

ChemLINE[®] 2400/31

Protective Lining For Abrasion Resistant Service At Higher Temperatures

Description

ChemLine[®] 2400/31 is an abrasion resistant heat cured polymer lining system. ChemLine[®] 2400/31 is a tough, flexible lining designed to handle the abrasiveness of coal, ore, plastic pellets and other media up to 400°F (204°C).

ChemLine[®] 2400/31 has excellent chemical resistance capable of withstanding the corrosive attack that normally comes with media handled.

Chemical Resistance

Sulfuric acid to 98%, most solvents including methylene chloride, MEK, methanol, gasohol, distilled water, inorganic acids, dilute organic acids and alkalis. Ideal for corrosive vapor environments.

Industry Applications

- Slurry pipes
- Ducts
- Pumps
- Coal shutes, etc.
- Bag Houses

Application Highlights

- Can be applied to pitted and corroded steel surfaces — surface tolerant
- Very high abrasion resistance
- High build
- Force cured system at 300°F (150°C)
- Low VOC - 102 grams/L (0.85 lbs. per gallon)
- Excellent adhesion
- Flexible to take vibration and twisting
- Easily patched by maintenance personnel
- Steam cleanable
- Complies with FDA 21 CFR 175.300
- Resists Hydroblasting
- Dry Heat Resistance to 400°F (204°C)

Typical Properties

- Color (Normal) _____ Gray
- Weight/Gallon _____ 12.5 lbs.
- V.O.C. Level/Gal. _____ 102 grams/L (0.85 lbs./gal.)
- Lead Content _____ Zero
- Pot Life _____ 120 minutes @ 75°F (24°C)
- Viscosity Reduction _____ Reduce with Toluene or Xylene
- Flash Point _____ 127°F (53°C)
- Solids by Volume _____ 91.0%
- Solids by Weight _____ 97.0%
- Chromate Content _____ Zero
- Theoretical Coverage (sq. ft. per gallon) _ 90 sq. ft. per gallon at 16 DFT
(2.3 sq. M/L @ 400 microns)
- Recommended Film Thickness (dry) mils _____ 16 mil average
- Shelf Life _____ 1 year min at 50-90°F (10-32°C)
- Dry Heat Resistance to _____ 400°F (204°C)

Superior Corrosion and Erosion Resistance Performance

Chemical Resistance Test

See the APC Chemical Resistance Tables for more complete chemical listings.

	ChemLine® 2400/31	Vinyl Ester	Epoxy (Hibulid)	Rubber	Phenolic (Hibake)
Glacial Acetic Acid	A	N	N	L	L
Acetone	A	N	N	N	A
Ammonium Chloride	A	A	A	A	L
Ammonium Hydroxide	A	A	A	A	L
Benzene	A	A	N	N	A
Black Liquor (Paper)	A	A	A	A	L
Bromine Water	A	N	N	N	L
Carbon Tetrachloride	A	A	N	N	A
Chlorine Water	A	A	N	A	N
Chlorobenzene	A	A	A	N	N
Chromic Acid, 50%	A	N	N	A	L
Dichlorobenzene	A	N	N	—	N
Dimethylformamide	A	N	N	N	A
Ethanol	A	A	A	L	A
Formaldehyde	A	A	A	N	A
Furfural Alcohol	A	L	N	N	A
Gasoline	A	A	A	N	A
Hydraulic Oil	A	A	L	L	A
Hydrochloric Acid, 0-37%	A	A	A	A	L
Hydrofluoric Acid, 52%	A	N	N	—	N
Jet Fuel	A	A	A	L	A

	ChemLine® 2400/31	Vinyl Ester	Epoxy (Hibulid)	Rubber	Phenolic (Hibake)
Kerosene	A	A	A	L	A
Latex	A	L	L	N	A
Methanol	A	L	N	N	A
Methylene Chloride	A	N	N	N	A
MEK	A	L	N	N	A
MIBK	A	L	N	N	A
Molten Sulfur	A	N	N	N	L
Monochloroacetic Acid	A	N	N	N	N
Nickel Plating	A	A	A	—	A
Phosphoric Acid, 85%	A	N	N	L	L
Sodium Chloride	A	A	A	A	A
Sodium Dichromate	A	L	N	A	N
Sodium Hydroxide	A	N	L	A	N
Sodium Hypochlorite, 17%	A	A	N	N	N
Sulfite Liquor (Paper)	A	A	A	A	A
Sulfuric Acid, 0-98%	A	N	N	A	A
Tallow	A	N	N	N	A
Toluene	A	A	A	N	A
Trichloroethylene	A	N	N	N	—
White Liquor (Paper)	A	A	A	L	A

A = Good at ambient temperatures

L = Limited Service

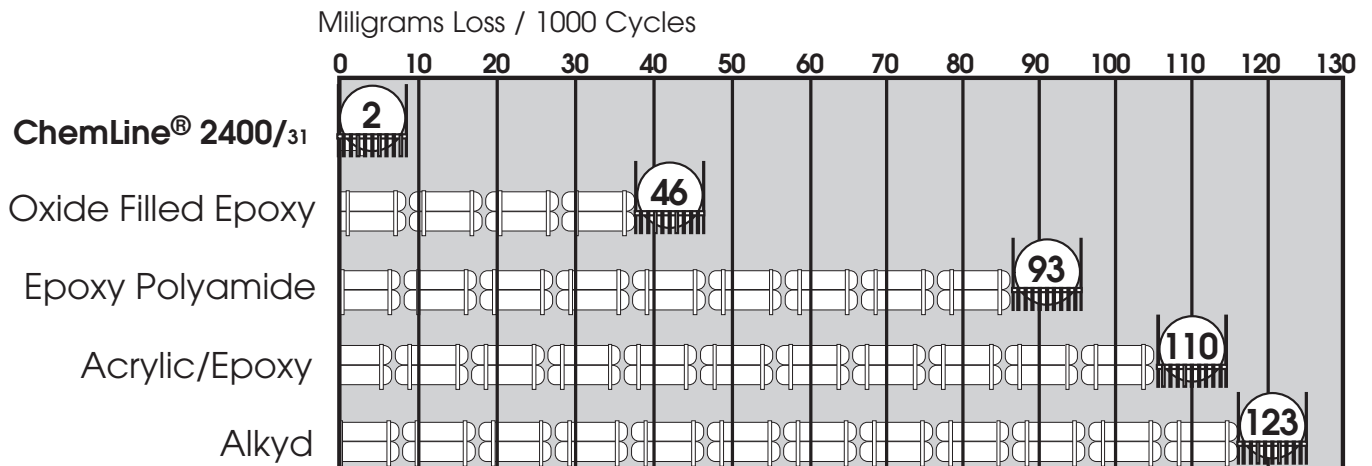
N = Not recommended

— = No information

Abrasion Resistance

Taber Abrasion Test ASTM D4060 C-17 WHEEL

Comparison of ChemLine® 2400/31 vs. Various Linings



Application Data

Note: The following application data is provided as a **general guide only**. Only full detailed application specifications are to be used during actual application of the ChemLine® 2400/31 system.

Surface Preparation

Abrasive blast to SSPC-SP10 (NACE #2, Sa 2.5) near white metal finish. 3-4 mil (75-100 micron) blast profile.

Mixing Instructions

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied.

- (1) Thoroughly mix the contents of Part A with a power agitator until uniform consistency and color is obtained. Be sure that any solids that may have settled through storage have been put back in suspension.
- (2) Slowly combine the contents of the activator with the previously mixed Part A.
- (3) Thoroughly mix the two parts until a uniform consistency and color is obtained.

Clean Up Solvent

Acetone, Toluene, Xylene

Limitations

Apply when the air and surface temperatures are above 60°F (15°C). Surface temperatures must be at least 5°F (-15°C) above the dew point. For optimum application properties, bring material to 70-90°F (21-32°C) prior to mixing and application. Increased temperatures will result in shorter pot life.

Application

Airless spray equipment with minimum 45:1 pump ratio @80-100 lbs. to achieve 2500-3000 p.s.i. tip pressure. Reverse-A-Clean tip .019 to .023, with 3/8" fluid hose, 1/4" by 6' whip hose, with a maximum of 100 linear feet. This coating is a low VOC compliant material. If shop conditions require a viscosity adjustment, thin with Xylene or Toluene.

Cure Time And Temperature

Forced Hot Air - electrically heated air or propane or natural gas combustion heated air only.
6 hours at minimum 250°F (122°C).

All temperatures are substrate temperatures.

Contact APC for detailed heat cure requirements.

Handling Precautions

Solvents and chemicals are contained in this product. Consult the Material Safety Data Sheet for details. Adequate safety and health precautions should be taken during handling, application and drying of this product. The material should be applied under local, state, federal regulations and in accordance with OSHA and ANSI bulletins on safety requirements.

ChemLINE[®] 2400/31

ChemLine[®] Industrial Coatings

PRODUCT NAME	TEMP RATING	CURE SCHEDULE	APPLICATION METHOD	SYSTEM DFT	TYPICAL APPLICATIONS	FEATURES & BENEFITS
ChemLine [®] 784/32	-40°F to +400°F (-40°C to 204°C)	180°F to 300°F (6 hours) (82°C - 149°C)	SP,BR,RL	12-14 mils (steel)	Reactors, chemical storage tanks, scrubbers, piping, ducts, rail cars, ISO tanks, OTR tankers, & barges	Excellent chemical resistance. Low temperature cure.
	-40°F to +400°F (-40°C to 204°C)	Ambient (5-15 days)	SP,BR,RL	12-14 mils (steel) 20-24 mils (concrete)	Secondary containment, clean rooms, structural steel, manhole covers/ vaults, floors	Ambient cure. Excellent chemical resistance.
ChemLine [®] 784/31	-40°F to +500 F (-40 C to 260 C)	250 F to 350 F (6 hours) (121°C - 177°C)	SP,BR,RL	12-14 mils (steel)	Tanks, pipes, & scrubbers	High temperature resistance. Best chemical resistance at high temperature.
ChemLine [®] 2400 Series	-40°F to +400°F (-40°C to 204°C)	180°F to 300°F (6 hours) (82°C - 149°C)	SP,BR,RL	16-18 mils (steel)	Slurry tanks, scrubbers, dump trucks, bag houses, FGD units, tank containers, & hopper cars	Outstanding abrasion resistance. Excellent chemical resistance. Low temperature cure.
	-40°F to +300°F (-40°C to 148°C)	Ambient (5-14 days)	SP,BR,RL	24-26 mils (concrete)	Slurry tanks, pipes, secondary containment, sumps, trenches, pits, & clarifiers	Ambient cure. Outstanding abrasion resistance. Excellent chemical resistance.
ChemLine [®] LE	-40°F to +500°F (-40°C to 260°C)	250°F to 350°F (6 hours) (121°C - 177°C)	SP,BR,RL	12-14 mils (steel)	Stacks, ducts, heat exchangers, pressure vessels, FGD systems, bag houses, & scrubbers	High temperature resistance. Best chemical resistance at high temperature. Excellent CTE match with steel.
ChemLine [®] TDC	-40°F to +500°F (-40°C to 260°C)	200°F to 400°F (3-6 hours) (93°C - 204°C)	SP	30-60 mils (steel)	HOT steel structures, steam pipes	Temperature dissipating coating for hot steel surfaces where heat can cause injury.
ChemLine [®] Primer	-40°F to 110°F (-40°C to 43°C)	Ambient	SP,BR,RL	3-4 mils (concrete)	Secondary containment tanks	Superior bonding & sealing properties.
ChemLine [®] Caulk	-40°F to +212°F (-40°C to 100°C)	Ambient	Trowel	See data sheet	Covings, cracks, & joints	Excellent chemical resistance & flexibility. (Pre-measured quart kits).
ChemLine [®] Putty	-40°F to +250°F (-40°C to 121°C)	Ambient to 300°F (149°C)	Trowel	See data sheet	Pitted steel & chime areas	Excellent chemical resistance & flexibility. (Pre-measured quart kits).

KEY CODE:

SP= Spray Application
BR= Brush Application
RL= Roller Application

-----THIS IS ONLY A REFERENCE GUIDE-----

Contact your ChemLine[®] Representative or the ChemLine Customer Service Hotline 1-800-334-7193 for detailed specifications prior to any final coatings recommendation or application.

NOTE- The Roller and Brush application is NOT a preferred application to use on steel; only use for repair or stripe coating.

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Product covered under one or more of the following patents or patents pending. 5,169,912 5,658,996 5,874,501



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