Dampney Protective Coatings

Thurmalox® 260C TIC Air Dry Series
VOC Compliant Self Priming
Temperature Indicating Coatings

Description
A heat-resistant, VOC compliant, silicone-copolymer, inhibited coating designed primarily for temperature indicating applications in the 400°- 650°F (200°-325°C) range. When applied to refinery and petrochemical process equipment operating at elevated temperatures the color change provided by Thurmalox 260C-TIC gives an early warning of vessel overheating due to failure of refractory linings or bypassing of hot gases.

From ambient temperature to point of failure, Thurmalox 260C-TIC maintains a high degree of color stability. Generally, color changes occur over a temperature range of 25 - 50°F depending on specific formulation and occur within 15 minutes of temperature spike. Note: The Thurmalox 260C TIC series coatings protect metal surfaces from corrosion and weathering up to 500°F (260°C). Once the temperature spike occurs and the pigment changes color, the refractory lining on the interior should be repaired and the exterior 260C TIC should be repaired and recoated to maintain corrosion protection.

Recommended Uses
- Provides an early warning indicator of process vessel overheating due to gas bypassing or refractory failure
- Provides an early warning indicator of temperature conditions conducive to hydrogen attack of carbon or low alloy steels in high pressure/high temperature refinery and petrochemical processes utilizing hydrogen-rich atmospheres.

Features
- Good weathering and UV stability
- Very sharp, easily seen color change from 25 CIELab scale Delta E units
- Outstanding application and performance properties as with other Thurmalox 260C Series Coatings
- Self Priming or can be applied over other approved Dampney Thurmalox Primers

Color / Temperature Summary

265C-17	**Red**	**400-600°F**
267C-30	**Yellow**	**475-525°F**
269C-42	**Blue**	**675-725°F**

Thurmalox 260 TIC maximum temperature resistance is to 500°F (260°C) as stated, continuous operation at near or above these temperatures will eventually lead to color drift or change.

Surface Preparation - Carbon Steel
1. To ensure optimum long-term coating system performance, surfaces must be clean, dry and free from dirt, oil, grease, salts, welding flux, mill scale, rust, oxides, old paint, corrosion products or other foreign matter.
2. Remove all surface imperfections that will induce premature coating system failure. Chip or scrape off weld splatter. Grind down sharp and rough edges, gouges, and pits.
3. Abrasive blast surface per specification SSPC-SP10, “Near-White Blast Cleaning”, or per NACE Standard No.2 to a profile depth of 1.5-2.0 mils maximum. Abrasive used in blasting should be selected carefully from materials of mesh size required to produce the desired anchor pattern.
4. If abrasive blasting is not permitted, prepare surface by power tool cleaning per SSPC-SP 11. Use of an MBX Bristle Blaster with suitable Bristle Tips or similar type tool. Feather out all edges of adjacent painted surfaces after completion of surface preparation operations and prior to application of the first coat of paint.

Surface Preparation - Stainless Steel
1. Surfaces must be clean and dry. Remove all oil, grease, soil, drawing and cutting compounds, and other foreign matter by methods outlined in Steel Structures Painting Council Specification SSPC-SP1, “Solvent Cleaning”.
2. DO NOT USE CHLORINATED SOLVENTS ON STAINLESS STEEL SURFACES.
3. Abrasive Blast Stainless Steel to achieve an anchor profile of 0.5 – 1.5 mils, using aluminum oxide or other abrasives that are certified for use on

stainless steel. These abrasives shall be free of chlorides, halides and heavy metals.

4. If abrasive blasting is not possible for large surface areas, steam clean with an alkaline detergent, follow by a steam or fresh water wash to remove detrimental residues.
5. For small surface areas, solvent wipe with Dampney 170 Thinner, a chloride free solvent, using proper procedures and precautions to minimize hazards.

Mixing

Redisperse any settled-out pigments by stirring with a paint paddle followed by thorough mixing to a uniform 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.

Applications Guidelines – Uninsulated Carbon Steel *

Thurmalox 260C TIC is self priming system when applied at 2.0 – 2.5 mils DFT over abrasive blast cleaned steel and an additional topcoat applied at 2.0 – 2.5 mils DFT. Thurmalox 260C TIC can also be used in conjunction with other suitable Dampney primers including Thurmalox 837 Hybrid Inorganic Zinc High Temperature Primer at 3.0 – 4.0 mils DFT (75 – 100 microns) followed by two coats of Thurmalox 260C TIC in the desired temperature indicating color range at 2.0-2.5 mils (50-62 microns) DFT per coat. Total recommended system DFT is 7.0 - 9.0 mils (175 - 225 microns). Other acceptable Dampney primers include Thurmalox Series 260 and 260C applied at 2.0 – 2.5 mils DFT.

Applications Guidelines – Uninsulated Stainless Steel

For optimum protection apply chloride free Thurmalox 260C-08 Gray Primer at 2.0 – 2.5 mils dry film thickness (DFT), followed by two coats of Thurmalox 260C TIC in the desired temperature indicating color range at 2.0 – 2.5 mils DFT per coat. Total recommended system DFT is 6.0 – 7.5 mils (150 – 187 microns). ***Do not use Thurmalox 837 Zinc Primer on stainless steel surfaces.** For application of other Thurmalox Series Coatings to uninsulated stainless steel, consult Dampney Technical Service.

Application Equipment

Conventional spray is the recommended method of application; however Thurmalox 260C TIC series coatings may also be applied by airless spray, brush or roller. Do not apply Thurmalox 260C TIC series coatings in heavier films than specified since blistering may occur.

Conventional Spray:

Spray gun	DeVilbiss JGA402 or equal
Fluid tip	EF
Air cap	704
Fluid hose	3/8” ID
Air hose	5/16” ID
Atomizing pressure	60 psi

Provide material pot with agitator, regulators for fluid and air pressure, and oil and moisture traps in supply line. Smaller diameter Hose may require increased pressure.

Airless Spray:

Spray gun	Graco 205-591, 208-663
Fluid tips*	163-610, 163-315
Pump	Graco Bulldog 30:1
Fluid hose	3/8” to 1/2” ID
Air pressure to pump	100 psi
Pump operating pressure	80-90 psi

Brush: Use only wooden-handled 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.

Roller: Use only wooden-handled roller with phenolic shank and core, and 1/4-3/8” nap. 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

Only thin Thurmalox 260C TIC series coatings with Dampney 162 Thinner. Do not thin beyond federal, state and/or local VOC (volatile organic compound) emission regulations. Note: Use of other thinners not approved by Dampney may hinder product performance and void product warranty. Also see Procedures for Application to Hot Surfaces.

Dry Time at 70°F (21°C), 50% RH

Thurmalox 260C TIC series coatings will air dry tack and thumb print free within 6-8 hours. Allow 10-12 hours dry time between coats. Allow 48 hours dry time prior to shipping and handling if coating is not heat cured. Surfaces coated with Thurmalox 260C TIC series in the air dried state can be handled and shipped prior to a heat cure as long as shipping and handling procedures for thin filmed systems are followed. Avoid mechanical abrasion during shipping and handling. Higher temperatures will reduce tack free, recoat and shipping times. Allow one hour solvent flash off period before heat curing or placing into service. Optimum film properties require a heat cure of 350° F (177° C) for a 1/2 hour. Equipment protected with the Thurmalox 260C TIC series coatings in the air dried state will heat cure 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 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 Material Safety Data Sheet (MSDS) for complete precautionary and disposal information.

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

FOR INDUSTRIAL USE ONLY

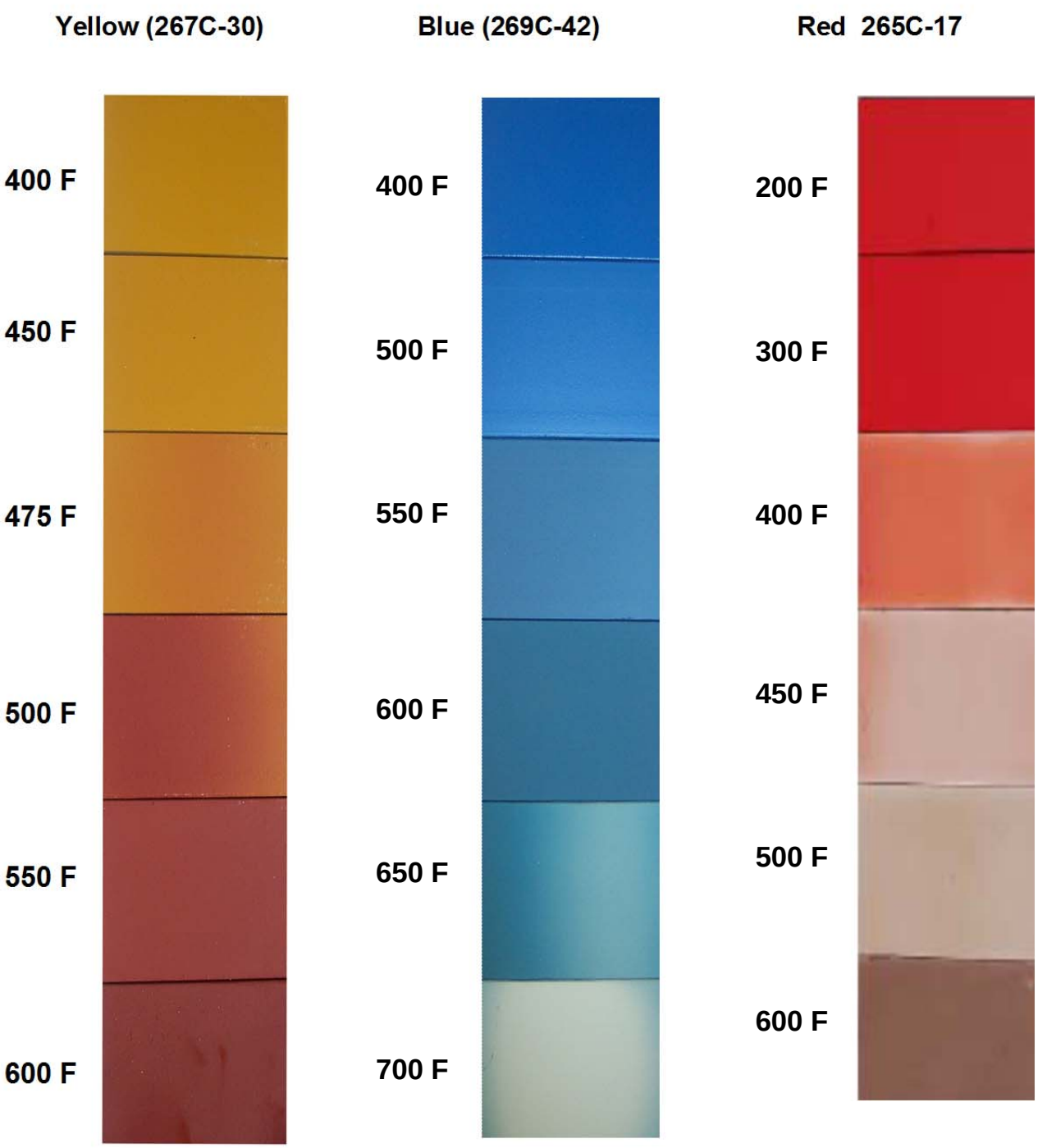
TECHNICAL DATA

Characteristics	Thurmalox 260C-TIC Series Coatings	
Generic Type	Silicone copolymer	
Color	Yellow, Blue, Red	
Temperature resistance (Series 260 and 260C)		
Continuous	500°F (260°C)	
Intermittent	600°F (315°C)	
Percent (%) Solids by volume	Varies by color (average 52%)	
Dry film thickness per coat	2.0 - 2.5 mils (50 - 62 microns)	
Wet film thickness per coat	3.5 - 4.0 mils (87 - 100 microns)	
Theoretical coverage per gallon	786 mil. sq. ft. (19 sq. m./liter @ 25 microns)	
Application temperature @ 50% RH	50°F-500°F (10°C-260°C)	
Drying time @ 50% RH	50°F (10°C)	70°F (21°C)
To touch	10-12 hours	6-8 hours
To recoat	24 hours	10-12 hours
To ship	72 hours	48 hours
Full cure @ 350°F (177°C)*	30 minutes	
Weight per gallon		
Thurmalox 260C TIC Series	13.5 lb. (6.1 kg.)	
Dampney 162 Thinner	6.8 lb. (3.1 kg.)	
Dampney 170 Thinner	8.0 lb. (3.7 kg.)	
Flash point	134°F (57°C)	
Pot life	N/A	
Shelf life	1 year	
Volatile organic compounds	3.2 lb. /gal. (381 g. /l.)	

* See Dry Time section

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.**

Color changes at increasing temperatures:



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