



Environmentally Safe Polymers, Inc.

Technical Data

Updated 11/2004

POLYLINER #63 POLYUREA HYBRID WATER RESISTANT LINING POLYMER

PRODUCT DESCRIPTION AND USAGE:

PolyLiner #63 is a 100% solids, high performance, polyurea-urethane hybrid, water and chemical resistant polymer. PolyLiner #63 was specifically developed as a low permeance, protective lining system for ponds. It is composed of isocyanate quasi-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. Most E.S.P. polyureas and polyurea hybrid polymers will have excellent adhesion as a top coat over PolyLiner #63.

PHYSICAL PROPERTIES

TENSILE PROPERTIES:

ASTM D-412

Strength: 1000 psi minimum
Elongation: 75% minimum
Permanent Set: 5% maximum

TEAR RESISTANCE:

ASTM D-624 Die C 100 ± 10 pli

WEATHERABILITY:

ASTM G-53

No cracking, checking or loss of integrity after 2000 hours. NOTE: Product is an aromatic and significant color change will be noticed in light colors.

SERVICE TEMPERATURE:

-40 to 200°F.

ABRASION RESISTANCE:

Taber abrasor, 1 Kg load, 1000 cycles H-18 wheel, ~165 mg loss.

HARDNESS:

ASTM D-2240

Shore A 90
Shore D 26

COLD TEMPERATURE FLEXIBILITY:

ASTM D-3111 Pass 0.25 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
0.015 perm inches @ 30 mil film

WATER ABSORPTION:

ASTM D-471 24 hours 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 600-800 cps @ 77°F.

SHELF LIFE:

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

THINNER:

Not recommended.

CURE TIME:

Gel in 5-8 seconds. Cure to handle in 40-60 seconds depending upon thickness and temperature. Develops chemical resistance and physical properties in 24 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.

POLYLINER #63

APPLICATION

EQUIPMENT:

PolyLiner #63 requires heated 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 and PolyPrime #06 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.

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.