

Thurmalox® 225HD

**High Build, Air Dry, High Temperature
VOC Compliant Coating**



DESCRIPTION

Thurmalox 225 HD is a two component, corrosion inhibitive high build, air dry, high temperature, VOC compliant coating system, for protection of carbon and compliant coating system for protection of carbon and stainless steel surfaces from atmospheric corrosion and corrosion under insulation. It is an ideal coating to cover steel surfaces with deep profiles, elimination the problem of pinpoint rusting by covering the peaks with this unique high build coating. Thurmalox 225HD may be top coated with itself, Thurmalox 230/230C series or Thurmalox 260/260C series

RECOMMENDED USES

Application to surfaces where (1) the benefits of Thurmalox 225HD are needed, and where (2) federal, state and/or local authorities require high temperature coatings to be compliant with reduced VOC (volatile organic compound) emission regulations

- Stacks, breechings, boiler casings
- Manifold, mufflers and exhausts
- Hot piping, process vessels, heat exchangers
- Refinery equipment – heaters, crackers
- Furnaces, kilns, heat exchangers
- Insulated surfaces from 260°C to 538°C (NOTE: 225HD must be air dried for a minimum of 7 days before insulating)

FEATURES

- High build, high solids
- Self-priming, two component
- Easy to apply by brush, roller or spray
- VOC compliant – 292 g/L
- Withstands temperature of 538°C
- Air dries
- Easily top coated with Dampney Topcoats
- Protects against weathering and corrosion

NOT RECOMMENDED FOR

- Interiors of breechings
- Interiors of scrubbers

PERFORMANCE TESTING DATA

Test Data	Thurmalox 225HD
High Temperature Test ASTM 2485 Method A 538°C	100% Pass
Abrasion Resistance ASTM D4060 (Heat Cured) CS-17 wheel, 500gm load, 1000 Cycles	320mg Loss
Abrasion Resistance ASTM D4060 (Air dried) CS-17 wheel, 500gm load, 1000 Cycles	370mg Loss
Flexibility ASTM D 522 Mandrel Bend Test	Heat Cured: 6.0 mils DFT -13% Elongation Ambient Cured: 6.0 mils DFT – 22% elongation
Salt Fog Resistance ASTM B 117 (6 mils DFT)	Heat Cured: no rust, blisters, cracking, delamination, and no undercutting -1500 hours Ambient Cured: no rust, blisters, cracking, delamination, and no undercutting -1000 hours

SURFACE PREPARATION

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, visible contaminants or other foreign matter detrimental to the adhesion of this coating system

Remove all surface imperfections that will induce premature coating system failure. All sharp edges should be rounded and rough welds and weld spatter should be ground smooth

Carbon Steel: Insulated Or Un-Insulated

Abrasive blast all surfaces to SSPC-SP 10, “near White Metal Blast” / NACE No.2, Leaving all surfaces with a profile depth of 38.1-76.2 microns after blasting. Care should be taken to select abrasives of a proper mesh size to yield the degree of cleanliness and required profile depth.

If abrasive blasting is not permitted, prepare surface by “Power Tool Cleaning” per SSPC-SP 11, using a “Dynascaler® Air Powered Surface Preparation Tool” with 3M® Heavy Duty Roto Peen “Bonded Shot” flap assemblies mounted in the tool



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Datasheet

SURFACE PREPARATION

Stainless Steel: Insulated Or Un-Insulated

All surfaces must be clean and dry. Remove all oil, grease, soils, drawing and cutting compounds, and other foreign matter by methods outlined in Steel Structures Painting Council Specification SSPC-SP 1 "Solvent Cleaning"; using Dampney 170 Cleaning solvent. Prepare all surfaces by using "Starblast®" fine grade to achieve a surface profile of 38.1-50.8 microns)

Note: DO NOT USE CHLORINATED SOLVENTS ON STAINLESS STEEL SURFACES

MIXING

Thurmalox 225HD has a 9:1 mix ratio by volume consisting of a Part A and Part B which must be mixed together before use. The individual components must be mixed separately to disperse the pigments 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 a uniform colour. Do not open containers until ready to use. Keep lid on container when not in use.

CURE TIME & POTLIFE

Cure time at 21°C, 50% RH

Thurmalox 225HD will air dry, tack and thumb print free, within 4 to 6 hours. A temperature of 149°C must be achieved to cure Thurmalox 225HD before it can be put into wet-dry-wet thermal cycling service

Pot Life

After mixing, Thurmalox 225HD must be used within 8-12 hours

APPLICATION GUIDELINES

Apply only when air, product and surface temperatures are above 10°C and surface temperature is at 3°C above the dew point. The relative humidity during application and curing should not exceed 80%

Thurmalox 225HD can be applied by brush, roller, Airless spray or conventional spray. No thinning is required for brush, roller or spray application

APPLICATION GUIDELINES

Brush/Roller – Extra Care should be taken to measure and hold film thickness when applied by brush and roller. This method should only be used when spray application is not available



Brush – Use a medium china bristle with steel shank and wooden handle. Do not use synthetic-bristled brushes

Roller – use a wooden handle roller with a ½" phenolic cored lamb's wool roller attached. Roll coating out thoroughly maintaining a continuous wet edges and uniform appearing paint film

Thinning– only thin Thurmalox 225HD with Dampney 180 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 hose immediately after use with Dampney 162 thinner. Dismantle spray equipment and clean parts, brushes and roller with Dampney 162 thinner

Storage– store in a cool dry place with temperatures between 10°C and 38°C. keep container closed when not in use.

 Airless Spray	Pump Ratio - 30 to 1 Min Nozzle Orifice - 17-23 Thou Tip Pressure - 2500-3000PSI
 Conventional Spray	<ul style="list-style-type: none"> • Air Assisted Airless • Pressure Pot - Pressure Feed Gun • Gravity Feed Gun • Various Nozzle sets are available to suit the guns

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RECOMMENDED SYSTEMS

CARBON & STAINLESS STEEL - INSULATED

Coating System	Thickness
Thurmalox 225HD	102-127 microns
Thurmalox 225HD	102-127 microns
Total Dry Film Thickness	204-254 microns

CARBON & STAINLESS STEEL – UN-INSULATED

Coating System	Thickness
Thurmalox 225HD	102-127 microns
Thurmalox 230C or 260C	64-76 microns
Total Dry Film Thickness	166-203 microns

Note: other Thurmalox coating systems can be put over Thurmalox 225HD as finish coating. When extreme cyclic (fast thermal cycling) conditions are present, consult Speccoats Technical Service Department

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

TECHNICAL DATA

Characteristics	Thurmalox 225HD
Generic Type	Modified Silicone Co-Polymer
Colour	Light Grey
Number of Components	2
Temperature Resistance	Continuous – 149-538°C Intermittent – 648°C
Percent Solids by Volume	50%
Dry Film Thickness / Coat	101.6 - 127 Microns
Wet Film Thickness / Coat	203.2 - 254 Microns
Theoretical Coverage	19.7m ² /lt at 25 microns
Viscosity	1,190 CPS
Application Temp. @50% RH	10°C -93°C
Cure Time 10°C @ 50% RH	To Touch – 6 Hours To Handle – 12 Hours To Recoat – 48 Hours Full Cure – 7 Days
Cure Time 24°C @ 50% RH	To Touch – 4 Hours To Handle – 8 Hours To Recoat – 24 Hours Full Cure – 7 Days
Cure Time 34°C @ 50% RH	To Touch – 3 Hours To Handle – 6 Hours To Recoat – 12 Hours Full Cure – 7 Days
Thurmalox 225HD (part A) Thurmalox 2252 (part B) Dampney 180 (thinning) Dampney 170 (SS Cleaning) Dampney162 (equip. clean)	6.804 kg 3.084 kg 3.74 kg 3.97kg 3.424 kg
Flash Point	27.2°C
Shelf Life	1 Year
Volatile Organic Compounds	292 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.**