



Product Data Sheet (PDS):

GacoFlex™ U91 Series

Revised: 09/2022

**GACOFLEX™ U91 SERIES
SINGLE-COMPONENT MOISTURE-CURE POLYURETHANE COATING**

A. DESCRIPTION:

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

B. RECOMMENDED USE:

GacoFlex U91 is intended for use as a liquid-applied waterproofing membrane over plywood and concrete decking as part of pedestrian and vehicular decking systems. It may also be used as a roof coating and in shower pan liner applications.

C. PACKAGED PRODUCT DATA:

PROPERTY	DESCRIPTION
ADHESION	Exceptional adhesion to GacoFlex GacoPrime LVOC Primer, E5691 Water Reducible Epoxy Sealer/Primer and E5320 2-Part Epoxy Primer/Filler.
COLOR	U9101 - OYSTER
	U9102 - PEWTER
	U9116 - SHALE
	U9118 - ADOBE
	U9149 - DESERT
CONSISTENCY	GacoFlex 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 VAPER PERMEABILITY	E-96 PROCEDURE B MAX.100% RH DIFFERENCE @ 73° (23 °C)	0.02 perm inches

E. APPLICATION:

STEP	INSTRUCTIONS
THINNING	Thinning is typically required. Use GacoFlex T5112 Thinner for Aromatic Urethanes or GacoFlex T5120 Compliant Thinner for Polyurethanes, but do not thin more than 10% by volume.
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 GacoFlex T5112 Thinner for Aromatic Polyurethanes during initial mixing will extend pot life, for a maximum of three hours.
APPLICATION	Refer to Gaco Application Specification for specific instructions and requirements. Sample application would be to prepare the substrate according to Gaco General Instructions “GW-1-1 Surface Preparation” and apply at a rate of 1.25 gal per 100 ft ² (4.7 L / 9.3 m ²) for an approximate Wet Film Thickness (WFT) of 20 mils. 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 GacoFlex T5112 or GacoFlex T5120.

F. APPLICATION-SPECIFIC PROPERTIES – ROOF COATING:

Meets the requirements of Florida Maintenance coating specifications (Note: these are pending code compliances). Applications on single-ply membranes require GacoPrime LVOC Primer prior to applying GacoFlex U91 Polyurethane Coating. For applications over metal and asphalt substrates, priming with GacoFlex E5320 2-Part Epoxy Primer/Filler is recommended. It is recommended that at least 3 coats of U91 be applied to the roof surface at a rate of 1.5 gal / 100 ft² (5.7 L / 9.3 m²). Allow 10-12 hours between coats. For improved UV-resistance and solar reflectance, a system consisting of 2 coats of U91 as a base coating and a top coat of GacoFlex UA6000 Dual-Component Aliphatic Polyurethane Coating is recommended.

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 %

G. APPLICATION-SPECIFIC PROPERTIES – PEDESTRIAN & VEHICLE DECKING:

Exceeds requirements of ASTM C957 Standard Specification for High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface. Complying with the IBC 2020 and IRC 2020.

PROPERTY	ASTM TEST	REQUIRED	RESULT
ABRASION RESISTANCE	C501	< 50 mg / min	35 mg / min
ADHESION IN PEEL (AFTER WATER EMERSION)			
CEMENT	C794 / C957	> 5 lbf (22 N)	19 lbf (84 N)
PLYWOOD	C794 / C957	> 5 lbf (22 N)	22 lbf (98 N)
CHEMICAL RESISTANCE (MIN, % TENSILE VARIATION)			
ETHYLENE GLYCOL	D471 / D412	> 70 %	99 %
MINERAL SPIRITS	D471 / D412	> 45 %	98 %
WATER	D471 / D412	> 70 %	99 %
LOW TEMP CRACK BRIDGING	C1305 / C957	No Cracking	Pass
STABILITY IN CAN	C957	1 year	Pass
WEATHERING RESISTANCE AND RECOVERY FROM ELONGATION 500 HR. XENON ARC AND 7 DAYS AT 158 °F (70 °C)			
ELONGATION RETENTION	G1442 / G155	> 90 %	99 %
RECOVERY FROM ELONGATION - INITIAL	G1442 / G155	> 90 %	99 %
TENSILE RETENTION	G1442 / G155	> 80 %	123 %
WEIGHT LOSS OF BASE COAT	C1250	< 40 %	4 %
EXTERNAL FIRE EXPOSURE – FLAME SPREAD	E108	Class A Unlimited Slope- concrete substrate	Pass

H. APPLICATION-SPECIFIC PROPERTIES – SHOWER PAN LINER / TILE:

GacoFlex U91 is in compliance with the Uniform Plumbing Code (UPC®), International Plumbing Code (IPC®), and ANSI 118.10-2017 which is a component standard of the ANSI A108, A118 and A136 American National Standard Specifications for the installation of Ceramic Tile (Materials and Installation Standards) compendium published 2017.

PROPERTY	ASTM TEST	REQUIRED	RESULT
BREAKING STRENGTH	D751 – Procedure B	170 psi (1.2 MPa)	440 psi (3 MPa)
DIMENSIONAL STABILITY	D1204	0.7 %	0.27 % @ 150 °F (65.5 °C)
	D1204	0.7 %	0.03 % @ -15°F (-26.1 °C)
SEAM STRENGTH	D751	8 lb / in (3.6 kg / 25.5 mm)	20.3 lb / in (9.2 kg / 25.5 mm)
SHEAR STRENGTH			
DRY	7 DAYS	D482	50 psi (0.34 MPa)
	4 WEEKS	D482	50 psi (0.34 MPa)
	28 WEEKS	D482	50 psi (0.34 MPa)
WATER IMMERSION	7 DAYS	D482	50 psi (0.34 MPa)
	100 DAYS	D482	50 psi (0.34 MPa)
WATERPROOFNESS	D4068	No Leak	Pass

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