



**DIVISION 07 55 63:
GACOFLEX™ LM60 FOR GARDEN ROOF
ASSEMBLY WATERPROOFING**

PART 1 – GENERAL

1.1 SUMMARY

- A. GacoFlex LM60 is a two-component, solvent-free, 100 % solids, liquid polyurethane that cures to a full elastomeric, seamless membrane at ambient temperature and does not depend upon atmospheric moisture to cure. GacoFlex LM60, when used in conjunction with protection board, drainage board and other components of a Garden Roof System shall be used to waterproof structural concrete, plywood and other structurally sound, existing roofing as described in this specification.
- B. This specification defines a system description to furnish and install a completed GacoFlex Green Roof System Assembly including sealer/primer, GacoFlex LM60 cold-applied membrane and flashings, protection course, root barrier protection, insulation (if required), water retention mat (if required), drainage/water retention component, filter fabric, lightweight engineered growing medium (soil) and vegetation.
- C. This specification is prepared in brief form so it can be used verbatim in the waterproofing section. It is only necessary to make the selections indicated to complete it. Gaco's General Instructions, which are incorporated by reference, provide specific detailed instructions for the guidance of contractors and inspectors.

1.2 RELATED SECTIONS

A. Site Work:	Section 02500 / 02870
B. Concrete - Roof Deck Substrate:	Section 03300

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM)
B. Underwriters Laboratories (UL) – Class A Listing Definition
C. Dow Chemical Company, TechNote 508 Ballast Design Guide for IRMA Roofs

1.4 DEFINITIONS

- A. **GREEN ROOF:**
An area of planting/landscaping built up on a waterproofed substrate at any level that is separated from the natural ground by a man-made structure.
- B. **EXTENSIVE GREEN ROOF:**
Low to no maintenance landscaping consisting of shallow soil depths (< 6 in (152mm) with plant varieties restricted to primarily mosses, herbs and succulents capable of withstanding harsh growing conditions.

- C. **INTENSIVE GREEN ROOF:**
Landscaping requiring regular maintenance, consisting of deeper soil depths (> 8 in (203 mm) with a wider variety of plant species possible including shrubs and small trees.
- D. **SHALLOW-INTENSIVE / LAWN GREEN ROOF:**
Landscaping requiring more regular maintenance than an extensive condition but limited in plant selection due to shallower soil depths, (i.e., sod grass lawn).
- E. **STEEP SLOPE GREEN ROOF:**
Defined as a slope exceeding 3:12 pitch.

1.5 SUBMITTALS

- A. **PRODUCT DATA:**
Submit manufacturer's standard submittal package including specification, installation instructions and general information for each waterproofing material.
- B. **UNDERWRITERS LABORATORIES (UL) - CLASS A LISTING:**
Evidence that the roof membrane assembly is currently Class A listed with Underwriters Laboratories.
- C. **APPLICATOR QUALIFICATIONS:**
Submit current Letter of Good Standing from the specified waterproofing manufacturer.
- D. **SUBSTRATE CONDITIONS:**
 - i. Applicator to present to owner a completed inspection report verifying substrate condition and any noted defects not specifically addressed regarding the installation of the coating.
 - ii. Surface shall be free from loose dirt, stone, debris, moisture, and shall be in stable condition. Any work on the area to receive this application shall be completed prior to the installation of the coating.
 - iii. Applicator shall complete a substrate inspection prior to the start of the installation of the coating. The architect/owner and Applicator shall accept the substrate. Start of the work constitutes acceptance.

1.6 QUALIFICATIONS

- A. Primary waterproofing materials shall be the products of a single manufacturer. Secondary materials shall be recommended by the primary manufacturer. The manufacturer shall have a minimum of ten (10) years' experience in the manufacture of materials of this type.
- B. Applicators shall have a minimum of five (5) years' experience in the application of waterproofing materials of the type specified. The Applicator shall possess a current Letter of Good Standing from the specified waterproofing manufacturer.
- C. **PRE-BID CONFERENCE:**
Ten (10) working days prior to the bid opening there is to be a mandatory Pre-Bid Conference. Those not attending the Pre-Bid Conference will not be allowed to bid the project. All products considered an equal to the specified product or any changes in the scope of work, installation, or specifications must be presented at the Pre-Bid Conference. If a change in the specifications is accepted, it will be considered as an alternate and will be presented as a bid addendum issued five (5) working days prior to the bid opening. No other changes to the specification or bid documents will be accepted.
- D. Materials other than those specified shall be submitted to the architect/owner for approval no later than ten (10) days prior to the bid date. In requesting prior approval, it shall be necessary to submit:
 - i. A letter of certification, signed by an officer of the manufacturer, stating that the alternate material is equal to or better than the specified product.
 - ii. Independent laboratory test data giving physical property values in comparison to the specified material.

E. **PRE-INSTALLATION CONFERENCE:**

Just prior to the commencement of the installation, meet at the jobsite with a representative of the coating manufacturer, Applicator, general contractor, architect, and other parties affected by this section. Review the methods and procedures, substrate conditions, scheduling, and safety.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Owner/owner's representative shall reject damaged or non-conforming materials. Rejected materials must be removed immediately from the job site.
- B. Store the coating materials as recommended by the manufacturer and conforming to applicable safety regulatory agencies: town or city, state, and federal. Refer to all applicable data including, but not limited to: Safety Data Sheets, Product Data Sheets, product labels, and specific instructions for personal protection.
- C. Provide adequate ventilation, protection from hazardous fumes, and overspray potential to workers and associated trades in close proximity of the site application.
- D. Ensure compliance with all applicable environmental requirements in addition to ensuring that any work related to the preparation or application of coatings is only performed when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

NOTE: When working with Part B, avoid contact with skin and eyes. If contact occurs, wash skin with water or alcohol; flush eyes immediately with large quantities of water and get medical attention. Do not smoke during mixing, application or in the immediate area if thinners are used until all vapors have dissipated.

1.8 APPLICATION START REQUIREMENTS

- A. Application of the membrane shall not commence nor proceed during inclement weather. All surfaces to receive the membrane shall be free of water, dew, frost, snow and ice.
- B. Application of the membrane shall not commence nor proceed when the surface temperature is below 40 °F (5 °C). Application of the primer shall not commence nor proceed when the surface temperature is below 50 °F (10 °C).
- C. Preparation and application of the membrane shall be conducted in well ventilated areas.
- D. Do not expose the membrane or accessories over its service life to a constant temperature in excess of 180 °F (82 °C) (i.e., hot pipes, vents, direct steam, venting, etc).
- E. Do not allow waste products, (petroleum, grease, oil, solvents, vegetable or mineral oil, animal fat, etc.) to come in contact with the roof membrane. Any exposure to foreign materials or chemical discharges shall be presented to membrane manufacturer for evaluation to determine any impact on the roof membrane assembly performance.
- F. General Contractor shall assure that adequate protection is provided after the installation so other trades do not damage membrane.

1.9 WARRANTY

- A. Manufacturer warrants that the material supplied will meet or exceed physical properties as published. The Applicator guarantees that workmanship will be free of defects in coating application. Since performance of previously applied coatings is beyond the control of Manufacturer and Applicator, requests for additional warranty coverage shall be subject to prior approval by Manufacturer.
- B. **A FIFTEEN (15) YEAR LABOR AND MATERIAL WARRANTY MUST BE OBTAINED THROUGH THE MANUFACTURER.**
- C. **PROTECTION OF BUILDING AND OCCUPANTS:**
 - 1. All surfaces not to receive the coating specified shall be protected from overspray hazard, e.g., windows, doors, exterior surfaces and facades, parking lots, and vehicles. Protective coverings

shall be secured against wind and shall be vented if used in conjunction with applications preventing collection and moisture.

2. Applicator to post signs noting potential overspray hazard within 400 ft (122 m) of applications.
3. All air intake ventilation equipment shall be turned off to prevent fumes from entering building.
4. Surfaces damaged during application shall be restored at no expense to the owner.
5. No smoking signs to be posted as mandated by local fire officials.

D. SUBSTRATE:

Proceed with work as specified only after substrate construction, preparation, and detail work has been completed.

E. EQUIPMENT:

All equipment used during operations shall be located so as not to adversely affect the daily operations or endanger occupants, structure, or materials on-site. All spray equipment must be grounded during operations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Acceptable Manufacturers:

Gaco, www.gaco.com

2.2 MATERIALS – POLYURETHANE WATERPROOFING MEMBRANE

A. SEALER / PRIMER:

GacoFlex E5691 Epoxy Sealer/Primer (*as required*)

ACCEPTABLE ALTERNATE: GacoFlex E5990 & GacoFlex E5320 (as required)

B. NEOPRENE FLASHING:

- 1.) GENERAL: GacoFlex NF621 Field-Curing Neoprene Flashing
- 2.) EXPANSION JOINTS: GacoFlex NF621 Field-Curing Neoprene Flashing
- 3.) MOVING CRACKS: GacoFlex NF621 Field-Curing Neoprene Flashing

C. NEOPRENE ADHESIVE:

GacoFlex N1207 Single-Component Neoprene-Based Adhesive

D. SACRIFICIAL TAPE :

ScotchBlue™ ORIGINAL Painter’s Tape or equivalent (*as required*)

E. POLYURETHANE WATERPROOFING MEMBRANE :

Meets the following minimum physical property specifications:

GacoFlex LM60 100% Solids Two-Component Elastomeric Coating		
PROPERTY	VALUE	TEST METHOD
TENSILE STRENGTH	240 ± 10 psi (1.65 ± 0.07 MPa)	ASTM D412
ELONGATION AT BREAK	300 % (± 20)	ASTM D412
TEAR RESISTANCE	30 pli (5.4 kg(f) / cm)	ASTM D-624
HARDNESS	50 Shore A min @70°F (21°C)	ASTM D-2240
WATER VAPOR PERMEABILITY	0.02 Perm Inches	ASTM E-96 (Procedure BW) 100 % R.H. Diff.
SOLIDS	Volume:100 %	ASTM D1644

F. BOARD INSULATION:

XPS extruded polystyrene rigid board insulation - STYROFOAM® Brand insulation [TYPE] as manufactured by The Dow Chemical Company or equal to satisfy the following minimum physical property characteristics: *(as required)*

1. Insulation shall meet ASTM C-578, Type VI or VII
2. Minimum compressive strength, ASTM D-1621, 40 or 60 psi (276 or 414 kPa) (variance by type of product)
3. Maximum water absorption by volume per ASTM C-272, 0.1 %
4. Water vapor permeance for 1 in product per ASTM E-96, 1.0 perm (max.) (63 ng/Pa/s/m²)
5. Insulation shall have an R value of 5.0 °F ft² h/Btu/in. (0.88 K m²/W) of thickness when tested at 75 °F (23.9 °C) mean temperature in accordance with ASTM C-518
6. Product shall be free of CFCs

NOTE: Equivalent 3rd party product may be substituted as required.

G. TOPCOAT PRIMER – FOR AREAS EXPOSED TO UV: *(As required)*

GacoFlex E5320 2-Part Epoxy Primer/Filler

H. TOPCOAT COATING - FOR AREAS EXPOSED TO UV: *(As required – select one)*

GacoFlex UB64 Two-Component Polyurethane Elastomeric Coating

OR

GacoFlex U66 Two-Component Fire-Retardant Polyurethane Elastomeric Coating

2.3 MATERIALS – GARDEN ROOF COMPONENTS (AS REQUIRED)**IMPORTANT:**

Ensure compatibility of all 3rd party products prior to project start and that installation instructions are followed completely (in addition to any pertinent supplemental documentation) as provided by the manufacture. Gaco cannot guarantee/warrant the installation of 3rd party products and any damages derived from incomplete/improper installation of such components will be the sole responsibility of the installer.

A. SEPARATION / PROTECTION COURSE:

1. 6 mil polyethylene plastic & W. R Meadows PC2 separation / protection course

NOTE: If a Root Barrier is used, a 90 lb (41 kg) Mineral Cap Sheet must be installed over the separation / protection course. Equivalent 3rd party products may be substituted as necessary.

B. ROOT BARRIER:

1. HDPE-40 by Tremco w/ thickness of 20 – 60 mils
2. RootStop HD by American Hydrotech

NOTE: Equivalent 3rd party products may be substituted as necessary.

C. AIR LAYER:

1. J-Drain 300 manufactured by JDR Enterprises

NOTE: Required when insulation and a water retention mat are specified with the air layer will be placed between these two components. 3rd party products may be substituted as necessary.

D. WATER RETENTION MAT:

1. Use GS-232 Moisture Retention Mat manufactured by Cetco

NOTE: Ensure product is turned up on all vertical, roofed/flashed surfaces to a satisfactory minimum distance above anticipated soil as defined in designer's specification. Equivalent 3rd party product may be substituted.

E. DRAINAGE MAT / FILTER FABRIC:

1. JDrain 302 by JDR Enterprises
2. JDrain 1000 by JDR Enterprises
3. MiraDrain 6200 by Carlisle
4. TremDrain 2000NW by Tremco
5. TremDrain S by Tremco

NOTE: Any dimple-type drainage mat placed directly over cured GacoFlex LM60 requires polymeric film install on top of GacoFlex LM60. Equivalent 3rd party products may be substituted as necessary.

F. STONE / PAVER BALLAST:

1. 3rd party product selection and Installation design shall be in accordance with Dow Chemical Company TechNote 508 "Ballast Design Guide for IRMA Roofs", all applicable building codes, wind design guides and the designer's specification.

G. SOIL:

1. Installation design shall be in accordance with all applicable building codes, wind design guides and the designer's specification.

H. EROSION CONTROL MAT:

1. 3rd party product selected shall be in accordance with all applicable building codes, wind design guides and the designer's specification.

2.4 RELATED MATERIALS

- A. Metal counter flashing is typically required to provide protection to vulnerable flashing materials from damage due to gardening activities.

PART 3 - EXECUTION

3.1 INSPECTION / EXAMINATION

- A. Verify that substrate is ready to receive work; surface is clean, dry, and free of substances that could affect bond.
- B. Do not begin work until concrete substrate has cured a minimum of seven (7) days and reached an acceptable moisture content for roof garden assembly installation .
- C. The work shall not be started when temperature is under 40 °F (4 °C) or when precipitation is imminent.
- D. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect and general contractor prior to starting the waterproofing application.

3.2 PREPARATION

NOTE: IT IS EXTREMELY IMPORTANT FOR THE SUBSTRATE TO BE COMPLETELY CLEAN AND DRY PRIOR TO ANY PRIMING OR APPLICATION OF COATING.

- A. Properly and thoroughly clean the substrate within the coating application area to remove any and all surface contaminants. Refer to Gaco's General Instructions document "GW-1-1 Surface Preparation" available on Gaco.com for complete requirements and procedures. A generalized outline of per substrate type requirements follows:

1. **CAST-IN-PLACE CONCRETE/COMPOSITE DECK:**
Poured in place concrete shall be monolithic, smooth, and free of voids, spalled areas, laitance,

honeycombs and sharp protrusions.

2. **PRE-CAST CONCRETE DECK:**
Pre-cast units shall be mechanically secured to minimize differential movement and all joints between units shall be grouted.
 3. **PLYWOOD DECK:**
Minimum thickness of 3/4 in (25.4 mm) is required with adequate structural support. Tongue and groove joint edges are required. Adequate number and type of fasteners shall be used to comply with applicable codes and maintain structural integrity.
 4. **RE-ROOF / TEAR-OFF:**
Asphalt, coal tar pitch or other existing membranes must be removed. Before any commencement of work proceeds, contact Gaco Technical Services to confirm the deck type is of suitable type and condition for garden roof assembly application.
- B. The surface shall be tested for the presence of adhesion reducing curing agents. Adhere a 2 in x 6 in (51 mm x 152 mm) piece of NF621 Neoprene Sheet Flashing to the deck using GacoFlex N1207 Adhesive. After forty-eight (48) hours, a 90° pull resistance test should be a minimum result of 5 lb/in² (0.9 kg / cm²).
- C. Ensure the substrate is completely clean of dirt and other debris through the following method:
1. Clean the substrate to remove any and all surface contaminants. Refer to Gaco's document "General Instructions Section GW-1-1: Surface Preparation" for complete instructions - available on Gaco.com.
 2. Mask off all adjoining areas that are not to receive the fluid applied waterproofing.
 3. Provide a suitable work station to mix the coating materials.
 4. A final check to determine if the concrete has been properly prepared is to apply a test patch of GacoFlex LM60 to the surface and check its adhesion.

3.3 INSTALLATION – POLYURETHANE WATERPROOFING MEMBRANE

A. **TECHNICAL ADVICE:**

The installation of this waterproofing membrane shall be accomplished in the presence of, or with the advice of the manufacturer's technical representative. Contact the nearest regional office for assistance.

NOTE: Consideration should be given to the application of the GacoFlex garden roof assembly when waterproofing exterior concrete decks that will experience solar heating during application. A phenomenon known as concrete out gassing may occur which causes blisters and pinholes in the applied coating. The use of the sealer/primer system is the best method for preventing blisters and pinholes.

B. **SEALER / PRIMER:**

Apply GacoFlex E5691 at the rate of 1 gal / 400 ft² (3.8 L / 37.2 m²) over the entire application area and all vertical or sloping surfaces of curbs, cants, parapets, etc. which are to receive coatings with one coat of Sealer. Allow to dry a minimum of two (2) hours but no more than twenty-eight (28) days before applying the next component.

NOTE: Do not apply if substrate is below 50 °F (10 °C) or above 110 °F (43 °C), or when relative humidity is above 85 %.

NOTE: Gaco strongly recommends calcium chloride and adhesion tests be conducted to determine to proceed with installation. Based on the test results, the decision to proceed will be between the contractor and building owner.

C. **DETAIL WORK:**

Apply GacoFlex E5691 as described in Section 3.3.B. over expansion joint covers (where called for), seal cracks and joints, install flashings and apply the liquid polyurethane membrane.

D. FLASHING:**1. CRACKS & CONTROL JOINTS:****i. NON-MOVING CRACKS:**

Stripe coat all non-moving cracks with GacoFlex LM60, ensure that all cracks are filled completely and apply additional material where significant settling and/or infiltration of the coating has occurred. Next apply GacoFlex LM60 for a distance of 3 in (76 mm) on each side of the crack to achieve a minimum Dry Film Thickness (DFT) of 60 mils and allow to cure completely.

NOTE: When applying the membrane on the main field of the deck, an additional stripe coat is required (following the application method in the previous paragraph) to achieve a minimum Dry Film Thickness (DFT) of 120 mils and allow to cure completely.

ii. MOVING CRACKS & CONTROL JOINTS:

Remove all dirt and loose chips of concrete from cracks. Seal all cracks with a bead of polyurethane sealant (if possible) and strike the sealant flush with the deck surface. Center a 2 in (51 mm) wide piece of ScotchBlue™ ORIGINAL Painter's Tape (or equivalent) over the crack and apply it firmly and thoroughly to the deck. Apply GacoFlex LM60 by stripe coat method - centered over the tape and extending 3 in (76 mm) to each side of the tape - to achieve a minimum Dry Film Thickness (DFT) of 60 mils.

NOTE: When applying the membrane on the main field of the deck, an additional stripe coat is required (following the application method in the previous paragraph) to achieve a minimum Dry Film Thickness (DFT) of 120 mils and allow to cure completely.

2. EXPANSION JOINT COVERS:

- i. Choose GacoFlex NF621 field curing Neoprene Sheet in a width that will provide at least 3 in (76 mm) of bonding area on each side of the joint plus enough material to loop over the backer rod. Use a chalk mark placed 3 in (76 mm) on each side of the joint as a guide for applying the adhesive.
- ii. Stir GacoFlex N1207 Neoprene Adhesive to obtain a uniform consistency. With roller or brush, apply GacoFlex N1207 to the deck on either side of the joint to a point just beyond the chalk marks. Allow the GacoFlex N1207 Neoprene Adhesive to dry until it can be touched without sticking; about thirty (30) minutes. Apply a second coat of adhesive to the deck and one coat to the neoprene sheet (on the side not covered with the polyethylene liner). Allow the adhesive to dry completely.
- iii. Fold the neoprene sheet in half lengthwise so that the polyethylene surface is together. Place one edge of the sheet, adhesive side down, along the chalk line on one side of the joint. Place directly into position as the adhesive surfaces will bond immediately upon contact and the sheet cannot be moved. Stitch along the edge of the sheet to obtain a positive bond. Once the edge is bonded completely, work the stitcher or a flat faced steel roller toward the expansion joint to obtain 100 % positive contact. End laps must be joined prior to placement of the flashing as waterproof lap cannot be formed over a backer rod.
- iv. Place a backer material (solvent resistant, expanded plastic such as polyethylene or polypropylene) in the joint. The backer material should be 1/3 larger than the joint so it can be compressed into the joint and flush to the deck.
- v. Install the neoprene sheet over the backer material and adhere it to the deck on the opposite side of the joint. Stitch the sheet from the joint outwards to the edge to obtain positive contact. Remove the polyethylene liner.
- vi. Apply a bead of polyurethane sealant along all edges and lap seams of the sheet.

- vii. After neoprene sheet has been installed a minimum of twenty-four (24) hours; solvent wipe prior to the application of GacoFlex LM60.
- viii. After placement of the protection board, a sheet metal protective cover must be installed to protect the expansion joint prior to the installation of any wear course.

NOTE: Before application of GacoFlex LM60 begins, all neoprene sheets must be solvent-wiped and completely free of any residue and/or residual moisture.

3. NON-MOVING DECK & WALL JUNCTURES:

- i. If the joint at the wall and deck juncture is non-moving, apply GacoFlex LM60 at a rate of 4 gal / 100 ft² (15.4 L / 9.3 m²) to achieve a minimum Dry Film Thickness (DFT) of (60 mils (1/16 in / 1.52 mm) in a cove prior to the coating application of the main deck. Apply an additional coat at the same application rate listed above, centered at the juncture to achieve a minimum Dry Film Thickness (DFT) of 120 mils (1/8 in / 3.05 mm).

4. MOVING DECK & WALL JUNCTURES:

- i. If the joint at the wall and deck juncture is moving, flashing is accomplished by using the field curing NF-621 Neoprene Sheet. This is placed prior to the application of the overall membrane and is achieved through the following installation procedure:
 - 1. Choose a width of neoprene sheet sufficient to extend 4 in (102 mm) onto the deck and 6 in (152 mm) up the vertical wall. Roll out the sheet close to the application area. Use a length as long as possible to reduce the number of lap joints, but only as long as convenient to handle.
 - 2. Place ScotchBlue™ ORIGINAL Painter's Tape (or equivalent) on the wall and a chalk line on the deck as a guide for the adhesive application.
 - 3. Mix the adhesive to obtain a uniform mixture. Apply by brush or roller to the deck 0.5 in (13 mm) beyond the chalk line and to the wall onto the tape. Remove the tape while the adhesive is still wet.
 - 4. When the first coat of the adhesive is dry apply a second coat of adhesive to the deck, wall and to the neoprene sheet on the side not covered by polyethylene liner.
 - 5. Place a 1 in (26 mm) expanded plastic backer rod into the wet adhesive at the juncture of the deck and wall.
 - 6. When the GacoFlex N1207 Adhesive is dry, fold the neoprene sheet in half lengthwise so that the polyethylene surface is together. Carefully lift the neoprene sheet without stretching it and place the edge (adhesive surfaces together) along the chalk line on the deck. Stitch the edge to assure positive contact and continue with the roller and stitcher toward the wall. On the wall, work from the bottom to the top, in the same manner. Remove the polyethylene liner. End laps must be joined prior to placement of flashing since a waterproof lap cannot be formed over a backer rod.
 - 7. Apply a bead of polyurethane sealant along edges and lap seams of the sheet.
 - 8. After neoprene sheet has been installed a minimum of twenty-four (24) hours; solvent wipe prior to the application of the GacoFlex LM60. (If in a VOC Regulated Area, the use of GacoFlex T5110 Thinner is required as an acceptable alternate for GacoFlex T5116 Thinner).

NOTE: If GacoFlex LM60 comes into contact with a wall waterproofing system, the wall system must be installed prior to the GacoFlex LM60. Overlap the GacoFlex LM60 a minimum of 6 in (152 mm) onto the wall system. As an alternate, use a neoprene sheet as the dividing interface between the two systems.

NOTE: Before application of GacoFlex LM60 begins, all neoprene sheets must be solvent-wiped and completely free of any residue and/or residual moisture.

E. POLYURETHANE WATERPROOFING MEMBRANE:

1. Apply one (1) coat of GacoFlex LM60 at an approximate rate of 8 gal / 100 ft² (30.3 L / 9.3 m²) to achieve a minimum Wet Film Thickness of 128 mils / Dry Film Thickness (DFT) of 128 mils. Application by 7/16 x 7/16 in (11 x 11 mm) notched trowel is optimal in controlling the thickness of the coating – may also be applied by squeegee.

NOTE: Where GacoFlex LM60 meets GacoFlex NF621 Neoprene Sheet, the GacoFlex LM60 must overlap a minimum of 3 in (76 mm).

F. TOPCOAT – FOR AREAS OF GACOFLEX LM60 EXPOSED TO UV: *(as required)*

1. PRIMER:

- i. Apply one (1) coat of GacoFlex E5320 at a minimum rate of 1 gal / 250 ft² (3.78 L / 9.29 m²) to achieve a Dry Film Thickness (DFT) of 1-2 mils.
- ii. Allow to dry for a minimum of six (6) hours before applying an appropriate GacoFlex coating. Dry time is dependent upon temperature, humidity and additional environmental factors.

NOTE: If GacoFlex E5320 is not coated within seventy-two (72) hours DO NOT PROCEED WITH INSTALLATION, please contact Technical Services for assistance.

2. COATING – CHOOSE ONE:

- i. GACOFLEX UB6421 – (COLOR: BLACK):
Apply one (1) coat of GacoFlex UB6421 at an approximate rate of 2.5 gal / 100 ft² (9.5 L / 9.3 m²) to achieve a minimum Wet Film Thickness of 40 mils / Dry Film Thickness (DFT) of 30 mils. Apply by spray, brush or roller with workable viscosity range (adjusted per environmental conditions).

When applied to surfaces with a temperature between 33 – 50 °F (1 –10 °C), mix Part A and Part B then warm to 60 °F (16 °C) minimum, and let mixture stand for a minimum of fifteen (15) minutes before application. This will cause a viscosity increase and thinning may be needed for application.

Coating will set with two (2) hours at 70 °F (21 °C) and 50 % R.H. Suitable for light foot traffic after a minimum twenty-four (24) hours of cure time. For vehicular traffic, add an additional twenty-four (24) hours of cure time.

NOTE: Do not apply any GacoFlex UB6421 Series coating to any surface with a temperature below 33 °F (1 °C).

OR

- ii. GACOFLEX U66 – (COLOR: STANDARD COLORS):
Examine both components for liquidity. Stir "Part A" to suspend any settled pigment. Combine equal volumes of "Part A" and "Part B". Mix thoroughly (power mixing is mandatory for quantities over 2 gal (7.6 L). Before application, ensure ambient and surface temperature are a minimum of 40 °F (4 °C) to allow coating to fully cure.

Apply one (1) coat of GacoFlex U66 at an approximate rate of 2.5 gal / 100 ft² (9.5 L / 9.3 m²) to achieve a minimum Wet Film Thickness of 40 mils / Dry Film Thickness (DFT) of 30 mils. Brush, roll or notch trowel as mixed. If product is to be thinned, do not thin more than 5 %, so as not to exceed 250 g/L of VOC content.

NOTE: Pot life varies with the temperature of the material; including the temperature at which the material is stored. The following can be used as a general reference:

- a.) 60 °F (16 °C) – Approximately two (2) hours
- b.) 78 °F (26 °C) – Approximately one (1) hour
- c.) 96 °F (36 °C) – Approximately thirty (30) minutes

NOTE: Coating will set in eight (8) hours at 70 °F (21 °C) – restrict all light foot traffic until an additional twenty-four (24) hours after cure

NOTE: GacoFlex U5651 is an available accelerator for increased cure rate. Up to ¼ oz/gal (7 mL / 3.8 L) may be mixed into U66 “Part A” be used to decrease cure time by 50 % (or equivalent); pot life will also be reduced accordingly.

G. **WATER TEST:** (as required)

IMPORTANT: Verify that the structure can support the dead load weight of a water test before testing.

1. Allow the membrane to cure a minimum of forty-eight (48) hours before running a water test. Plug drains and flood the application area completely and to a minimum depth of 2 in (51 mm). Allow water to stand for a minimum of forty-eight (48) hours and thoroughly check the entire membrane surface and surroundings for any signs of water leakage.
2. If leaks should occur, the water shall be drained completely and the membrane installation repaired. An additional water test must then be performed with a successful result. If after a 2nd water test there is a failed result, contact Gaco technical services for support on this issue.
 - i. **ALTERNATE METHOD:**
Low Voltage Vector Mapping is recommended when a structure cannot support the dead load weight of a water test.

3.4 INSTALLATION – GARDEN ROOF (3RD PARTY PRODUCTS)

- C. Install all garden roof components per designer’s specification and 3rd party manufacturers’ advice. List of example 3rd party products for each component category can be found in “Section 2.3 MATERIALS – GARDEN ROOF COMPONENTS”.

3.5 FIELD QUALITY CONTROL

- A. Any variations from the specified limits found by the Applicator or owner’s representative shall be corrected by the Applicator.
- B. **MINIMUM DRY FILM THICKNESS (DFT) REQUIREMENT:**
Gaco recommends adding a 10 % variance factor to obtain the minimum Dry Film Thickness (DFT) mil measurement required. It is the Applicator’s responsibility to calculate the amount of coating needed to obtain the minimum Dry Film Thickness (DFT) measurement required.
- C. No traffic shall be permitted on the coated surface for a minimum of three (3) days. Damage to the surface by other trades shall not be the responsibility of the Applicator.