



Dampney Protective Coatings

Thurmalox[®] 242 Silicone Ceramic Air Dry Series High Temperature Resistance 1000°F - 1600°F

Description

Thurmalox 242 Silicone Ceramic series coatings are for use on process equipment that will operate at temperatures from 1000°F to 1600°F. These coatings are resistant to corrosion, weathering and thermal shock. Contrary to normal expectations in high temperature applications, service life of applied Thurmalox 242 series coatings is extended where operating temperatures exceed 1000°F (538°C). Thurmalox 242 series coating meets the performance criteria for MIL-P-14105.

Recommended Uses

- Kilns, Furnaces and Ovens
- Turbine engines and associated housings
- Mufflers, Silencers and Incinerators
- Jet engines and tail exhaust

Features

- Air drying, easy-to-apply system
- Protects against weathering and corrosion
- Unaffected by rapidly cycling temperatures
- Outstanding resistance to thermal shock
- No loss of adhesion at elevated temperatures
- Offers low IR signature.

Not Recommended For

- Immersion service
- Interiors of stacks, breechings and scrubbers

Surface Preparation

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.

Surface Preparation - Carbon Steel

Abrasive blast surface per specification SSPC-SP10, "Near-White Blast Cleaning", or per NACE Standard

No. 2 to a profile depth of 1.0-1.5 mils maximum. Abrasive used in blasting should be selected carefully from materials of mesh size required to produce the desired anchor pattern.

Surface Preparation - Stainless Steel

Abrasive blast surface per specification SSPC-SP10, "Near-White Blast Cleaning", or per NACE Standard No. 2 to a profile depth of 1.0-1.5 mils maximum, using only fine grade Starblast* or aluminum oxide.

* E. I. Dupont De Nemours Starblast

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 - Carbon Steel

Surface temperatures must be at least 5° F (3° C) above dew point.

Primer: Thurmalox 242 Series	1.5 -2 mils (37-50 microns)
Topcoat: Thurmalox 242 Series	1.5 -2 mils (37-50 microns)
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Total dry film thickness	3.0 – 4.0 mils (75-100 microns)

Applications Guidelines - Stainless Steel *

For optimum protection apply two coats of Thurmalox 242 to a dry film thickness of 1.5-2.0 mils (37-50 microns) per coat. Total recommended dry film thickness is 3.0-4.0 mils (75-100 microns).

Application Equipment

Conventional spray is the recommended method of application, however Thurmalox 242 series coatings may also be applied by airless spray or brush. Do not apply by roller method. Do not apply Thurmalox 242 series coatings in heavier films than specified since blistering may occur.

Conventional spray:

Spray gun	DeVilbiss MBC-510
Fluid tip	FX (1.1 mm tip)
Air cap	704
Fluid hose*	3/8" ID
Air hose	5/16" ID
Atomizing pressure	40-45 psi

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

Airless Spray:

Spray gun	Graco 205-591, 208-663
Fluid tips*	163-614, 163-616 (12"fan)
Pump	Graco Bulldog 30:1
Fluid hose	3/8" ID
Air pressure to pump	65-80 psi

* Use Revers-A-Clean® tips for fast, easy clean out.

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.

Thinning

Only thin Thurmalox 242 series coatings with recommended Dampney Thinners. For Thurmalox 242-02 use 100 Thinner. For Thurmalox 242-0202 use Dampney 180 VOC Thinner.

Note: Use of other thinners not approved by Dampney may hinder product performance and void product warranty.

Dry Time 70°F (21°C) 50% R.H.

Thurmalox 242 series coatings will air dry tack and thumb print free within 1/2-1 hour. Allow 8 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 242 Series coatings 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. Initial cure

takes place at 350°F (177°C) for 30 minutes. Optimum properties of Thurmalox 242 series coatings are not fully realized until the coatings are exposed to temperatures above 1000°F (538°C). Equipment protected with the Thurmalox 240 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 242-02	Thurmalox 242-0202 VOC
Generic Type	Silicone Ceramic	Silicone Ceramic
Color	Black	Black
Temperature resistance		
Continuous	1000°F (538°C)	1000°F (538°C)
Intermittent	1400°F (760°C)	1600°F (871°C)
Percent (%) Solids by volume	43%	48%
Dry film thickness per coat	1.5 - 2.0 mils (37 - 50 microns)	1.5-2.0 mils (37-50 microns)
Wet film thickness per coat	4.0 -5.0 mils (100 - 125 microns)	4.0-5.0 mils (100-125 microns)
Theoretical coverage per gallon	690 mil. sq. ft. (64 sq. m. @ 25 microns)	770 mil sq. ft. (71.5 sq. m @ 25 microns)
Application temperature @ 50% RH	50°F-120°F (10°C-50°C)	50°F-120°F (10°-50°C)
Drying time @ 50% R.H.	50°F (10°C) 70°F (21°C)	50°F (10°C) 70°F (21°C)
To touch	1 hour 30 minutes	1 hour 30 minutes
To recoat	12 hours 8 hours	12 hours 8 hours
To ship	48 hours 24 hours	48 hours 24 hours
Initial cure @ 350°F (177°C)**	30 minutes	30 minutes
Weight per gallon		
Thurmalox 242 Series	11.36±1lb. (5.15 kg.)	13±1lb. (5.26 Kg.)
Dampney 100 Thinner	9.0 lb. (4.1 kg.)	
Dampney 182 VOC Thinner		8.5 lb. (3.9 Kg)
Flash point	81°F (27°C)	102°F (39°C)
Pot life	N/A	N/A
Shelf life	1 year	1 year
Volatile organic compounds	4.0 lb./gal. (479 g./l.) Standard	2.8 lb./gal. (336 g./l) VOC Version

** 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**.