

# ChemLINE<sup>®</sup> 784/31

*A coating with superior chemical resistance and high temperature resistance.*



## Description

ChemLine<sup>®</sup> 784/31 delivers significantly improved product performance and anti-corrosion resistance. ChemLine<sup>®</sup> 784/31 is formulated with unique polymer technology, designed and engineered with 28 functional groups per molecule. This translates into 784 crosslinks versus four (4) for high temperature epoxies.

### ChemLine<sup>®</sup> 784/31's Higher Cross-Link Density Means:

- ▶ Higher chemical resistance
- ▶ Higher temperature resistance
- ▶ Higher reactivity at lower temperature
- ▶ Higher resistance to absorption
- ▶ Higher toughness

## Industry Applications

- ▶ **Chemical Processing** - Tanks, flare tanks, reactor vessels, hazardous waste hauling, etc.
- ▶ **Paper & Pulp** - Digesters, black liquor tanks, bleaching, etc.
- ▶ **Steel** - Pickling tanks, acid storage, acid waste, neutralization, etc.
- ▶ **Mining** - Acid tanks, scrubbers, etc.



## More Chemical Resistance Than:

- ▶ Stainless steel
- ▶ Phenol epoxies
- ▶ Vinylesters
- ▶ Phenolic

## Product Highlights

- ▶ Superior bond strength and adhesion
- ▶ Maximum product flexibility, product cycling
- ▶ Field repairable
- ▶ Low VOC - 99 grams/L (0.80 lbs.per gallon)
- ▶ Can be applied to pitted and/or corroded steel
- ▶ Steam cleanable
- ▶ Complies with FDA 21CFR 175.300
- ▶ Non-permeable for product purity

## ChemLine<sup>®</sup> 784/31 Provides Superior Resistance To:

- ▶ Acids, alkalis and solvents
- ▶ Thermal cycling -40°F to 400°F (-40°C to +204°C)
- ▶ Good flexibility
- ▶ Wear and abrasion resistant
- ▶ Minimal product absorption
- ▶ Impact resistant
- ▶ Resists under-creep corrosion
- ▶ Dry heat resistance to 500°F (260°C)

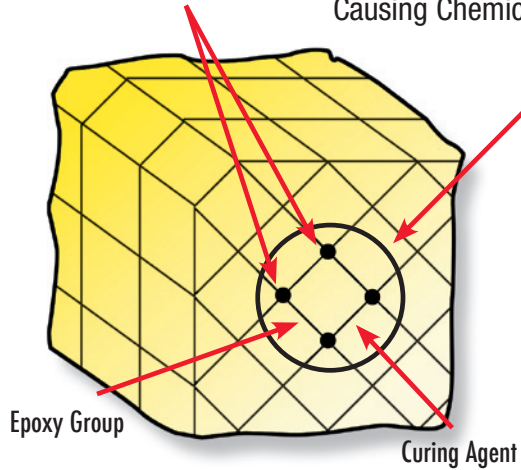
## Typical Properties

- ▶ Stock Colors \_\_\_\_\_ Gray, Red
- ▶ V.O.C. Level/Gal. \_\_\_\_\_ 99 grams/L (0.80 lbs./gal.)
- ▶ Lead Content \_\_\_\_\_ Zero
- ▶ Chromate Content \_\_\_\_\_ Zero
- ▶ Pot Life \_\_\_\_\_ 120 minutes @ 75°F (24°C)
- ▶ Viscosity Reduction \_\_\_\_\_ Reduce with Toluene or Xylene
- ▶ Solids by Volume \_\_\_\_\_ 89.6%
- ▶ Recommended Film Thickness (dry) mils average \_\_\_\_\_ Steel: 12 mils (300 microns)
- ▶ Shelf Life \_\_\_\_\_ 12 months

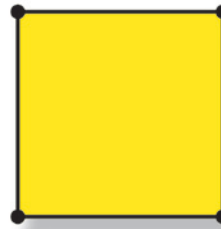
*For most current application and technical information, contact Advanced Polymer Coatings customer service.*

# The Technology; Epoxies, Vinylesters and ChemLine® 784/31 Form 3 Dimensional Screen-Like Structures when Cured

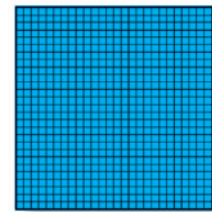
The Greater the Distance Between the Crosslinks, the Greater the Permeation Causing Chemical Attack and Absorption



The Following Diagrams Represent the Same Coating Cutaway (pictured left)



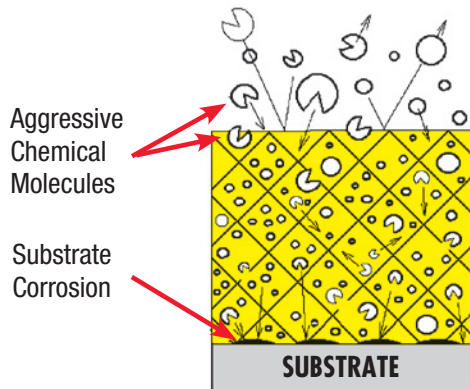
**Epoxy**  
2 Functionality  
Forms 4 Cross-links



**ChemLine® 784**  
28 Functionality  
Forms up to 784 Cross-links,  
the Highest Cross-link Density

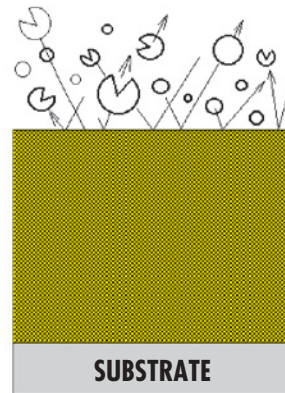
## Problems with Epoxies and Vinylesters

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



AGGRESSIVE CHEMICAL MOLECULES PENETRATE INTO AND THROUGH THE POLYMER GROUPS ATTACKING BOTH THE INNER POLYMER STRUCTURE AND THE SUBSTRATE.

### ChemLine 784's Closed Screen Structure



AGGRESSIVE CHEMICAL MOLECULES CANNOT PENETRATE THE HIGH DENSITY SURFACE. INNER POLYMER STRUCTURE AND SUBSTRATE PROTECTED FROM CHEMICAL ATTACK.

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