

**Section 07120:**  
**GACO WESTERN LIQUID URETHANE RUBBER MEMBRANE**  
**MINERALFLEX ROOFING SYSTEM**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. LM-60 is a two component, solvent free, 100% solids liquid urethane that cures when mixed to a full rubber seamless membrane at ambient temperature and does not depend on atmospheric moisture to cure. LM-60H is used to waterproof structural concrete, plywood, and structurally sound existing roofing using a colored roof granule as the exposed surface. This system passes ASTM E-108 spread of flame for a non-combustible substrate.
- B. This specification is prepared in brief form so it can be used verbatim in the waterproofing section. It is necessary only to make the selections indicated to complete it. Gaco Western's General Instructions, which are incorporated by reference, provide specific detailed instructions for the guidance of contractors and inspectors.

**1.2 RELATED SECTIONS**

- A. Drains, Vents, Ducts, Penetrations:  
Section 07700
- B. Cast-In-Place Concrete: Section: 03300

**1.3 SUBMITTALS**

- A. Product Data: Submit manufacturers standard submittal package including specification, installation instructions, and general information for each waterproofing material.
- B. Applicator Qualifications: Submit current "Qualified Applicator" certificate from the specified waterproofing manufacturer.

**1.4 QUALIFICATIONS**

- A. Primary waterproofing materials shall be products of a single manufacturer. The primary manufacturer shall recommend secondary materials. Manufacturer shall have a minimum of 10 years experience in the manufacture of materials of this type.
- B. Applicators shall have a minimum of 5 years experience in the application of waterproofing materials of the type specified. Applicator shall possess a current "Qualified Applicator" certificate from the specified waterproofing manufacturer.
- C. Pre-Bid Conference: 10 working days prior to bid opening there is to be a mandatory Pre-Bid Conference. Anyone not attending the Pre-Bid Conference will not be allowed to bid the project. All products considered to be 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 amendment issued 5 working days prior to the bid opening. No other changes to specifications or bid documents will be accepted.
- D. Pre-Installation Conference: Just prior to commencement of the fluid application waterproofing system, meet at the site with a representative of the coating manufacturer, the waterproofing contractor, the general contractor, the architect and other parties affected by this section. Review methods and procedures, substrate conditions, scheduling and safety.

## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Store all coating materials in the original unopened containers at 50° - 80°F (10° - 26°C) until ready for use.
- B. Follow the special handling or storage requirements of the manufacturer for cold weather, hot weather, etc.
- C. Safety: Refer to all applicable data, including, but not limited to MSDS sheets, PDS sheets, Product labels, specific instructions for specific personal protection requirements.
- D. Ventilation: Provide adequate ventilation to prevent the accumulation of hazardous fumes during application.
- E. Environmental requirements: Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

## 1.6 WARRANTY

- A. The contractor shall guarantee that all work performed will be free from defects in materials and workmanship. Upon notice of defect in writing to the contractor within one year after completion of work, the contractor shall, at his own expense, make necessary repairs or replacements of the defective work in question.
- B. A 5 year no leak warranty is available with this system provided it has been installed by a Gaco Western Qualified Applicator and is installed according to this specification. Application for warranty must be made prior to start of job.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

Acceptable Manufacturer:  
Gaco Western, Inc.

### 2.2 MATERIALS

- A. Urethane Coatings: Liquid Urethane Rubber Membrane material shall meet the published properties of this products and

also must meet applicable Air Pollution Control regulations. *LM-60 is solvent free.*

- B. Concrete Primer: Gaco Western two component Epoxy Concrete Sealer E-5320.
- C. Flashing and Joint coating: Gacoflex UB-64 series, two-component polyurethane coating.
- D. Flashing and Joint reinforcing fabric: Gaco Western's 66B and 66S fabric. GacoFlex NF-621 neoprene sheet flashing, and related materials as required for flashing drains, base angles, etc. Consult Gaco Western GW-1-2 (formerly GW-1, Section III) for specific recommendations.
- E. Misc. Accessories: All items incorporated into this system shall be compatible with and approved by coating manufacturer.

NOTE: Allow additional material for rough or irregular surfaces; add 2% - 3% for material loss during application.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that substrate is ready to receive work, and that the surface is clean, dry and free from projections, depressions loose scale, sand, curing compounds, grease, oil, and other foreign deposits. Construction work on the roof should be completed and all penetrations installed.
- B. Verify that the plywood shall conform to US Product Standard PS-1-92 and shall carry the grade trademark of the American Plywood Association Grades APA BC EXT or APA AC EXT are acceptable. These are minimum grades suitable for liquid coating applications. Refer to Gaco Western's General Instruction Section GW-2-3 (formerly GW-3) for complete information on the installation and fastening of plywood.
- C. Do not begin work until new concrete substrates have cured 28 days, minimum.
- D. The work shall not be started when temperature is under 40°F (4°C) or when precipitation is imminent.

- E. 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

- A. Clean substrate to remove any and all surface contaminants. Refer to Gaco Western's General Instructions Section GW-1-1 (formerly GW-1, 1B), Surface Preparation.
- B. Mask off all adjoining areas that are not to receive the fluid applied roofing.
- C. Provide a suitable workstation to mix the coating materials.

### 3.3 INSTALLATION

- 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.
- B. Concrete Primer/Sealer: Prime entire deck surface and all vertical or sloping surfaces of curbs, cants, parapets, etc. which are to receive coatings with one coat GacoFlex U-5677 Sealer at a rate of one gallon per 300 square feet (4.2 L / 30 m<sup>2</sup>). Allow to dry a minimum of 1 hour and no more than 72 hours before applying sealer coat.

Apply one coat of GacoFlex E-5320 by roller at the rate of 1/2 gallon per 100 square feet (2.1 L / 10 m<sup>2</sup>). Allow to dry a minimum of 24 hours. For maximum solvent resistance, see drying time directed in Gaco Western's General Instructions GW-2-2 (formerly GW-1, Section II).

*Alternative Concrete Primer/Sealer:* Apply one coat of Gaco Western's E-5400 to all surfaces to receive the fluid applied waterproofing. Apply at a rate of one gallon per 150 sq. ft. (4.1 L / 15 m<sup>2</sup>) and allow to cure at least 6 hours, but no more than 3 days before applying basecoat.

NOTE: Clean, dry new plywood does not need a primer.

- C. Detail Work: Apply primer, expansion joint covers (where called for), seal cracks, and joints, install flashing and apply liquid urethane membrane as directed in Gaco Western, Inc. Application Instructions LWM-62-U.

UB-64 can be used to install Gaco Western fabric reinforced flashing 66S tape at all changes of plane. Treat cracks in the surface with Gaco Western's UB-64 series urethane and 66B tape.

- E. Urethane Membrane: Apply urethane membrane to secure a total minimum coverage of 5 gallons per 100 square feet (20.4 L / 10 m<sup>2</sup>) (Total wet film thickness - 80 mils (2.0 mm)).
- E. Texture Course: After overnight cure, (minimum 16 hours), mix LM-60H using 5% thinner (T-5116 or T-5112) and apply at a rate of one gallon per 100 sq. ft. Immediately broadcast into the wet coating #10 mesh roofing granule to refusal (approximately 50 lbs. per 100 sq. ft.). Allow to cure overnight (minimum 6 hours).

NOTE: Entire roof surface to be inspected to insure all seams are properly sealed and waterproofed. If defects in seams or other possible tears are found, they are to be repaired as to the original product manufacturer's specifications and procedures.

The MFR-90-U system can be used for single-ply or BUR. Please contact your local representative for more information.

### 3.4 FIELD QUALITY CONTROL

- A. The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record actions in the field.
- B. Inspections: A minimum of three (Substrate, Application and Final) inspections, by an approved manufacturer representative, will be required on all projects requiring a warranty.
- C. Dry Film Thickness: Average dry film thickness shall be 90 mils (2.5mm) excluding granule and shall not be less than 80 mils (2mm) at minimum areas.