



SURE SEAL[®] BUTYL MEMBRANE WATERPROOFING SYSTEM

DESCRIPTION

Sure-Seal Butyl Membrane (Isobutylene and Isoprene) is a sheet applied vulcanized elastomer compounded to the physical properties in the technical data section. The butyl membrane is virtually impermeable to water and water vapor. The membrane has excellent puncture resistance coupled with outstanding elongation and tensile strength makes this membrane system able to withstand ponding water and building movement. CCW's Sure-Seal membrane can be applied at virtually any temperature.

TYPICAL USE

The Butyl Membrane Waterproofing System is suitable for a wide variety of applications such as;

- Wall and foundation waterproofing, earth shelter, and tunnels.
- Waterproofing beneath shower pans, thick set mortar, kitchens, toilet facilities, janitorial rooms.
- Waterproofing promenades and plaza decks.
- Split-slab waterproofing of multilevel parking facilities.
- Waterproofing of subgrade construction: over mud slabs or sand beds.
- Railroad bridge decks.
- Lining interior fountains.

LIMITATIONS

- Not recommended in areas where membrane will be subject to continuous exposure to sunlight.
- Do not expose membrane and accessories to a constant temperature above 180°F.
- Do not allow waste products (e.g. oil, grease) to come in contact with the membrane.
- Do not install membrane on ASTM D-315 Type I and II low melting point asphalt.

APPLICABLE STANDARDS

Butyl membrane meets the applicable requirements of:

- Corps of Engineers; CEGS-07111-3-82
- Dept. of Navy; NFSG-07111-10-84
- Federal Const. Guide Spec.; FCGS-07111-2-80
- AREA, Chapter 29, Part 2

- AMTRAK, Section 7.01, Sheet Waterproofing
- ASTM D 6134 Type II

PACKAGING

Sizes: Factory fabricated in sheets up to 20 feet (6m) in width by 100 feet (30m) in length, with factory vulcanized splices. Thicknesses of 0.060 inch (1.50mm), 0.090 inch (2.28mm), and 0.120 inch (3.05mm).

Precut and prefabricated shapes and special sizes available on special order.

Average weight per square foot at 0.060 inch (1.50mm) thickness is 0.38 lbs. (.17kg).

WARNINGS AND HAZARDS

Cements, bonding adhesives and splice cleaner contain flammable solvents. Avoid exposure to open flames, sparks, etc. Avoid breathing vapors. Use only in areas with adequate ventilation. *Refer to MSDS for important warnings and product information.*

INSTALLATION

Installation procedures vary as to the type of application employed and the specific job requirements. When installed correctly, it is difficult to find a more efficient water barrier. While no one particular installation step is complicated, care is most important and best results are obtained when experienced applicators are employed using Carlisle's time-proven recommendations.

Carlisle provides detailed instructions for installing the membrane according to the specific application. Prior to application contact Carlisle for product Material Safety Data Sheets and Technical Data Bulletins for cautions and warnings. The following are general installation procedures:

Surface Preparation: Surfaces on or against which Sure-Seal butyl membrane is to be applied must be clean, smooth, dry, free of fins, sharp edges, loose and foreign materials, oil and grease. Before installing the membrane, the contractor should examine the surfaces and find them satisfactory.

Positioning: Place each sheet of the waterproofing membrane in its final position without stretching and allow the membrane to relax 1/2 hour before making splices or, if required, bonding to the substrate.

Bonding Adhesive Application: Adhesive, as recommended, is applied by roller to the membrane and substrate, as specified.

TECHNICAL DATA

| PROPERTY | TEST METHOD | TYPICAL PROPERTIES |
|---|---------------------------|--|
| Color | | Grey/Black |
| Thickness Tolerance, % | ASTMD-412 | + 10 |
| Specific Gravity, g/cc | ASTMD-297 | 1.20 + .05 |
| Tensile Strength min., psi (MPa) | ASTMD-412 | 1200 (8.3) |
| Elongation, ultimate min., % | ASTMD-412 | 300 |
| Hardness Durometer A | ASTMD-2240 | 60 + 10 |
| Tear Resistance min., lbf/in (kN/m) | ASTMD-624 (Die C) | 150 (26.2) |
| Brittleness | ASTMD-746 | -40 (-40) |
| Temperature max., °F (°C) | | |
| Water Vapor Permeability max. perms at .060 inches* (1.52mm) (g•Pa ⁻¹ •s ⁻¹ •m ⁻²) | ASTM E-96 (Proc. B or BW) | 0.0025 perms (1.43 x 10 ⁻¹⁰) |
| Resistance to Water Absorption Change in mass max., after 7 d immersion @ 158°F (70°C) | ASTMD-471 | ±2 |
| Puncture Resistance lbf., (N) (stretched by blunt object) | ASTM E-154 | 95 (423) |
| Resistance to Soil Burial (% change in max. in original value 1. Breaking Factor 2. Elongation at Break | ASTMD-3083 (modified)** | 10 10 |
| Factory Seam Strength min., lbf/in., (kN/m) | ASTMD-816 (Method B) | Membrane Rupture |
| Resistance to Heat Aging Properties after 168 hrs @ 240°F (116°C) | ASTMD-573 | |
| Tensile strength min., psi (MPa) | | 900 (6.2) |
| Elongation, ultimate min., % | | 210 |
| Linear dimensional change, max., mass % | | ±2 |
| Ozone Resistance Condition after exposure to 55 pphm ozone in air for 100 hrs. @ 104°F (40°C) (sample under 20% strain) | ASTMD-1149 | No Cracks |

* Certain conditions may necessitate a thicker gauge of membrane.

** The test value of the after exposure specimen shall be based upon the correct sample dimension.

Recommended installation is to completely adhere membrane to the substrate. Both mating surfaces must be coated with bonding adhesive.

Installing the Membrane: When bonding, apply the adhesive to the sheet and substrate, and allow it to dry until it does not stick to a dry finger touch. Install membrane without stretching, taking care to avoid trapped air bubbles. Subsequent sheets are similarly installed and lap spliced.

Splices: Clean the overlapping areas of membrane and join with specified cleaner, splicing cement, in-seam sealant, and lap sealant, or butyl gum tape, if specified, in accordance with manufacturer's recommendations. At angle changes all splices should be reinforced with Elastoform flashing, centered over the splice edge and extending 6" in both directions.

Flashing and Terminations: Flash all pipes, conduits, and other penetrations through waterproofing membrane using field fabricated accessories. Terminate membrane by Carlisle's standard B-9 membrane termination details.

Protection: Upon completion of installation and after flood testing with 2 inches of water, avoid unnecessary traffic on the membrane and install the protection course within 24 hours.

The protection course may be CCW MiraDRAIN® composite or CCW Protection Board.

Install CCW QuickDRAIN perimeter drainage system as the first course of drainage composite immediately after the membrane is installed on vertical surfaces. Install CCW MiraDRAIN drainage composite or CCW Protection Board over the remainder of the membrane. Install CCW MiraDRAIN drainage composite, CCW Protection Board or CCW Protection Fabrics immediately after flood testing on the horizontal surface.

LIMITED WARRANTY

CARLISLE COATINGS & WATERPROOFING INCORPORATED (CARLISLE) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any CARLISLE materials prove to contain manufacturing defects that substantially effect their performance, CARLISLE will, at its option, replace the materials or refund its purchase price.

This limited warranty is the only warranty extended by CARLISLE with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. CARLISLE specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever.

The dollar value of CARLISLE's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the CARLISLE material in question.