

Siloxirane[®] 2431

PROTECTIVE LINING FOR ABRASION RESISTANT SERVICE AT HIGHER TEMPERATURES

DESCRIPTION

Siloxirane[®] 2431 is an abrasion resistant heat cured polymer lining system. Siloxirane 2431 is a tough, flexible lining designed to handle the abrasiveness of coal, ore, plastic pellets and other media.

Siloxirane 2431 has excellent chemical resistance capable of withstanding the corrosive attack that normally comes with media handled.

Siloxirane 2431EA is for extreme abrasion resistance, modified for services handling fly-ash, oxides, crystals and other abrasive type slurries at temperatures up to 400° F (204° C). Build up to 125 mils by trowelling.

APPLICATION HIGHLIGHTS

- Can be applied to pitted and/or 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

CHEMICAL RESISTANCE

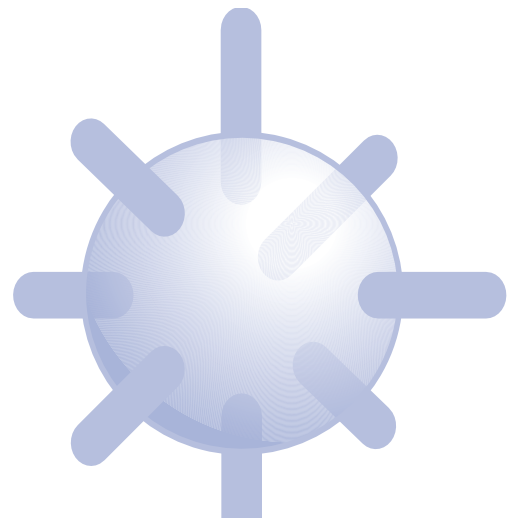
Sulfuric acid to 98%, most solvents including methylene chloride, MEK, methanol, gasohol, distilled water, inorganic acids, dilute organic acids and alkalis. Ideal for corrosive vapor environments.

INDUSTRY APPLICATIONS

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

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 @ 24° C (75° F)
- 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
- Practical Coverage (sq. ft. per gallon) _____ 70
- Recommended Film Thickness (dry) mils _____ 22 mil average
- Shelf Life _____ 1 year min at 50-90° F (10-32° C)



Superior Corrosion and Erosion Resistance Performance

Chemical Resistance Test

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

	Siloxirane® 2431	Vinyl Ester	Epoxy (Hibuild)	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

	Siloxirane® 2431	Vinyl Ester	Epoxy (Hibuild)	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

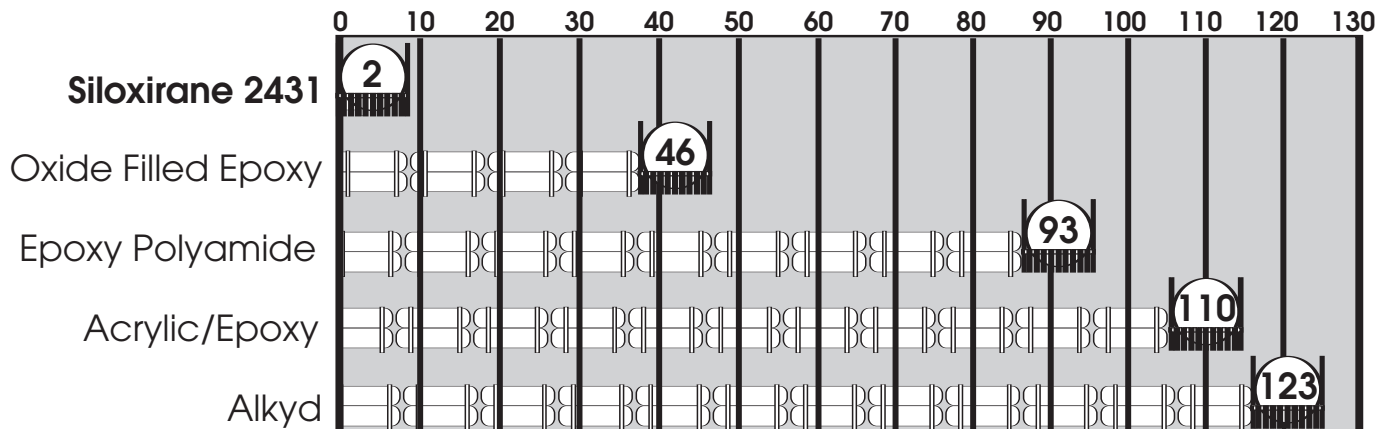
L = Limited Service

N = Not recommended

— = No information

Abrasion Resistance

Taber Abrasion Test ASTM D4060 C-17 WHEEL Comparison of Siloxirane 2431 vs. Various Linings



PHYSICAL PROPERTIES

- Tensile Strength (@75° F) (ASTM D538) _____ 13,240 p.s.i.
- Flexural Strength _____ 13,443 p.s.i.
Flexural Modulus (ASTM D790) _____ 979 k.s.i.
- Water Absorption (30 Days @88° F) (ASTM D570) _____ 0.09%
- Permeability (Vapor Transmission of _____ 0.0000 gm. (per sq. ft. at 90° C
Water for 7 days) _____ per 7 days per inch thickness)
- Coefficient of Thermal Expansion -50° C to 150° C _____ 19 (in./in./°C x 10⁻⁶)
(ASTM D696)
- Elongation (75° F) _____ 6.8%
- Hardness _____ 80-85 Barcol
- Impact Resistance _____ 110 in/lbs
(ASTM D2794)
- U.V. Light Resistance (ASTM G53) _____ 40+ years

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 Siloxirane 2431 system.*

Surface Preparation

Grit blast to SSPC-SP5 (Nace #1, SA3) White Metal finish. Three to four mil (75-100 micron) blast profile 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 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. 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 minimum 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, 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.

Coverage

Practical at recommended film thickness (Avg 22 mils DFT) - 65-70 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.

Siloxirane[®]2431

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

© Copyright 2007-R
 Advanced Polymer Coatings, Ltd.