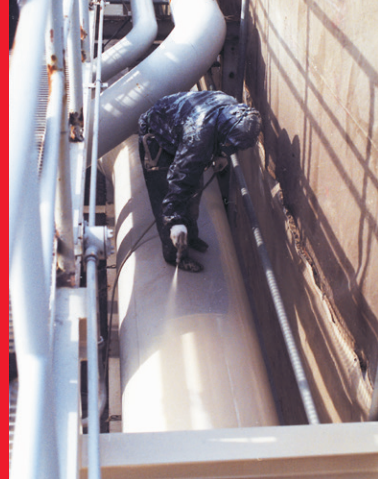


# ChemLINE® 784/32 PC

**A coating with superior chemical resistance and high temperature resistance for application with Plural Component equipment.**



## Description

ChemLine® 784/32 PC is a high functionality, two component thermoset polymer coating. When cured, the ChemLine® 784/32 PC high cross-link density is unlike other coatings. ChemLine® 784/32 PC delivers significantly improved product performance and anti-corrosion resistance. ChemLine® 784/32 PC coating is formulated with a unique polymer designed and engineered with high functionality. This bridged aromatic backbone structure, when polymerized, forms up to 784 crosslinks. ChemLine® 784/32 PC cross-links 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 vinyl esters) which are subject to hydrolysis and acid attack. ChemLine® 784/32 PC can be ambient cured or low temperature forced air cured depending on substrate and service conditions.\*

### ChemLine® 784/32 PC's Higher Cross-Link Density Means:

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

### Provides Superior Chemical Resistance to:

- ▶ 98% Sulfuric Acid
- ▶ Methanol
- ▶ 37% Hydrochloric Acid
- ▶ Methylene Chloride
- ▶ 50% Sodium Hydroxide
- ▶ Acetic Acid
- ▶ Most acids, alkalis, and solvents

## Industry Applications

- ▶ **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
- ▶ Very low VOC - 99 grams/L (0.80 lbs. per gallon)
- ▶ Virtually non-permeable, steam cleanable, and field repairable
- ▶ Resists hydroblasting
- ▶ Excellent UV resistance
- ▶ Complies with all 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® PC.  
[www.adv-polymer.com](http://www.adv-polymer.com)

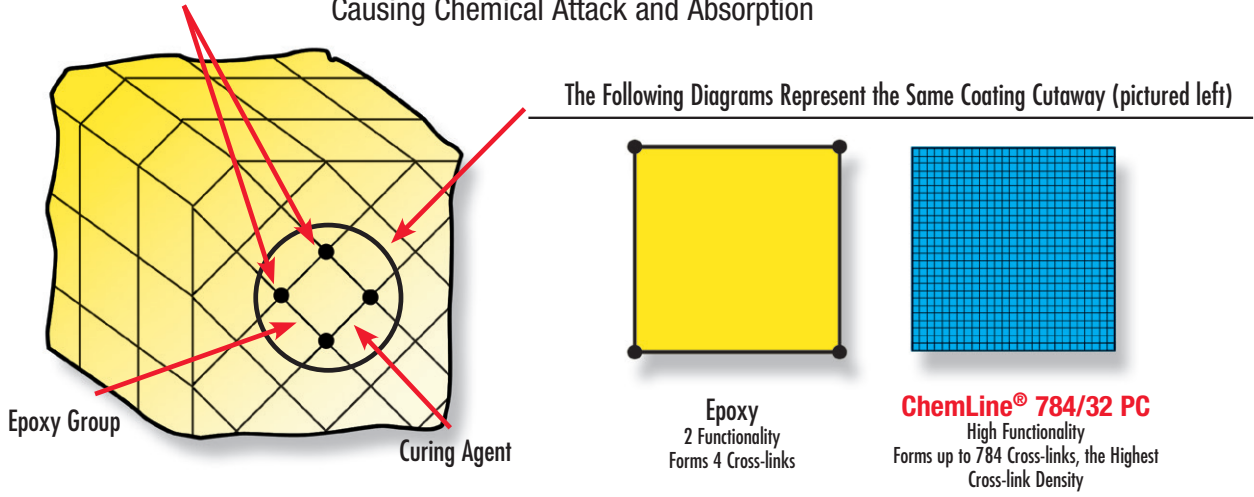
## Typical Properties

- ▶ Stock Colors \_\_\_\_\_ Gray, Red
- ▶ V.O.C. Level/Gal. \_\_\_\_\_ 99 grams/L (0.80 lbs./gal.)
- ▶ Lead Content \_\_\_\_\_ Zero
- ▶ Chromate Content \_\_\_\_\_ Zero
- ▶ 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 +01 440-937-6218.

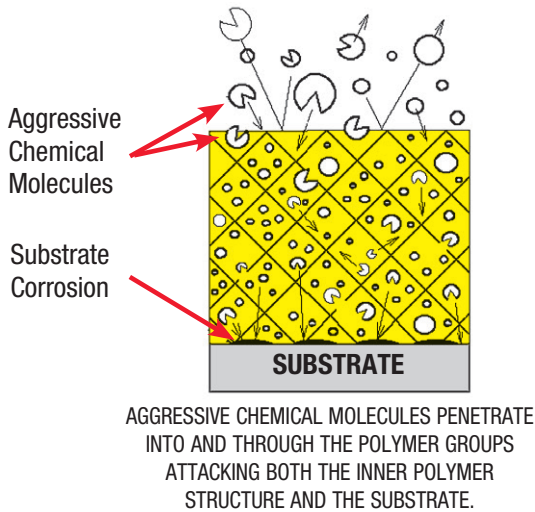
# ► The Technology; Epoxies, Vinylesters and ChemLine® 784/32 PC Form 3 Dimensional Screen-Like Structures when Cured

The Greater the Distance Between the Crosslinks, the Greater the Permeation Causing Chemical Attack and Absorption

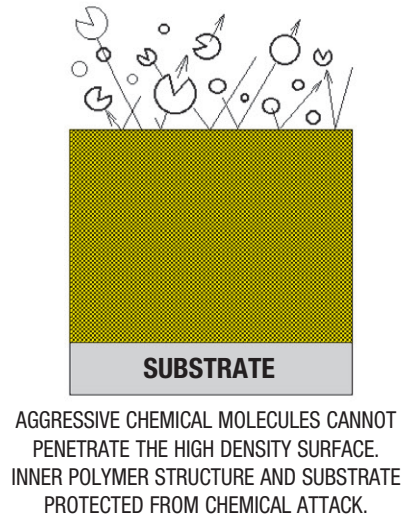


## Problems with Epoxies and Vinylesters

### Vinylester's and Epoxy's Open Screen Structure



### ChemLine 784/32 PC 's Closed Screen Structure



# ChemLINE® 784/32 PC

- High functionality forming up to 784 crosslinks
- Majority of crosslinks are through Ether (C-O-C) bonds. Ether bonds are one of the strongest bonds in chemistry. Ether bonds give flexibility with chemical resistance.

# Superior Corrosion Resistance Performance

**This is Only A Reference Guide.** This is an abbreviated listing of the more than 5,000 chemicals that have been tested. This information is intended to serve as a reference guide only. The end user is responsible for determining if ChemLine® is the appropriate coating for the specific application involved. Contact your ChemLine® Representative or the ChemLine® Customer Service Hotline +01 440-937-6218 for detailed specifications prior to any final coatings recommendation or application.

|                         | ChemLine® | Phenolic Epoxy | Vinylester | Stainless Steel |
|-------------------------|-----------|----------------|------------|-----------------|
| Acetaldehyde            | A         | L              | N          | A               |
| Acetic Acid             | A         | N              | N          | A               |
| Acrolein Acid           | A         | N              | —          | A               |
| Acrylic Acid            | A         | N              | N          | A               |
| Acrylonitrile, (35°C)   | A         | N              | N          | A               |
| Ammonium Persulfate     | A         | A              | A          | L               |
| Azabenzene              | A         | N              | N          | A               |
| Benzene                 | A         | A              | N          | A               |
| Benzene Carboxylic Acid | A         | A              | N          | A               |
| Benzoyl Chloride        | A         | N              | N          | N               |
| B-Methacrylic Acid      | A         | N              | N          | A               |
| Bichromate of Soda      | A         | N              | A          | A               |
| Bromine                 | A         | N              | N          | A               |
| Butanoic Acid           | A         | N              | —          | A               |
| Butyric Aldehyde        | A         | N              | A          | A               |
| Calcium Hydroxide       | A         | A              | A          | A               |
| Calcium Hypochlorite    | A         | A              | A          | L               |
| Caustic Potash          | A         | N              | N          | A               |
| Carbolic Acid           | A         | N              | N          | A               |
| Chlorine Water          | A         | N              | A          | N               |
| Chlorosulfonic Acid     | A         | N              | N          | N               |
| Chlorinated Acetone     | A         | N              | N          | L               |
| Chloroacetic Acid       | A         | N              | N          | L               |
| Chromic Acid, 20%       | A         | N              | A          | N               |
| Coal Tar Oil            | A         | N              | A          | A               |
| Coconut Fatty Acid      | A         | A              | A          | A               |
| Colamine                | A         | N              | N          | A               |
| Cresol                  | A         | N              | —          | A               |
| Dichloromethane         | A         | N              | N          | A               |
| Detergents              | A         | A              | A          | A               |
| Diethyl Formamide       | A         | N              | N          | A               |
| Diethylamine            | A         | N              | N          | A               |
| Diethylene Chloride     | A         | N              | N          | L               |
| Diethyl Ether           | A         | N              | N          | A               |
| Dimethylamide Acetate   | A         | N              | —          | A               |
| Disulphuric Acid        | A         | N              | —          | A               |
| EDTA                    | A         | N              | A          | A               |
| Ethanolamine            | A         | N              | N          | A               |
| Ethonic Acid Anhydride  | A         | N              | —          | A               |
| Ethyl Acrylate          | A         | A              | N          | A               |
| Fatty Acids             | A         | A              | A          | A               |
| Fatty Acid, Palm        | A         | A              | A          | A               |
| Ferric Chloride         | A         | N              | A          | N               |

|                           | ChemLine® | Phenolic Epoxy | Vinylester | Stainless Steel |
|---------------------------|-----------|----------------|------------|-----------------|
| Flaked Stearic Acid       | A         | N              | A          | A               |
| Fluoroboric Acid*         | A         | N              | —          | N               |
| Formaldehyde              | A         | A              | A          | A               |
| Formamide                 | A         | N              | —          | A               |
| Formic Acid 10%           | A         | N              | A          | A               |
| Green Liquor              | A         | N              | A          | L               |
| Glycerol                  | A         | N              | N          | A               |
| Grape Juice               | A         | A              | A          | A               |
| Grapefruit Juice          | A         | A              | A          | A               |
| Grease Oil                | A         | A              | A          | A               |
| Heptanoic Acid            | A         | A              | —          | A               |
| Herring Oil               | A         | A              | A          | A               |
| Hexahydroaniline          | A         | N              | —          | A               |
| HMDA                      | A         | N              | —          | A               |
| Hydrazine                 | A         | N              | N          | A               |
| Hydrobromic Acid          | A         | N              | A          | N               |
| Hydrochloric Acid         | A         | N              | A          | N               |
| 10% Hydrofluoric Acid*    | A         | N              | A          | N               |
| 5-20% Hydrogen Chloride   | A         | N              | —          | N               |
| 10%-30% Hydrogen Sulfate  | A         | N              | A          | A               |
| Isobutanol                | A         | N              | A          | A               |
| Isobutyric Acid           | A         | N              | —          | A               |
| Isopropyl Amine           | A         | N              | A          | A               |
| Javelle Water             | A         | N              | A          | N               |
| Juices, Fruit             | A         | A              | A          | A               |
| Lactic Acid               | A         | A              | A          | A               |
| Lactonitrile              | A         | N              | —          | A               |
| Latex                     | A         | A              | A          | A               |
| Liquified Ammonia         | A         | N              | N          | A               |
| Liquid Pitch Oil          | A         | N              | A          | A               |
| M-Phosphoric Acid**       | A         | N              | A          | L               |
| Maleic Anhydride          | A         | N              | A          | A               |
| MCA                       | A         | N              | —          | A               |
| Methacrylonitrile, (35°C) | A         | N              | N          | A               |
| Methanamide               | A         | N              | —          | A               |
| Methanol                  | A         | N              | N          | A               |
| MEK                       | A         | L              | N          | A               |
| Methylene Chloride        | A         | N              | N          | N               |
| Monochloro Benzene        | A         | N              | N          | N               |
| Naphtalene                | A         | N              | A          | A               |
| Nitric Acid 1-20%         | A         | N              | A          | A               |
| Nitro Benzene             | A         | A              | N          | A               |
| Nitrogen Fertilizers      | A         | A              | —          | A               |

|                             | ChemLine® | Phenolic Epoxy | Vinylester | Stainless Steel |
|-----------------------------|-----------|----------------|------------|-----------------|
| Norval Amine                | A         | N              | N          | A               |
| Octanoic Acid               | A         | A              | —          | A               |
| Orthonitro Benzene          | A         | N              | N          | N               |
| Oleum                       | A         | N              | N          | A               |
| Olive Oil Fatty Acid        | A         | A              | A          | A               |
| Palm Oil Fatty Acid         | A         | A              | A          | A               |
| Perchloroethylene           | A         | N              | N          | A               |
| Perchloric Acid             | A         | N              | N          | N               |
| Phenol                      | A         | N              | N          | A               |
| Phosphoric Acid             | A         | N              | A          | N               |
| Phthalic Anhydride          | A         | N              | A          | A               |
| Piperzine                   | A         | N              | —          | A               |
| Polyethylene Polyamines     | A         | N              | —          | A               |
| Potassium Hydroxide         | A         | A              | L          | L               |
| Potassium Permanganate      | A         | A              | A          | L               |
| Propionic Acid              | A         | N              | N          | A               |
| Pyridine                    | A         | N              | N          | A               |
| Rubber Extender Oils        | A         | A              | A          | A               |
| Rum                         | A         | A              | A          | A               |
| Sodium Carbonate            | A         | N              | A          | N               |
| Sodium Dichromate           | A         | N              | A          | A               |
| Sodium Hydroxide            | A         | A              | A          | L               |
| Sodium Sulfide              | A         | A              | N          | N               |
| Stannic Chloride            | A         | A              | A          | N               |
| Stearic Acid                | A         | A              | A          | A               |
| Spent Sulfuric Acid         | A         | N              | N          | A               |
| Sulfur                      | A         | N              | N          | A               |
| Sulfuric Acid 1-70%         | A         | A              | A          | N               |
| Sulfuric Acid 70-99%        | A         | N              | N          | L               |
| Sulphurous Acid             | A         | N              | N          | A               |
| Tall Oil                    | A         | A              | A          | A               |
| Tallow Acid                 | A         | A              | N          | A               |
| Tar Acid                    | A         | N              | A          | A               |
| Tetra Chloroacetic Acid     | A         | N              | N          | N               |
| Tetra Hydrofurfuryl Alcohol | A         | N              | N          | A               |
| Toluene Diamine             | A         | N              | N          | A               |
| Toluol                      | A         | L              | L          | A               |
| Valeraldehyde               | A         | N              | —          | A               |
| Vinegar                     | A         | N              | A          | A               |
| Vitriol Oil 65%             | A         | N              | A          | A               |
| Water, Acid                 | A         | N              | N          | A               |
| Xylenol                     | A         | N              | N          | A               |

A = Good at ambient temperatures L = Limited Service N = Not recommended

\* ChemLine® 2400 Series \*\* ChemLine® 784 Series

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

# ChemLINE<sup>®</sup> 784/32 PC

## A History of Performance

For more than a decade ChemLine<sup>®</sup> coatings have withstood the tremendous stresses and extremes of chemical attack and abrasive wear. ChemLine<sup>®</sup> 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<sup>®</sup> 784/32 PC represents a quantum leap in chemical resistant polymer coatings.

## Add to Your Profits — Specify ChemLine<sup>®</sup> 784/32 PC

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



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