



Environmentally Safe Polymers, Inc.

Technical Data

Updated 11/2004

POLYROOF #77 ALUMINUM POLYUREA HYBRID ROOFING POLYMER

PRODUCT DESCRIPTION AND USAGE:

PolyRoof #77 is a 100% solids, plural component one to one by volume, polyurea-urethane hybrid coating. PolyRoof #77 was specifically developed for use as a spray applied protective coating for waterproofing metal, concrete and built-up roofs and for protection of polyurethane spray foam.

COLOR:

Aluminum. **NOTE:** Aluminum color is dispersed in the isocyanate component.

PHYSICAL PROPERTIES

WEATHERABILITY:

Q.U.V. Weatherometer exposure equivalent to 15 years with no visible deterioration or change in physical properties.

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: 1500 psi
Elongation: 200-300%
Permanent Set: 10% maximum

HARDNESS:

ASTM D-2240
Shore A 85±3

TEAR RESISTANCE:

ASTM D-624
Die C 125 pli

ABRASION RESISTANCE:

Excellent.

WATER VAPOR PERMEABILITY:

ASTM E-96
Method BW 0.025 perm In.

WATER ABSORPTION:

ASTM D-471
24 hours @ room temp. 1.0%

LIQUID PROPERTIES

SOLIDS:

Weight: 97%
Volume: 96%

VISCOSITY:

Poly Component: 550 ± 75 cps @ 77°F.
Iso Component: 550 ± 70 cps @ 77°F.

DENSITY:

Poly Component: 8.5-9.5 lbs./gal. (S.G. 1.03-1.14)
Iso Component: 9.25 lbs./gal. (S.G. 1.11)

V.O.C.:

Aluminum color-27 grams/liter

FLASH POINT:

ASTM D-56 (TCC) Greater than 200°F.

TOXICITY:

Iso component contains polymeric isocyanate requiring fresh air supply respirator, gloves, and protective clothing during application.

STORAGE

STORAGE STABILITY:

PolyRoof #77 Aluminum is sensitive to moisture. Store in a dry place between 45° and 85°F. Shelf life is six months for the "A" Side (Iso) and one year for the "B" Side (Poly) in original unopened containers. All containers must be sealed when not in use. Containers that have been opened should be used within one week. To prolong the shelf life of opened containers, it is recommended that a blanket of nitrogen be applied to the container or desiccant cartridge inserted into the container opening.

STORAGE WHEN HIGH HUMIDITY IS PRESENT:

Upon opening of the "A" side (ISO) for use, one of the two following procedures must be followed to maintain the shelf life of the "A" (ISO) material.

USE OF A DESICCANT CARTRIDGE:

Upon opening of the "A" side (ISO), a desiccant cartridge should be inserted into one of the bung openings and the transfer pump tightly sealed in the other. To store unused portion of the material, remove transfer pump and reseal drum plug. Leave desiccant

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cartridge in drum during storage. When contents of material have been used, the desiccant cartridge can be used on another drum and transferred from drum to drum until color indicator indicates replacement.

USE OF A NITROGEN BLANKET:

Nitrogen being heavier than air can be poured into a partially filled drum of the "A" side (ISO) forming a protective layer which will prevent any moisture from reaching the material. It takes only a small amount of nitrogen to form this layer and it will not mix with or contaminate the ISO.

APPLICATION

MIX RATIO:

1:1 by volume.

EQUIPMENT:

Plural component spray equipment capable of maintaining a constant temperature of 130° - 160°F, 1500 psi minimum pressure and a 1:1 volume mix ratio. Through testing, it has been determined that installation at the proper temperature of 130° to 150°F, 1500 psi minimum pressure at the gun, will produce the optimum membrane. Any deviations from this whether it may be temperature or pressure, will all contribute to the production of a lesser product than the physicals stated on the E.S.P. Technical Data Sheet.

THINNING:

Do not thin.

MIXING:

Mix all "A" side drums with a 1 ½ horsepower air driven mixer for a minimum of 15 minutes on the day it will be applied. The shaft must have collapsible blades to fit through the bung opening in the drum and should be long enough to reach the bottom of the drum. Three or four drums of "A" side (Iso) can be mixed in an hour when you start up in the morning. The ultra violet protection in PolyRoof #77 Aluminum is aluminum paste. The aluminum paste settles to the bottom of the drum in shipment and storage. Therefore, the "A" side (Iso) drum has to be thoroughly mixed before spraying, otherwise the aluminum paste will be left on the bottom of the drum. Product sprayed with aluminum paste still on the bottom of the drum will not perform as designed and the coating will last as long. The coating finish may also appear streaky if all drums are not properly mixed.

REACTIVITY:

Tack free time is 10-30 seconds when sprayed with heated plural component airless spray equipment.

CURE TIME:

Applied coating will set in 2-10 minutes at 70°F depending on film thickness and substrate temperature. Product can be placed into service after four hours of cure time at 70°F minimum.

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.