



# Environmentally Safe Polymers, Inc.

## Technical Data

Updated 11/2004

### POLYLINER #64

### POLYUREA HYBRID CHEMICAL RESISTANT LINING POLYMER

#### PRODUCT DESCRIPTION AND USAGE:

PolyLiner #64 is a high performance, 100% solids, spray applied, polyurea-urethane elasto-plastic polymer. It is characterized by high physical properties, outstanding chemical and solvent resistance, usability under wide climatic conditions with outstanding durability. It is composed of isocyanate prepolymers which are reacted with amine prepolymers to form a polyurea-urethane elastomer. Both components are low viscosity fluids which react very quickly to form a tough polymer when mixed and applied using heated, plural component airless spray equipment. PolyLiner #64 was specifically developed for use as a protective lining to provide sanitation and high chemical resistance. Some applicable uses are as follows:

- Sanitary coatings for lining meat, poultry and other food processing facilities.
- Lining of steel, masonry or wood tanks, silos, pipes and flumes.
- Application to geotextiles to form ponds, contain spills, prevent escape of effluents and prevent loss of water or petroleum products.
- May be used to repair or replace existing containment liners
- Lining of cargo holds on ships to provide sanitation and ease of cleaning.

#### PHYSICAL PROPERTIES

##### TENSILE PROPERTIES:

ASTM D-412  
Strength: 3600 ± 200 psi minimum  
Elongation: 100% minimum  
Permanent Set: 5% maximum  
Flexural Modulus: 60 (K) psi  
Density PCF: 66  
Gardner Impact: 250 in/lbs

##### TEAR RESISTANCE:

ASTM D-624  
Die C 500 ± 50 pli

##### WEATHERABILITY:

ASTM G-53  
No cracking, checking or loss of integrity after 2000 hours. NOTE: Product is an aromatic and will exhibit surface oxidation. Significant color change will be noticed in light colors.

#### SERVICE TEMPERATURE:

-40 to 400°F.

#### ABRASION RESISTANCE:

Taber abrasor, 1 Kg load, 1000 cycles H-18 wheel, ~190 mg loss.

#### HARDNESS:

ASTM D-2240  
Shore A 95  
Shore D 60 ± 2

#### COLD TEMPERATURE FLEXIBILITY:

ASTM D-3111  
Pass 0.5 inch mandrel @ -40°F.

#### CHEMICAL RESISTANCE:

See E.S.P. Chemical Resistance Chart.

#### WATER VAPOR PERMEABILITY:

ASTM E-96 procedure BW.  
100% R.H. differences @ 73°F.  
0.01 perm inches @ 30 mil film

#### WATER ABSORPTION:

ASTM D-471  
One week at room temperature 0.5%

#### LIQUID PROPERTIES

##### COVERAGE:

1600 mil square feet per gallon.

##### SOLIDS:

"A" 100% by weight and volume.  
"B" 100% by weight and volume.

##### V.O.C.:

Contains no Volatile Organic Compounds.

##### FLASH POINT:

Above 200°F.

##### VISCOSITY:

"A" component 600-800 cps @ 77°F.  
"B" component 800-1000 cps @ 77°F.

## **POLYLINER #64**

### **SHELF LIFE:**

"A" One year @ 50-90°F.  
"B" Two years @ 20-100°F.

### **THINNER:**

Not recommended.

### **CURE TIME:**

Gel in 3-5 seconds. Cure to handle in 30-40 seconds. Develops chemical resistance and physical properties in 8 hours. Recoatable for up to 8 hours.

### **MIX RATIO:**

1:1 by volume.

### **CLEAN UP SOLVENT:**

Toluene, Xylene, MEK. For reduced fire hazard use glycol ethers or environmentally acceptable chlorinated solvents.

## **APPLICATION**

### **EQUIPMENT:**

PolyLiner #64 requires hot airless plural component equipment capable of producing a minimum of 2000 psi and heat to 140°F. Higher pressures to 2500 psi may provide better mixing with enhanced physical properties for the end product. Contact Environmentally Safe Polymers, Inc. for specific spray gun recommendations. Self-purging impingement mixing spray guns are required.

### **PRIMER:**

Self-priming on most surfaces. PolyPrime #01 or PolyPrime #06 epoxy primers are recommended where enhanced adhesion is needed. Please contact Environmentally Safe Polymers, Inc. for specific recommendations.

### **PRECAUTIONS:**

See Material Safety Data Sheet for complete safety data. Protect from exposure to moisture. Water will cause the "A" component (ISO) to generate carbon dioxide with resulting high pressure in closed containers.

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Our data is based on information from lab and field testing which we believe to be reliable and accurate. Environmentally Safe Polymers, Inc. makes no warranties, expressed or implied of the products use or its results, and assumes no obligation or liability in connection therewith.