



Thurmalox® 884C-090 - Blue VOC Compliant Air Dry Temperature Indicating Coating

Description

A heat-resistant one component modified silicone coating 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-090 indicates vessel overheating due to failure of refractory linings, system malfunction or bypassing of hot gases. Thurmalox 884C-090 is suitable for maximum continuous operating temperatures up to 500°F (260°C).

Color Change Summary

Ambient to 500°F (260°C)	Blue
590° (310°C) to 650°F (343°C)	Blue 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-090 may require repainting every 18-24 months depending on operating conditions.

Recommended Uses

- Provides an indicator of process vessel overheating, refractory failure and hot spots
- 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 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 and field application

Not Recommended For:

- Immersion service
- Interiors of stacks, breechings and scrubbers
- Use under insulation

Typical Systems for Carbon Steel:

Please see specific primers data sheet for required surface preparation details.

Primer	Intermediate	Finish
Endcor 835	Thurmalox 884C-090	Thurmalox 884C-090
Thurmalox 225HD	None	Thurmalox 884C-090
Thurmalox 245/245C	Thurmalox 884C-090	Thurmalox 884C-090

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 MBX Bristle Blaster. A sharp angular blast profile of 0.75-1.0 mils (20-25 µm) is required. Apply two coats Thurmalox 884C-090 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-090 may be applied over existing coated surfaces which have been hand-sanded 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-090 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-090 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-090 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 is 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-090 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-090 in the air-dried state can be handled and shipped prior to a 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 the Thurmalox 884C-090 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

WARNING: Flammable Liquid and Vapor

Keep away from heat, sparks and flame. Vapors may cause flash fire. Do not breathe vapors or spray mist. Avoid contact with eyes, skin and clothing. Use with adequate ventilation during mixing and application. Wear an appropriate, properly fitted organic vapor cartridge-type respirator (NIOSH approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Wash thoroughly after handling. Wear protective gloves, chemical safety goggles and impervious protective clothing. Use skin cream. In confined spaces it is required to use a positive pressure supplied-air respirator (NIOSH approved). Use explosion-proof lights and electrical equipment. Use only nonsparking tools and equipment. Wear conductive and nonsparking footwear. Make certain all electrical equipment is grounded. Observe all safety

precautions and follow procedures described in OSHA regulations. See Safety Data Sheet (SDS) for complete precautionary and disposal information.

FOR INDUSTRIAL USE ONLY

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

TECHNICAL DATA

Characteristics	Thurmalox 884C-090	
Generic Type	Modified Silicone	
Color	Blue	
Temperature resistance		
Continuous before color change	500°F (260°C)	
Components	One	
Percent (%) Solids by volume (+/-2%)	55 (+/-2%)	
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	441 sq./ft. per gallon (10.8 m ² /liter)	
Application temperature @ 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 liter unit)		
Thurmalox 884C-090	11.9 lb. (5.4 kg.)	
Dampney 180 Thinner	7.5 lb. (3.4 kg.)	
Packaging	1 US Gallon (3.78 liters) and 5 US Gallons (18.9 liters)	
Flash point	109°F (42°C)	
Pot life	N/A	
Shelf life	1 year (when stored properly in original unopened containers, indoors and out of the weather)	
Volatile organic compounds	3.19 lb. /gal. (383 g. /l.)	

WARRANTY Dampney protective coating products are expressly warranted to meet applicable technical and quality specifications. The technical data contained herein are accurate at the date of issuance but are subject to change without prior notification. No warranty of current accuracy is hereby given or implied. User must contact Dampney to verify correctness before ordering. Dampney assumes no responsibility for coverage, performance or injuries resulting from handling or use and **LIABILITY, IF ANY, SHALL BE LIMITED TO PRODUCT REPLACEMENT.** In no event will Dampney be responsible for consequential damages, except insofar as mandated by law. Dampney **DISCLAIMS ALL OTHER WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**