



Product Data Sheet (PDS):

GacoFlex™ U91 Series

Revised: 08/2021

**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)