



Dampney Protective Coatings

Apexior® Number 1® Single Component Air Dry Coating Wet Heat Resistance from 200°F - 700°F Immersion of Boiling Water/Steam

Description

Apexior Number 1 is a single component, easy to apply air dry coating specifically formulated for the hot water-side corrosion prevention of metal surfaces. It is a coating that excels in severe thermal cyclic immersion service. Apexior Number 1 is resistant to continuous immersion in boiling water and steam from 200°F to 700°F (371°C). It aids in the reduction and prevention of tight bonding of hard scale and allows for easy cleaning and removal of any scale buildup in steam generating equipment. Apexior Number 1 prevents pitting corrosion and stops corrosion that has already begun - except for badly pitted areas. It has outstanding wetting properties and adheres well to power tooled cleaned areas. Equipment coated with Apexior Number 1 will also see an increase in heat transfer efficiency. Apexior Number 1 performs ideally with water treatment in steam generating equipment.

Recommended Uses

Apexior Number 1 protects hot water-side surfaces of:

- Steam generating equipment
- Hot condensate return tanks
- De-aerators
- Hot process tanks
- Autoclaves, sterilizing equipment
- Heat recovery system
- Mud and steam drums
- Steam traps

Features

- Air dries, easy to apply
- Excellent wettability properties
- Easily re-coatable
- Resistant to boiling water/steam to 700°F
- Increases heat transfer efficiency
- Outstanding resistance to thermal shock (immersion)
- Inert to water treatment
- Prevents corrosion in standby service
- Prevents scale buildup
- Surface tolerant features

Not Recommended for

- Hot water tank service with average operating temperature below 200°F (93°C)
- Immersion in solvents or acids
- Interior of boilers held for long periods in cold, wet layup or standby service

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. 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).

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.

Bulletin Apexior Number 1

Applications Guidelines - Carbon Steel

Apply first coat of Apexior Number 1 at 3.5–4.0 mils DFT. Allow to dry 6 to 8 hours before applying second coat at 3.5-4.0 mils DFT. Follow dry time instruction before placing in service.

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

Primer: Apexior Number 1	3.5-4.0 mils (87-100 microns)
Topcoat: Apexior Number 1	3.5-4.0 mils (87-100 microns)
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Total dry film thickness	7.0-8.0 mils (175-200 microns)

Application Equipment

Apexior Number 1 may be applied by conventional spray, airless spray, or brush. Do not apply Apexior Number 1 in heavier films than specified since blistering may occur. During application of Apexior Number 1 ventilate area with high volume of air.

Conventional Spray:

Spray gun	Binks 95
Air hose	1/4" nps(m)
Fluid hose	3/8" nps(m)
Air nozzle	67PB
Fluid nozzle	67SS
Orifice size	.086
Atomizing pressure	35-40 lbs
Pot pressure	10-15 lbs

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

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

Brush:

Do not use synthetic bristle brushes. Using the side of the brush, scoop Apexior Number 1 from the container and apply in sweeping strokes, overlapping the brush strokes. Do not attempt to remove brush marks.

Thinning

Only thin Apexior Number 1 with Dampney 105 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

Apexior Number 1 will air dry in 16-24 hours. Allow equipment to air dry for 7 days before placing equipment into service. Ventilate the area with a high volume of air until there is little or no odor of solvent remaining. Coating must be free of solvents prior to being placed into service. Begin ventilation of area during application of Apexior Number 1. A water immersion temperature of 200°F (93°C) must be achieved for the coating system to withstand water temperature below 200°F (93°C).

Cleanup

Thoroughly flush spray equipment and hoses immediately after use with Dampney 105 Thinner. Dismantle spray equipment and clean parts, brushes and rollers with Dampney 105 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: Combustible 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	Apexior Number 1
Generic Type	Organic
Color	Black
Temperature resistance (wet only)	
Continuous	700°F (371°C) boiling water/steam
Percent (%) Solids by volume	34
Dry film thickness per coat	3.5 - 4.0 mils (87 - 100 microns)
Wet film thickness per coat	9.0 - 12.0 mils (225 - 300 microns)
Theoretical coverage	550 mil. sq. ft. per gallon
	13.2 sq. m. @ 25 microns per liter
Application temp. @ 50% RH	50°F-120°F (10°C-50°C)
Drying time @ 50% RH	70°F (21°C)
To touch	6 - 8 hours
To recoat	16 - 24 hours
*Full cure @ 70°F (21°C)	7 days
Weight per gallon	
Apexior Number 1	8.8 lb (4.0 kg)
Dampney 105 Thinner	6.5 lb (2.9 kg)
Flash point	110°F (43°C)
Pot life	N/A
Shelf life	1 year
Volatile organic compounds	4.4 lb./gal. (527 g./l.)

* A water immersion temperature of 200°F (93°C) must be achieved for the coating system to withstand water temperature below 200°F (93°C).

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**.