



GUARDIAN ROOF POLYMERS U91 SINGLE-COMPONENT MOISTURE-CURE POLYURETHANE COATING

A. DESCRIPTION:

Guardian Roof Polymers (GRP) U91 is a single component moisture cure aromatic urethane base coat that exhibits strong adhesion to numerous substrates. GRP U91 produces a tough film that provides robust protection to foam substrates and prevents oil migration on asphalt-based roofs. GRP U91 is not a finish coat and should be top coated with GRP aliphatic urethane coating to provide excellent weatherability, UV resistance and high reflectance to promote a cool roof.

GRP U91 is a single-component, moisture-cure polyurethane coating.

B. RECOMMENDED USE:

GRP U91 is designed to rejuvenate and extend the life of aged asphaltic, single ply and previously coated roofs. It provides excellent oil migration resistance on asphaltic roofs without the application of bleed blocking primers. It also provides excellent protection for foam roofs due to the tough cured film.

C. PACKAGED PRODUCT DATA:

PROPERTY	DESCRIPTION
ADHESION	Exceptional adhesion to most acrylic and epoxy based primers
COLOR	U9101 – Light Gray
CONSISTENCY	GRP U91 is thixotropic in nature and has a viscosity of approximately 8000 centipoises.
COVERAGE	1 gal / 100 ft ² (3.8 L / 9.3 m ²) yields a Dry Film Thickness (DFT) of 12 mils.
SOLIDS	80% by volume
STORAGE STABILITY	12 months at 50 °F – 80 °F (10 °C – 26 °C)
TOXICITY	Contains a toluene diisocyanate prepolymer.
V.O.C.	150 g / L
WEATHERABILITY	Outstanding weatherability and chalking resistance.

D. PHYSICAL PROPERTIES:

PROPERTY	ASTM TEST	STANDARD (MIN)
FLASH POINT	D56 (Closed Cup)	100 °F (37 °C)
HARDNESS	D2240	90 ± 5 Shore A
HARDNESS @ 70 °F (27 °C)	C836	77 Shore A
TEAR RESISTANCE	D624	360 pli
TENSILE	D412	
	ELONGATION:	350 %
	PERMANENT SET AT BREAK:	7 % max
	STRENGTH:	2600 psi (17.9 MPa)
WATER VAPOR PERMEABILITY	E-96 PROCEDURE B MAX. 100% RH DIFFERENCE @ 73° (23 °C)	0.02 perm inches

E. APPLICATION:

STEP	INSTRUCTIONS
THINNING	Product can be thinned up to 10% by volume with Xylene
MIXING	Use an electric or compressed-air-powered mixer that will thoroughly agitate the mix. A Jiffy-type mixer has been found to work well with this coating.
POT LIFE	After 2 hours at 70 °F – 80 °F (21 – 27 °C) and 50% RH, there will be some skinning and an increase in viscosity. Thinning up to 10% with Xylene for Aromatic Polyurethanes during initial mixing will extend pot life, for a maximum of three hours.
APPLICATION	Refer to GRP for specific instructions and requirements for given roofing application. Sample application would include substrate specific preparation, surface preparation, and application rate. NOTE: Do not exceed an application rate of 1.5 gal / 100 ft ² (5.7 L / 9.3 m ²) per coat.
DRY TIME	10-12 hours at 75 °F (24 °C) and 50% RH. Dry time will be faster in warmer and more humid conditions, and slower in colder and dryer conditions.
CLEAN UP	Clean up application tools and equipment with Xylene

F. PHYSICAL PROPERTIES:

PROPERTY	ASTM TEST	REQUIRED	RESULT
EXTERNAL FIRE EXPOSURE-FLAME SPREAD	ASTM E108	Class A 1.0 in 12 (metal) Class A 2.0 in 12 (BUR)	Pass
VOLUME SOLIDS (%)	ASTM D2697	50 % min	80 %
INITIAL ELONGATION AT BREAK (%)	ASTM D2370	100 % min	468 %
AGED ELONGATION AT BREAK (%)	ASTM D2370	100 % min	383 %
TENSILE STRENGTH	ASTM D2370	200 psi (1.3 MPa) min	435 psi (3 MPa)
PERMEABILITY (PERM INCHES) (23C, 100% RH DIFFERENCE)	ASTM D1653	50 perm in (1270 perm mm) max	5 perm in (127 perm mm)
WATER SWELLING (%)	ASTM D471	20 % max	12 %

* For specific Health and Safety information, please refer to Safety Data Sheet (SDS)