure compatibility and proper adhesion. Apply two coats Thurmalox 884C-085 to a dry film thickness of 1.0-2.0 mils (25-50 µm) per coat allowing for proper curing between coats.

Mixing
Redisperse any settled-out pigments by thorough mixing to a uniform homogeneous consistency with an

explosion-proof or air-driven power mixer. Do not open containers until ready to use. Keep lid on container when not in use.

Application Guidelines

Surface temperature must be at least 5°F (3°C) above the dew point. Apply one or two coats of Thurmalox 884C-085 to a dry film thickness of 1.0-2.0 mils (25-50 µm) per coat allowing for proper curing between coats. During spray application, hold gun at the required distance from the surface and at right angles without arching while spraying. Overlap each pass 50% to achieve a uniform finish. Always utilize and follow good painting practices.

Application Equipment

Do not apply Thurmalox 884C-085 coating in heavier films than specified as blistering or cracking may occur. For conventional spray provide material pot with regulators for fluid and air pressure and oil and moisture traps in supply line. Smaller diameter hose may require increased pressure.

Conventional Spray (Preferred spray method)**:**

Spray gun	DeVilbiss MBC-510
Air Cap	704
Fluid Needle	JGA-402-FF
Fluid tip	FF
Fluid hose*	3/8” ID
Air hose	5/16” ID
Atomizing pressure*	40-50 psi

*Smaller hose diam. or length over 25 ft. may require increased pressure.

Airless Spray:

Spray gun	Graco 205-591, 208-663
Pump	Graco 30:1 or Greater
Fluid tips*	.013 - .015
Fluid hose	3/8” ID with a 1/4” ID whip
Air pressure to pump*	40-60 psi

*Use Reverse-A-Clean® tips for fast, easy clean out. The above recommended air pressures are a guide and should be altered based on the operational condition of the spray pump and ambient climatic conditions. The minimum amount of air pressure should be used that is required to produce a proper spray fan.

Brush: Use an industrial grade brush with short China bristles. Do not use synthetic-bristled brushes. Do not flood surface with coating. Brush out thoroughly, maintaining a continuous wet edge and uniform appearing paint film. If the surface to be coated id pitted, work the coating into the porosity of the surface without allowing the coating to puddle.

Roller: Use solvent resistant short nap 1/4” (6 mm) mohair roller cover with phenolic core. Do not flood surface with coating. Roll out excess coating on a suitable, screened surface. Then roll out thoroughly, maintaining a continuous wet edge and uniform appearing paint film.

Thinning

While thinning is not normally required for viscosity a maximum of 3% by volume Dampney 180 can be used if encountering dry spray. Do not thin beyond federal, state and/or local VOC (volatile organic compound) emission regulations. Note: Use of other thinner not approved by Dampney may hinder product performance and void product warranty, whether expressed or implied.

Dry Time at 70°F (21°C) 50% RH

Thurmalox 884C-085 coating will air dry tack and thumb print free within four hours. Allow eight hours dry time between coats. Allow 24 hours dry time prior to shipping and handling if coating is not heat cured. Surfaces coated with Thurmalox 884C-085 in the air dried state can be handled and shipped prior to heat cure. However, care should be taken to avoid mechanical abrasion during shipping and handling. Higher film thickness, inadequate ventilation and cooler temperatures will require longer cure times and could cause premature failure of the coating system. Allow one hour solvent flash off period before heat curing or placing into service. Equipment protected with Thurmalox 884C-085 coating in the air dried state will reach full physical properties when placed into service.

Cleanup

Thoroughly flush spray equipment and hoses immediately after use with Dampney 100 Thinner. Dismantle spray equipment and clean parts, brushes and rollers with Dampney 100 or 112 Thinner.

Storage

Store in cool, dry place with temperature between 50°F and 100°F (10°C and 38°C). Keep container closed when not in use.

Precautionary Information

DANGER! Flammable liquid and vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting, mixing, application equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust, fume, gas, mist, vapors, or spray. Avoid breathing dust, fume, gas, mist, vapors, or spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye protection, and face protection. Observe all safety precautions and follow procedures described in OSHA regulations. See

Safety Data Sheet (SDS) for complete precautionary and disposal information.

If instructions and warnings cannot be strictly followed, do not use this product.

FOR INDUSTRIAL USE ONLY

TECHNICAL DATA

Characteristics	Thurmalox 884C-085	
Generic Type	Modified Silicone	
Color	Green	
Temperature resistance		
Continuous before color change	550°F (288°C)	
Percent (%) Solids by volume	52 (+/- 2%)	
Viscosity at 75˚F (24˚C)	70-80 KU	
Dry film thickness per coat	1.0 - 2.0 mils (25 - 50 microns)	
Wet film thickness per coat	2.0 - 4.0 mils (50 - 100 microns)	
Theoretical coverage at 2.0 mils (50µm) DFT	417 sq./ft. per gallon (10.25 m²/liter)	
Application temperature (air and surface) @ 50% RH	50°F-120°F (10°C-49°C)	
Drying time @ 50% RH	50°F (10°C)	70°F (21°C)
To touch	8 hours	4 hours
To recoat	16 hours	8 hours
To ship	48 hours	24 hours
Weight per gallon (3.78 liters)		
Thurmalox 884C-085	11.6 lb. (5.26 kg.)	
Dampney 180 Thinner	7.5 lb. (3.4 kg.)	
Container Size	1 US Gallon (3.78 liters) and 5 US Gallons (18.9 liters)	
Flash point	40°F (4°C)	
Pot life	N/A	
Shelf life	1 year (when stored in original unopened containers, indoors and out of the weather)	
Volatile organic compounds	3.42 lb./gal. (410.4 g./l.)	

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