



#### DESCRIPTION

*Thurmalox 218 Primer/219 Topcoat System* are VOC compliant, high build, modified silicone coating formulated for the protection of metal surfaces under insulation exposed to temperatures from ambient to 50°F (232°C). This coating system is specifically formulated to be applied directly to hot steel having a metal temperature of up to 450°F (232°C) during application. Thurmalox 218/219 performs exceptionally in continuous immersion of hot and/or boiling water. It has excellent resistance to continuous and/or rapid wet-dry-wet thermal cycling to 450°F (232°C). *Thurmalox 218/219* are durable, tough coatings able to withstand severe thermal shock as well as excellent chemical resistance.

#### RECOMMENDED USES

*Thurmalox 218 Primer / 219 Topcoat Under Insulation Coating System Wet/Dry Thermal Cycling to 450°F Apply Directly to Hot Steel:*

- Insulated hot equipment and piping
- Insulated equipment exposed to thermal shock to 450°F (232°C)
- Equipment under insulation exposed to wet-dry-wet cyclic conditions from ambient to 450°F (232°C)

#### FEATURES

- Apply directly to metal surfaces as hot as 350°F (176°C)
- Coat hot equipment without being shut down
- Resistant to continuous immersion in ambient, hot and/or boiling water
- High solid, high build
- Excellent thermal cycling resistance
- VOC Compliant System

#### SURFACE PREP – CARBON STEEL

1. To ensure optimum long-term coating system performance, surface 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 spatter. 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. Abrasive used in blasting should be selected carefully from materials of mesh size required to produce the desired anchor pattern.

#### APPLICATION GUIDELINES - CS

Surface temperature must be at least 5°F (3°C) above the dew point

#### SURFACE PREP – STAINLESS STEEL

4. 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". Using Dampney 170 Cleaning Solvent.
5. DO NOT USE CHLORINATED SOLVENTS ON STAINLESS STEEL SURFACES.
6. For large surface areas abrasive blast with "starblast XL" to achieve a surface profile of 1.5-2.5mils
7. For small surface areas, power sand following SSPC-SP11 "Power Tool Cleaning" using 16 or 24 grit aluminium oxide coated abrasive fibre disc attached to a rubber pad backer.  
\*starblast is a DuPont registered trademark

#### APPLICATION GUIDELINES - SS

Surface temperature must be at least 5°F (3°C) above the dew point

#### UNINSULATED STAINLESS & CARBON STEEL

Coating System	Thickness
Thurmalox 218 Primer	125-150 microns
Thurmalox 219 Topcoat	125-150 microns
Thurmalox 200 Finishcoat	35- 50 microns

- Total Average DFT system is 375-450 microns





#### MIXING

Thurmalox 218 Primer and Thurmalox 219 Topcoat are two component coatings consisting of a Part A and Part B that must be mixed together before use. The mix ratio for Thurmalox 218 is 4:1 and that of Thurmalox 219 is 2:1 by volume. The individual component should be mixed separately to disperse pigment uniformly. Add Part B to Part A and mix thoroughly with a low-speed power mixer for a minimum of 3 minutes or until mixed coating is completely blended and of uniform colour

#### APPLICATION EQUIPMENT

Thurmalox 218/219 Coating may be applied by the following

 Airless Spray	Pump Ratio - 30 to 1 Min Nozzle Orifice - 11 to 15 Thou Tip Pressure - 100 Bar Min
 Conventional Spray	<ul style="list-style-type: none"> <li>• Air Assisted Airless</li> <li>• Pressure Pot - Pressure Feed Gun</li> <li>• Gravity Feed Gun</li> <li>• Various Nozzle sets are available to suit the guns</li> </ul>

#### PRECAUTIONARY INFORMATION

**WARNING:** Combustible Liquid and Vapour. Keep away from heat, sparks and flame. Vapours may cause flash fire. Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Use with adequate ventilation during mixing and application. Wear an appropriate, properly fitted organic vapour cartridge-type respirator (NIOSH approved) during and after application unless air monitoring demonstrates vapour/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 non-sparking tools and equipment. Wear conductive and non-sparking 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**

#### APPLICATION TO HOT SURFACES

##### Application guidelines

1. Flush spray equipment with Dampney 162 Thinner before use
2. Thinning of Thurmalox 218/219 coatings is not normally required for spray application
3. Dampney 162 thinner is a high flash point (102°F), slow evaporating solvent formulated especially for application to hot surfaces.
4. **WARNING! DO NOT** use any other solvents to thin Thurmalox 218/219 coatings. A fire hazard may result from use of solvents with low auto ignition temperatures when applying Thurmalox 218/219 coatings to hot surfaces, and rapid solvent evaporation can cause dry spray and poor film characteristics
5. Use Dampney 162 Thinner cautiously. Addition of a small amount of thinner will cause a great reduction in coating viscosity. Excessive thinning will cause runs or sags.

For conventional spray use adequate air pressure and volume to obtain a proper atomization. Be aware that procedures for applying coatings to hot surfaces are somewhat different from those normally used for application to ambient temperature surfaces. The following factors should be taken into consideration:

- Heat radiating from the surface and/or strong winds will promote dry spray
- To avoid dry spray, always apply coatings perpendicular to hot surfaces without reaching
- Perpendicular spraying will also minimize overspray and lap marks

On each pass of the spray gun a thinner than normal paint film must be applied to facilitate the heat-accelerated escape of solvents without leaving pinholes.

##### Thinning

Only thin Thurmalox 218/219 coating with Dampney 162 Thinner. Do not thin beyond federal, state and/or local VOC emission regulations. Note: Use of other thinners not approved by Dampney may hinder product performance and void product warranty

##### Clean Up

Thoroughly flush spray equipment and hoses immediately after use with Dampney 162 Thinner. Dismantle spray equipment and clean parts, crushes and rollers with Dampney 162 Thinner.

##### Cure Time

Thurmalox 218/219 Coating System will cure within 8 Hours. Allow 4 hours dry time between coats. A temperature of 160°F (71°C) must be achieved for the coating system to withstand hot/boiling water. Higher application temperature will reduce cure time.

##### Cure Time

Store in a cool, dry place with temperature between 10°C & 38°C) Keep container closed when not in use.



#### TECHNICAL DATA 218 PRIMER

Characteristics	Thurmalox 218 Primer
Generic Type	Polymeric Compound
Mix Ratio by Volume	4:1
Colour	Light Grey
Temperature Resistance	Continuous - 232°C
	Intermittent - 260°C
Percent Solids by Volume	61%
Dry Film Thickness / Coat	125 – 150 Microns
Wet Film Thickness / Coat	200 – 250 Microns
Theoretical Coverage	24m <sup>2</sup> /lt at 25 microns
Application Temp. @50% RH	71°C - 232°C
Cure Time @ 50% RH	To Recoat – 4 Hours
	To Re-Insulate – 24 Hour
Weight per gallon	5.0 kg
Pot Life	2 Hours
Shelf Life	1 Year
Volatile Organic Compounds	263g/L

\*A temperature of 71°C must be achieved for the coating system to withstand hot/boiling water

\*\*Note 218 will change to amber colour at 121°C. This is normal

#### TECHNICAL DATA 219 TOPCOAT

Characteristics	Thurmalox 219 Topcoat
Generic Type	Polymeric Compound
Mix Ratio by Volume	2:1
Colour	Black
Temperature Resistance	Continuous - 232°C
	Intermittent - 260°C
Percent Solids by Volume	56%
Dry Film Thickness / Coat	125 – 150 Microns
Wet Film Thickness / Coat	200 – 250 Microns
Theoretical Coverage	21.5m <sup>2</sup> /lt at 25 microns
Application Temp. @50% RH	71°C - 232°C
Cure Time @ 50% RH	To Recoat – 4 Hours
	To Re-Insulate – 24 Hour
Weight per gallon	6.6 kg
Pot Life	2 Hours
Shelf Life	1 Year
Volatile Organic Compounds	312g/L

\*A temperature of 71°C must be achieved for the coating system to withstand hot/boiling water

\*\*Note 218 will change to amber colour at 121°C. This is normal

#### TEST DATA

Test Data	Thurmalox 218 Primer Thurmalox 219 Topcoat
Boiling Water Immersion Resistance	Cyclic immersion – 3 months – no effect
Ambient Water Immersion Resistance	Cyclic Immersion – 3 months – no effect
Thermal Shock Resistance	232°C quenched into cold water 40 cycles in 6 hours
Salt fog Resistance	ASTM B 117-95 5,000hrs no effect
Hardness	ASTM D 3363-92A 6H
Adhesion	ASTM D 3359-95 5B
Splash & Spill Resistance Excellent	30% sulphuric acid
	10% Hydrochloric acid
	85% Phosphoric Acid
	5% Acetic Acid
	5% Sodium Hydroxide
	29% Ammonium Hydroxide
	Methyl iso-butyl ketone
	Iso-propyl alcohol
	Mineral Spirit
	E E Acetate

#### 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.**