Thurmalox® 280 Aluminum
Air Dry Silicone Coating
Heat Resistance 500°F - 1200°F

Description
Thurmalox 280 Aluminum is an air drying, heat resistant coating based on silicone resins formulated specifically to protect metal surfaces operating at temperatures from 500°F (260°C) to 1200°F (648°C). For maximum corrosion protection, metal surfaces should be primed with Thurmalox 245 silicone zinc dust heat and corrosion resistant primer and topcoated with Thurmalox 280 Aluminum. The 245 primer/280 topcoat system provides outstanding adhesion, film integrity, corrosion-, weathering- and thermal shock-resistance throughout this entire temperature range.

Recommended Uses
- Stacks, Breechings, Boiler Casings
- Refinery Equipment - Heaters, Crackers
- Reformers
- Furnaces, Kilns, Ovens
- Compressors, Turbines, Engines
- Piping, Pumps, Manifolds
- Process Vessels, Heat Exchangers

Features
- Air Dries
- Withstands continuous temperature of 1200°F (648°C)
- Outstanding heat and weathering resistance
- Easy to apply system
- Outstanding resistance to thermal shock

Not Recommended For
- Immersion service
- Interiors of stacks, breechings and scrubbers

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-SP 10, “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 3M brand “Heavy Duty Roto Peen”, type C flap wheel cleaning system mounted on an air-driven motor. This method will provide a surface equivalent to that provided by commercial blast cleaning per SSPC-SP 6, including the desired surface profile (anchor pattern).
5. Feather out all edges of adjacent painted surfaces after completion of surface preparation operations and prior to application of the first coat of paint.

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.

Application Guidelines - Carbon Steel
Surface temperature must be at least 5°F (3°C) above dew point.

Primer: Thurmalox 245 Primer	1.5-2.0 mils (37-50 microns)
Topcoat: Thurmalox 280 Aluminum	1.5-2.0 mils (37-50 microns)
Total dry film thickness	3.0-4.0 mils (75-100 microns)

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Application Equipment

Conventional spray is the recommended method of application. However, Thurmalox 280 Aluminum may also be applied by airless spray, brush or roller. Do not apply Thurmalox 280 Aluminum in heavier films than specified since blistering may occur.

Conventional Spray:

Spray gun	DeVilbiss MBC-510 or equal
Fluid tip	AV115-FX (0.0425")
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 press. to pump	65-80 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 280 Aluminum with Dampney 100 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% RH

Thurmalox 280 Aluminum 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 280 Aluminum 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 30 minutes. Equipment protected with Thurmalox 280 Aluminum 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 a 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

0109-REV
Replaces issue of 0306

TECHNICAL DATA

Characteristics	Thurmalox 280 Aluminum	
Generic Type	Silicone	
Color	Aluminum	
Temperature resistance		
Continuous	1200°F (649°C)	
Percent (%) Solids by volume	25	
Dry film thickness per coat	1.5 - 2.0 mils (37 - 50 microns)	
Wet film thickness per coat	6.0 - 8.0 mils (150 - 200 microns)	
Theoretical coverage	401 mil. sq. ft. per gallon	
	9.6 sq. m. @ 25 microns per liter	
Application temperature @ 50% RH	50°F-120°F (10°C-50°C)	
Drying time @ 50% RH	50°F (10°C)	70°F (21°C)
To touch	1 hour	30 minutes
To recoat	12 hours	8 hours
To ship	48 hours	24 hours
Full cure @ 350°F (177°C)*	30 minutes	
Weight per gallon		
Thurmalox 280 Aluminum	9.6 lb. (4.3 kg.)	
Dampney 100 Thinner	7.2 lb. (3.2 kg.)	
Flash point	45°F (7°C)	
Pot life	N/A	
Shelf life	1 year	
Volatile organic compounds	5.3 lb./gal. (630 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.**

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