



# Environmentally Safe Polymers, Inc.

## Technical Data

Updated 11/2004

### **POLYLINER #68 CHEMICAL RESISTANT URETHANE HYBRID POLYMER**

#### **PRODUCT DESCRIPTION AND USAGE:**

PolyLiner #68 is a 100% solids, two component, liquid urethane hybrid polymer. PolyLiner #68 was specifically developed for use as a plural component high build, highly chemical resistant spray applied polymer for the interior of tanks, railroad hopper cars, buildings and other surfaces where it is desirable to maintain good sanitary conditions or contain materials to prevent contamination of the environment. Suitable substrates include steel, urethane and polystyrene foam, primed wood, concrete, masonry, ferrous and non-ferrous metals.

#### **COLOR:**

Black, light gray and cream. Contact your E.S.P. Representative for other colors.

#### **PHYSICAL PROPERTIES**

#### **WEATHERABILITY:**

Black has excellent durability. Colors other than black will have limited exterior durability.

#### **CHEMICAL RESISTANCE:**

Good hydrolytic stability to 180°F. Good resistance to inorganic bases, acids and hydrocarbon solvents, fair resistance to oxygenated and chlorinated solvents.

#### **TENSILE:**

ASTM D-412	
Strength:	3500 psi
Elongation:	50%
Permanent Set:	5% maximum

#### **HARDNESS:**

ASTM D-2240	
Shore D	60 ± 5

#### **TEAR RESISTANCE:**

ASTM D-624	
Die C	450 pli

#### **ABRASION RESISTANCE:**

ASTM D-4060  
1000 gm load, H-18 wheel, ~160 mg weight loss per 1000 cycles.

#### **COLD TEMPERATURE FLEXIBILITY:**

ASTM D-3111  
Pass 1.0 inch mandrel at 0°F.

#### **ADHESION:**

ASTM D-903  
25 Lbs./lineal inch, cohesive failure. Adheres well to polyurethane foam, wood, neoprene, Hypalon coatings, acrylic coatings and E.S.P. primers. Primer is required for masonry, concrete and metal. See primer recommendations below for these and other surfaces. PolyLiner #68 can be recoated when set to touch. Surfaces that cure hard (over 4 hours at 70°F) should be recoated with PolyPrime #07 to insure good innercoat adhesion.

#### **WATER ABSORPTION:**

ASTM D-471  
Max. 24 Hours R.T.: 1.5%

#### **WATER VAPOR PERMEABILITY:**

ASTM E-96  
Procedure B Max.  
100% R.H. Difference @ 70°F. 0.03 Perm Inches

#### **TOXICITY:**

Isocyanate contains MDI isocyanate. A fresh air supply respirator, protective clothing and other protective equipment are required for application.

#### **LIQUID PROPERTIES**

#### **COVERAGE:**

Sq.Ft./Gal./Mil 1600

#### **SOLIDS:**

Weight:	100%
Volume:	100%

#### **A.P.C.**

Conforms to all Air Pollution Control regulations.  
Contains no Volatile Organic Compounds.

#### **FLASH POINT:**

ASTM D-56 (Tag Closed Cup) Above 200°F.

#### **STORAGE STABILITY:**

Polyol:	One year @ 50-80°F.
Isocyanate:	Six months @ 50-80°F.

#### **THINNER:**

Thinning is not recommended.

#### **VISCOSITY:**

Polyol component:	1000 cps @ 77°F.
Iso component:	700 cps @ 77°F.

## **POLYLINER #68**

### **COMPRESSIVE STRENGTH:**

3000-6000 psi

### **COATING DENSITY:**

SP. GR. = 1.16 or 72 lbs./ft.

### **APPLICATION**

#### **PRIMER:**

Expanded Polystyrene Insulation:  
No primer necessary

Polyurethane Foam Insulation:  
No primer necessary

Wood:  
No primer necessary

Concrete:  
PolyPrime #01 or PolyPrime #07

Metals other than Copper:  
PolyPrime #01 or PolyPrime #06

Copper:  
PolyPrime #07

#### **MIXING:**

**WARNING:** PolyLiner #68 components cannot be cross mixed with other urethane coating components. Stir polyol component to suspend any settled pigment.

### **POT LIFE:**

8-10 seconds at 70°F and 1-3 seconds at 130°F.  
Do Not heat above 150°F.

### **APPLICATION:**

Apply only with plural component airless equipment which meters and pumps the components separately to be mixed at the spray gun. Impingement mixing at the gun has been successful. Material temperature must be maintained above 100°F during application. Apply multiple coats at up to 30 wet mils per coat allowing material to set to touch before applying additional material. When application is to a surface with a temperature between 30°F and 50°F will set to touch in 3-10 minutes. Higher temperature reduces recoat time accordingly. Do not apply to surfaces below 30°F.

### **CURE:**

Applied coating will set in 30-90 seconds at 70°F depending upon film thickness. Can be placed in service after 4 hours cure time at 70°F.

### **RECOAT:**

Can be recoated when dry to the touch. Maximum recoat time is 4 hours. Prime with PolyPrime #07 if recoat interval exceeds 4 hours.

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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.