

ChemLINE[®] LE

Protective Lining For Superior Corrosion and High Temperature Resistance with Exceptional Flexibility and Toughness

Description

ChemLine[®] LE coating is specially formulated polymer resin for handling the high temperature and abrasion requirements of the power industry. ChemLine[®] LE is a two-component force cure system that offers unique characteristics. ChemLine[®] LE is a cross-linked organic-inorganic multifunctional polymer coating that is cured through homopolymerization. This dense crosslinked polymer exhibits high flexibility and toughness, having no detrimental hydroxyl or ester groups. Due to ChemLine[®] LE's temperature resistance (500°F/260°C), it provides superior resistance to:

- Acids, alkalis, solvents, oxidizing agents
- Thermal shock -40°F (-40°C) to +500°F (+260°C)
- Flex stressing
- Wear and abrasion
- Impact

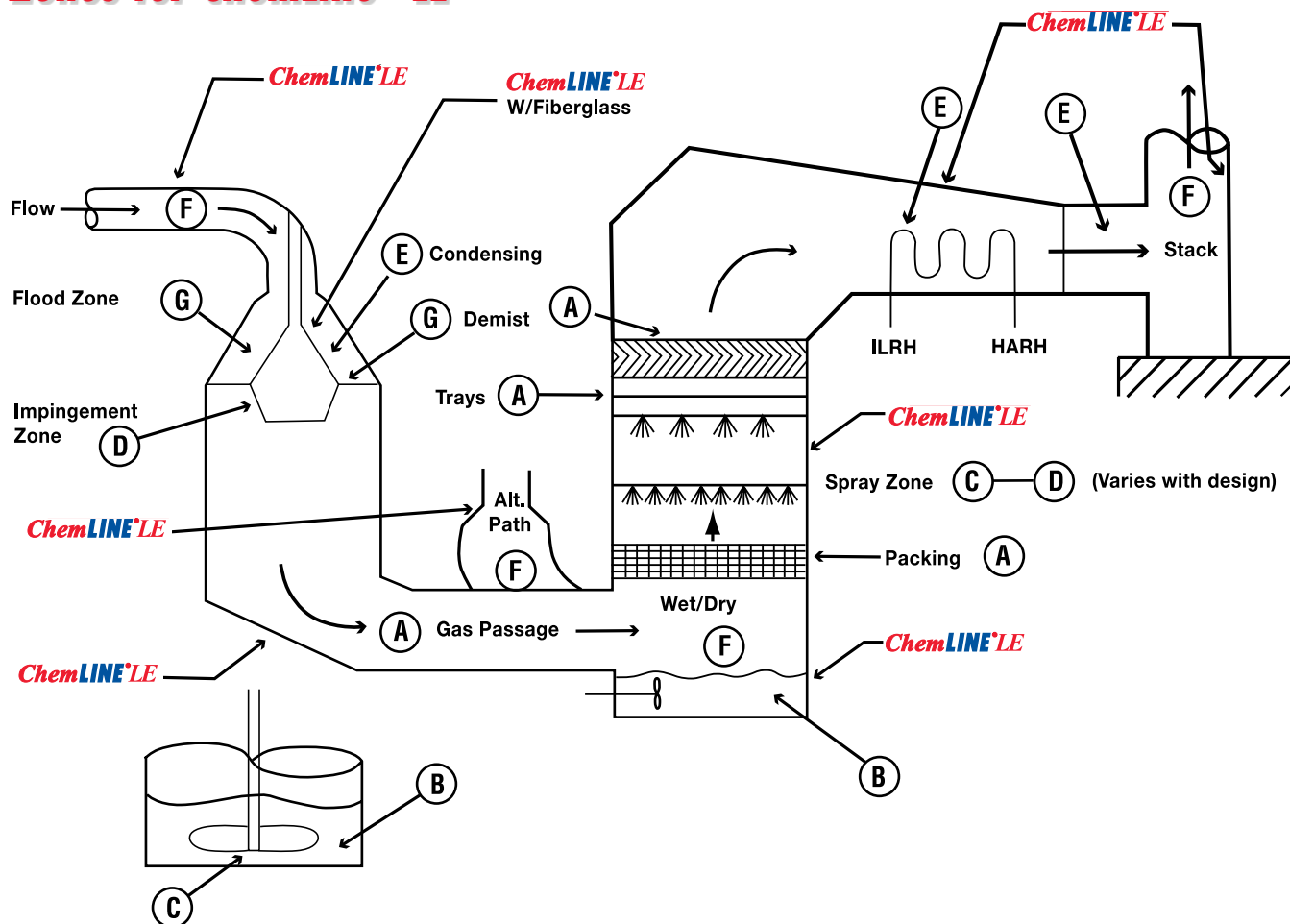
Industry Applications

- Stacks
- Chimneys
- Ducts
- Flu gas desulfurization scrubbers
- Chemical scrubbers
- Pre-scrubbers
- Spray towers
- Fans

Application Highlights

- Resists fly ash abrasion
- Low coefficient of thermal expansion
- Very high bond strengths
5200 PSI on grit blasted steel
- Smooth, low surface energy reduces fly ash buildup in ducts and stacks
- Applied to pitted corroded steel
- Very low VOC - 108 grams/L
(0.9 lbs.per gallon)
- Outstanding flexibility
- Non-permeable
- Steam cleanable
- Resists hydroblasting
- Repairable
- Sunlight resistant
- Coefficient of thermal expansion equal to stainless steel
- Resists high voltage
- Dry heat resistance up to 500°F (260°C)

Typical FGD Schematic (non-denominational) Showing Various Lining Zones for ChemLine® LE



Explanation of Above Codes Used to Define Living Environment

Code	Chemistry	Mechanical Environment	Temp	Recommendation
A	Mild Corrosive (Vapor)	Mildly Abrasive	High	ChemLine® LE
B	Moderate (Immersion)	Mild	Mild	ChemLine® LE
C	Moderate	Moderate	Mild	ChemLine® LE
D	Moderate	Severe	Mild	ChemLine® LE
E	Severe	Mild	Moderate	ChemLine® LE
F	Severe	Mild	Severe	ChemLine® LE
G	Severe	Severe	Severe	ChemLine® LE

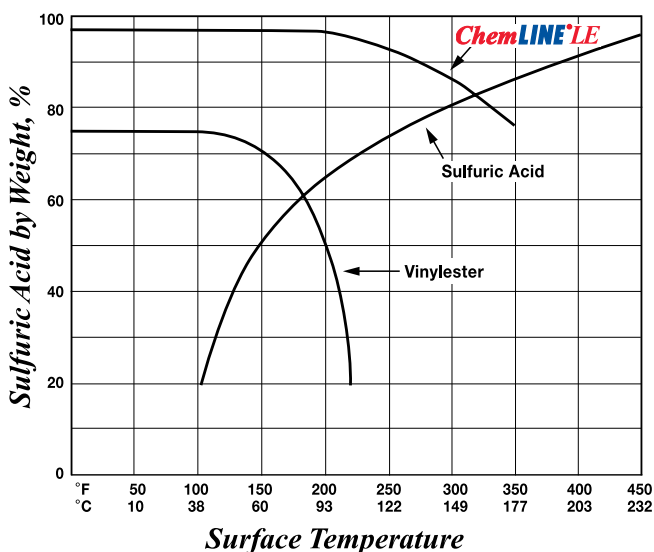
Environmental Severity Level

- 1) Temperature - Mild 200°F (93°C) to 350°F (177°C) (Severe)
- 2) Corrosion - Mild 30% to 80% Sulfuric Acid (Severe)
- 3) Erosion - High Energy Fly Ash Particles

Typical Properties

- Color (Normal) _____ Oyster White (Can be pigmented)
- V.O.C. Level _____ 108 grams/L (0.9 lbs./gal.)
- Lead Content _____ Zero
- Chromate 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 _____ 90%
- Solids by Weight _____ 95.5%
- Theoretical Coverage _____ 100 sq. ft. per gallon at 12 mils DFT
- Recommended DFT _____ 12-14 mils dry average
- Shelf Life (Unopened can) _____ 12 months

ChemLine® LE vs. Vinylester at Temperatures and H₂SO₄ Concentrations Found in Ducts and Stacks



Application Data

Note: Detailed application instructions are provided separately for ChemLine® LE coating systems.

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 into 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 50°F (10°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 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, 3/16" 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 Toluene or Xylene.

Cure Time And Temperature

Curing: Blow air over lining for 2 hours to remove solvent prior to curing. Raise temperature of metal substrate 50°F (10°C) per hour. Maintain at 350°F (177°C) for 4 hours.

(See full Specification for Application of ChemLine® LE)

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.

Packaging

Available as:
5 gallon (19 liters) kit with catalyst
1 gallon (4 liters) kit with catalyst

ChemLINE[®] LE

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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