PowerLINE®

ADVANCED POLYMER COATINGS

PROTECTIVE LINING FOR SUPERIOR CORROSION AND HIGH TEMPERATURE RESISTANCE WITH EXCEPTIONAL FLEXIBILITY AND TOUGHNESS

DESCRIPTION

PowerLine® coating is specially formulated with Siloxirane® polymer resin for handling the high temperature and abrasion requirements of the power industry. PowerLine® is a two-component force cure system that offers unique characteristics. PowerLine® is a cross-linked organic-inorganic multifunctional polymer coating that is cured though homopolymerization. This dense crosslinked polymer exhibits high flexibility and toughness, having no detrimental hydroxyl or ester groups. Due to PowerLine'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

APPLICATION HIGHLIGHTS

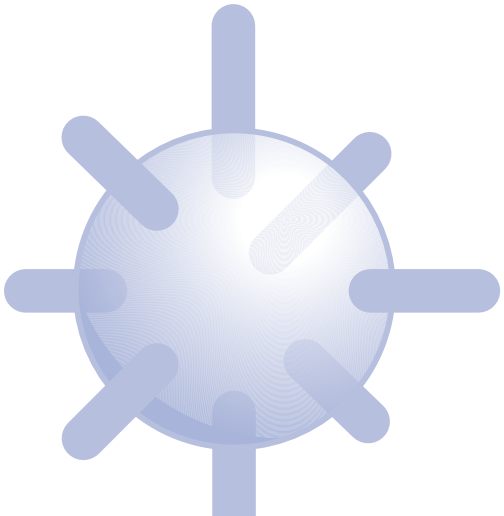
- Resists fly ash abrasion
- Low coefficient of thermal expansion
- Very high bond strengths 5200 PSI on grit blasted steel
- Smooth, low surface energy reduces fly ash buildup in ducts and stacks
- Applied to pitted corroded steel
- Very low VOC - 108 grams/L (0.9 lbs.per gallon)
- Outstanding flexibility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

INDUSTRY APPLICATIONS

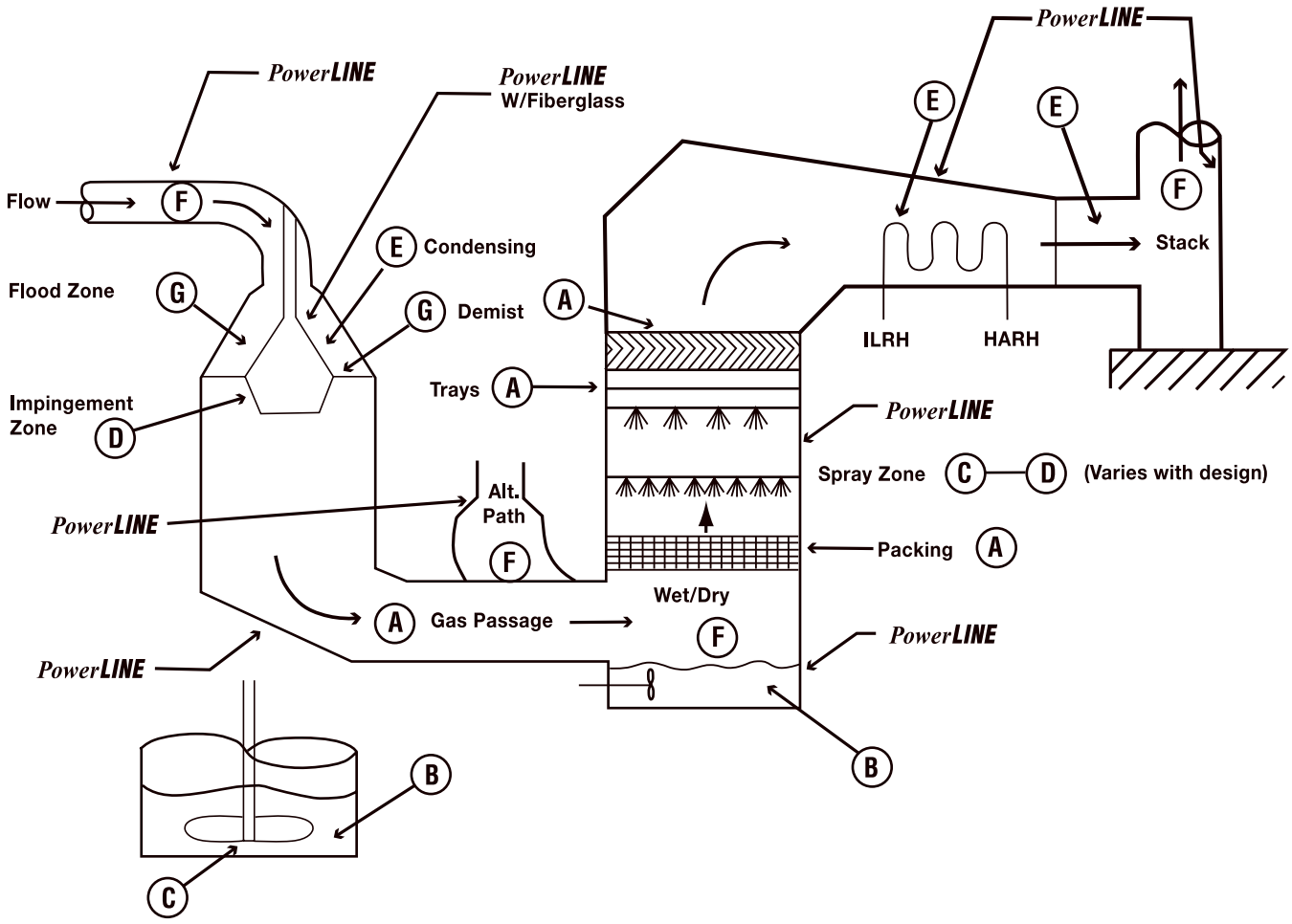
- Stacks
- Chimneys
- Ducts
- Flu gas desulfurization scrubbers
- Chemical scrubbers
- Pre-scrubbers
- Spray towers
- Fans

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%
- Practical Coverage _____ 78 sq. ft. per gallon at 14 mils DFT
- Recommended DFT _____ 14 mils dry average 16 - 18 mils wet (1-2 coat application; see directions)
- Shelf Life (Unopened can) _____ 12 months



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

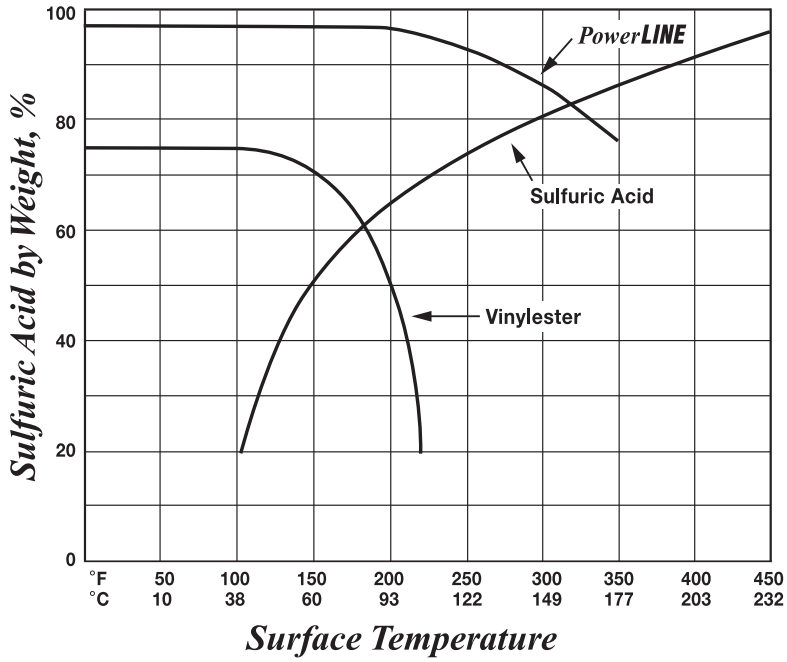


Explanation of Above Codes Used to Define Lining Environment

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

Environmental Severity Level

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



PowerLine vs. Vinylester at Temperatures and H_2SO_4 Concentrations Found in Ducts and Stacks

APPLICATION DATA

Note: Detailed instructions are provided separately for PowerLine® coating systems.

Surface Preparation

Grit blast to SSPC10 (Sa 2.5). Three to four mil (75-100 micron) blast profile most desired.

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, Tylene

Limitations

Apply when the air and surface temperatures are above 50°F. Surface temperatures must be at least 5° F above the dew point. For optimum application properties, bring material to 70-90° F prior to mixing and application. Increased temperatures will result in shorter pot life.

Application

Airless spray equipment with 60:1 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 per hour. Maintain at 350° F (177° C) for 4 hours.

(See full Specification for Application of PowerLine®)

Coverage

Practical at recommended film thickness (12-14 mils DFT) - 75-80 square feet per gallon.

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

PowerLINE®

The furnishing of the information contained herein does not constitute a representation by Advanced Polymer Coatings, Ltd. (APC) that any product or process is free from patent infringement claims of any third party, nor does it constitute the grant of a license under any patent of APC or any third party. APC assumes no liability for any infringement which may arise out of the use of the product. APC warrants that its products meet the specifications which it set for them. APC DISCLAIMS ALL OTHER WARRANTIES and relating to the products and DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION expressed or implied INCLUDING but not limited to warranties of MERCHANT ABILITY AND FITNESS for particular purpose. Receipt of products from APC constitutes acceptance of the terms of the Warranty; contrary provisions of purchase orders not withstanding. In the event that APC finds that products delivered are off-specification, APC will at its sole discretion, either replace the products or refund the purchase price thereof. APC's choice of one of these remedies shall be Buyer's sole remedy. APC will under no circumstances be libeled upon for consequential damages except in so far as liability is mandated by law. APC will deliver products at agreed upon times in so far as it is reasonably able to do so, but APC shall not be liable for failure to deliver on time when the failure is beyond its reasonable control.

COATING	TYPICAL APPLICATIONS	LINING ATTRIBUTES
MarineLine®	Cargo tanks, slop tanks, deck tanks	Versatile - wide range of chemical resistance and ease of cleaning
PowerLine®	Stacks and ducts (thin wall construction plus thermal shock)	High temperature resistance, best chemical resistance at high temperature, excellent CTE Match with steel
RaiLine®	Tank and hopper cars	Versatile - wide range of chemical resistance and ease of cleaning
ChemLine® 784/31	Reaction and storage vessels, wet scrubbers, stacks	High temperature resistance, best chemical resistance at high temperature
ChemLine® 784/32	Reaction and storage vessels, piping, low temperature stacks and ducts. Lower cure temperature, easy application properties	Excellent chemical resistance, low temperature heat cure
Siloxirane® 2431	Cyclone scrubbers, coal chutes, parts	Excellent abrasion resistance, good chemical resistance at high temperatures
Siloxirane® 2432	High abrasion resistance with a low temperature cure	Excellent abrasion resistance, good chemical resistance, low temperature cure

ADVANCED POLYMER COATINGS

Advanced Polymer Coatings, Ltd.
Avon Ohio 44011 U.S.A.
216/937-6218 Phone
216/937-5046 Fax
800/334-7193 Toll-Free in USA & Canada