

ChemLINE[®] HS

High Solids

A coating with superior chemical and high temperature resistance applied with plural component equipment.



Description

ChemLine[®] 784 HS (High Solids) is a high functionality, two component thermoset polymer coating. When cured, the ChemLine[®] 784 HS high cross-link density is unlike other coatings. ChemLine[®] 784 HS delivers significantly improved product performance and anti-corrosion resistance. ChemLine[®] 784 HS coating is formulated with a unique polymer designed and engineered with high functionality. This bridged aromatic backbone structure, when polymerized, forms a tightly knit screen-like structure. ChemLine[®] 784 HS crosslinks predominately through an ether (carbon-oxygen-carbon) linkage. This eliminates high concentrations of hydroxyl groups (found in epoxies) and precludes formation of ester groups (found in vinylesters) that are subject to hydrolysis and acid attack. ChemLine[®] 784 HS can be ambient cured or low temperature forced air cured depending on substrate and service conditions.*

ChemLine[®] 784 HS's Higher Cross-Link Density Means:

- ▶ Higher chemical resistance
- ▶ Higher toughness
- ▶ Higher resistance to abrasion
- ▶ Higher heat resistance

Provides Superior Chemical Resistance to:

- ▶ 1-99% Sulfuric Acid
- ▶ Methanol
- ▶ Acetic Acid
- ▶ 37% Hydrochloric Acid
- ▶ Methylene Chloride
- ▶ 50% Sodium Hydroxide
- ▶ Most acids, alkalies, and solvents

Industry Applications

- ▶ **Transportation Equipment** - Rail tank and hopper cars, over-the-road tankers, barge tankers, tank containers (ISO tanks)
- ▶ **Chemical Processing** - Tanks, vessels, hazardous waste, secondary containment, chemical plant floors, etc.
- ▶ **Paper & Pulp** - Digesters, black liquor tanks, bleaching, etc.
- ▶ **Mining** - Acid tanks, scrubbers, etc.
- ▶ **High Technology** - Clean rooms, floors, etc.
- ▶ **Power Generation** - FGD systems, ducts and stacks, etc.
- ▶ **Steel** - Pickling tanks, acid storage, acid waste neutralization,
- ▶ **Waste Water** - Tanks, clarifiers, flocculation basins, neutralization chambers, concrete containment, etc.

Product Highlights

- ▶ Superior corrosion resistance, exceptional toughness
- ▶ Superior bonding qualities
- ▶ Applied to pitted and/or corroded steel
- ▶ Maximum versatility; product cycling
- ▶ Ambient or low temperature forced air cure
- ▶ Low VOC - 48 grams/L (0.04 lbs. per gallon)
- ▶ Virtually non-permeable, steam cleanable, and field repairable
- ▶ Resists hydroblasting
- ▶ Excellent UV resistance
- ▶ Complies with FDA regulations
- ▶ ChemLine[®] is generally recognized as safe (GRAS) for food grade cargoes
- ▶ High impact resistance
- ▶ Dry heat resistance to 400° F (204° C)
- ▶ One coat application



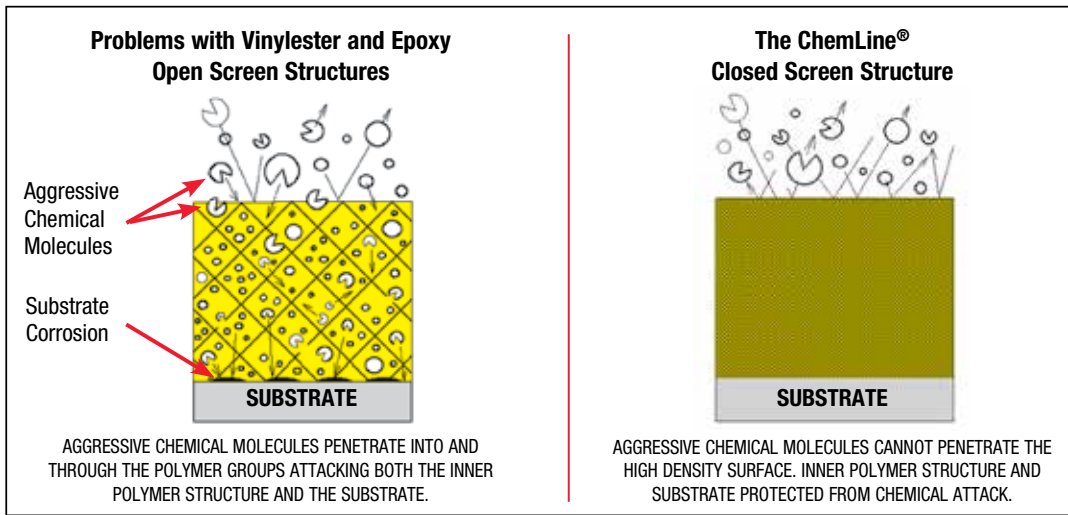
See the Plural Component spray application video of ChemLine[®] 784 HS. www.adv-polymer.com

Typical Properties

- ▶ Stock Colors _____ Blue, Grey, Red
- ▶ V.O.C. Level/Gal. _____ 48 grams/L (0.04 lbs./gal.)
- ▶ Solids by Volume _____ 98%
- ▶ Recommended Film Thickness (dry) mils average
_____ Steel: 12 mils (300 microns)
_____ Concrete: 20 mils (500 microns)
- ▶ Shelf Life _____ 12 months

For product recommendations and technical, application and heat curing information contact Advanced Polymer Coatings' customer service. Contact +1 440-937-6218.

ChemLine® Technology: Higher Functionality For Higher Crosslink Density with High Flexibility



- Higher chemical resistance
- Higher temperature resistance
- Resistance to permeation (absorption)

Superior Corrosion Resistance Performance

	<i>ChemLine® 784 HS</i>	<i>Phenolic Epoxy</i>	<i>Vinylester</i>	<i>Stainless Steel</i>		<i>ChemLine® 784 HS</i>	<i>Phenolic Epoxy</i>	<i>Vinylester</i>	<i>Stainless Steel</i>		<i>ChemLine® 784 HS</i>	<i>Phenolic Epoxy</i>	<i>Vinylester</i>	<i>Stainless Steel</i>
Acetic Acid	A	N	N	A	High Fructose Corn Syrup	A	A	A	A	Potassium Hydroxide	A	A	L	L
Acrylic Acid	A	N	N	A	Hydrobromic Acid	A	N	A	N	Pyridine	A	N	N	A
Acrylonitrile, (35°C)	A	N	N	A	Hydrochloric Acid	A	N	A	N	Sodium Bisulfite	A	N	N	N
Benzene	A	A	N	A	5-20% Hydrogen Chloride	A	N	—	N	Sodium Carbonate	A	N	A	N
Benzene Carboxylic Acid	A	A	N	A	10%-30% Hydrogen Sulfate	A	N	A	A	Sodium Dichromate	A	N	A	A
Benzoyl Chloride	A	N	N	N	Isobutanol	A	N	A	A	Sodium Hydroxide	A	A	A	L
Bromine	A	N	N	A	Liquified Ammonia	A	N	N	A	Sodium Sulfide	A	A	N	N
Calcium Hydroxide	A	A	A	A	M-Phosphoric Acid	A	N	A	L	Stannic Chloride	A	A	A	N
Calcium Hypochlorite	A	A	A	L	Methanol	A	N	N	A	Stearic Acid	A	A	A	A
Caustic Potash	A	N	N	A	MEK	A	L	N	A	Spent Sulfuric Acid	A	N	N	A
Chloroacetic Acid	A	N	N	L	Methylene Chloride	A	N	N	N	Sulfur, Molten	A	N	N	A
Cresol	A	N	—	A	Nitric Acid 1-20%	A	N	A	A	Sulfuric Acid 1-70%	A	A	A	N
Crude Oil (120°C)	A	N	N	A	Nitro Benzene	A	A	N	A	Sulfuric Acid 70-99%	A	N	N	L
Diethyl Formamide	A	N	N	A	Nitrogen Fertilizers	A	A	—	A	Sulphurous Acid	A	N	N	A
Diethylamine	A	N	N	A	Orthonitro Benzene	A	N	N	N	Tallow Acid	A	A	N	A
Ethanolamine	A	N	N	A	Oleum	A	N	N	A	Tetra Hydrofurfuryl Alcohol	A	N	N	A
Ethyl Acrylate	A	A	N	A	Olive Oil Fatty Acid	A	A	A	A	Toluene Diamine	A	N	N	A
Fatty Acid, Palm	A	A	A	A	Perchloroethylene	A	N	N	A	Toluol	A	L	L	A
Ferric Chloride	A	N	A	N	Phenol	A	N	N	A	Vinegar	A	N	A	A
Formaldehyde	A	A	A	A	Phosphoric Acid	A	N	A	N	Water, Acid	A	N	N	A
Formic Acid 10%	A	N	A	A	Phthalic Anhydride	A	N	A	A	Xylenol	A	N	N	A
Green Liquor	A	N	A	L	Piperzine	A	N	—	A					
Glycerol	A	N	N	A	Polyethylene Polyamines	A	N	—	A					

A = Good to 30°C (85°F) L = Limited Service N = Not recommended

Corrosion resistance data for Phenolic Epoxy, Vinylester and Stainless Steel from published literature.

This is Only A Reference Guide.

Contact your ChemLine® Representative or the ChemLine® Customer Service Hotline +1 440-937-6218 for detailed specifications prior to any final coatings recommendation or application.

▶ ChemLine® Coating Success Story



WHO: Matlack Leasing is a leading North American lessor of OTR tank trailers and tank containers serving tank operators, motor carriers, manufacturers, and chemical, petrochemical, agricultural, and environmental service companies.

SERVICE: Matlack carries 30-70% Sulfuric and other acids, corrosives, hazardous waste, petroleum products, and chlorine. Customers want the ultimate in protection for these tanks, to prevent unwanted corrosion, to ensure product (cargo) purity, and to extend the service life of the units.

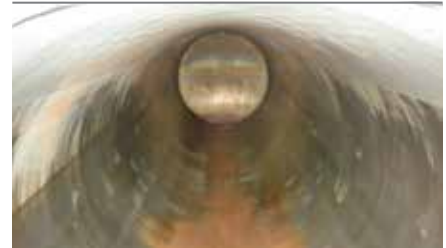
HISTORY: Matlack has used a range of lining technologies such as rubber, fiberglass reinforced products, Kynar®, Teflon®, and other various epoxy and phenolic epoxy coatings. Each lining system has presented different challenges and no single lining was versatile enough to

cover a wide breadth of cargoes carried. Some of these linings have also been very expensive to install and maintain.

THE SOLUTION: Matlack now specifies the ChemLine® tank lining to prevent unwanted corrosion to extend the service life of its tanks. ChemLine® offers a superior solution at a competitive price and is versatile by being able to carry a large footprint of cargoes, including food grade products.

"We know when ChemLine® tanks are properly maintained, they outlast all other linings. Usually a flush wash or rinse is enough for a ChemLine® cleaning."

- Matlack Leasing Director National Operations & Technical Services



(Photo 1) Interior pitted tank with corrosion prior to ChemLine® application. (Photo 2) Finished tank with ChemLine® coating.



(Photo 3) Manway lid showing corroded rubber lining, due to HCl exposure. (Photo 4) Manway lid and surrounding spill area properly protected with ChemLine® coating.



ChemLINE[®] 784 HS

High Solids

A History of Performance

For more than a decade ChemLine[®] coatings have withstood the tremendous stresses and extremes of chemical attack and abrasive wear. ChemLine[®] has been proven worldwide under the most arduous operating conditions, from resisting the most aggressive chemicals to handling hot pipelines in sub-freezing temperatures, with a history of success. Based on this experience, the development of

ChemLine[®] 784 HS represents a quantum leap in chemical resistant polymer coatings.

Add to Your Profits — Specify ChemLine[®] 784 HS

For the full story on ChemLine[®], contact APC or click onto our web site at www.adv-polymer.com for the most versatile, technologically advanced and cost effective protection available.



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Advanced Polymer Coatings
Avon, Ohio 44011 U.S.A.
+1 440-937-6218 Phone
+1 440-937-5046 Fax
800-334-7193 Toll-Free in USA & Canada

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