

TL-0018 — Insulated Wall Forming Systems Technical Letter

Insulated wall forming systems consist of interlocking, expanded polystyrene blocks that snap together to create a form for the concrete pour. The expanded polystyrene form remains in place after the concrete cures, providing insulation value to the structure. Manufacturers of these forms advise that the EPS wall forming system is not waterproof. It will not prevent water from entering the foundation. As a result, several manufacturers have recommended the application of a compatible, fully-adhered waterproofing membrane to the exterior below grade surface of the form.

BITUTHENE® Waterproofing Membranes can be installed on EPS forming systems using our standard recommendations and application procedures provided the precautions which follow are also observed.

PROCOR® would not typically be recommended for EPS forming systems.

Membrane Application

Full adhesion of BITUTHENE® Membrane to the EPS wall forming system is highly desirable. Adhesion of BITUTHENE® Membrane to the EPS forming system may vary due to the joints between components of the wall forming system and the surface texture of the EPS units. The membrane should be thoroughly rolled after placement to maximize initial adhesion. An approved protection course (e.g. Hyrdoduct) should be installed following proper recommended procedures. Refer to Technical Letter #27 "Protection Courses Used with GCP Waterproofing Membranes" for approved protection course materials. Backfill should be completed in 6-12 in. (150-300 mm) properly compacted lifts and should not be dropped directly onto BITUTHENE® Membrane. Mechanical attachment along the top termination will help to prevent slippage of the membrane during backfill.

Termination of the BITUTHENE® Membrane

BITUTHENE® Liquid Membrane should be used at all terminations and details. Do not use solvent-based accessory products such as BITUTHENE® Mastic and BITUTHENE® Adhesive Primer B2 LVC. Solvents and solvent vapors may damage and potentially dissolve the EPS forming system.

Avoid Prolonged or Intense Exposure to Sunlight

In service, BITUTHENE® Membranes are compatible with expanded polystyrene forming systems. Prior to placement of the backfill, however, BITUTHENE® membrane may be exposed to sunlight which could cause an increase in the temperature of the membrane. Care should be taken to cover the membrane as soon as possible to insure that the membrane temperature remains below 140°F (60°C) through prompt replacement of backfill or otherwise shading the membrane. At membrane temperatures above 140°F (60°C), petroleum distillates may migrate from the rubberized asphalt into the expanded polystyrene, plasticizing the EPS and jeopardizing the structural integrity of the EPS.

Waterproofing System Design

Size, location, number of pipes and electrical conduits which may extend through the concrete foundation and EPS wall forming system will vary with each project. Similarly, a number of bracing and support methods are available. BITUTHENE® membrane is not intended to seal the joints between pipes and conduits and the concrete foundation wall. Nor is BITUTHENE® membrane intended to be installed over bracing wall support elements. However, GCP's standard details for pipes and protrusions are applicable, providing any voids in the surface of the EPS forming system, greater than 0.25 in. (6 mm) in depth, are filled with a cementitious or other compatible material to provide a suitable substrate for BITUTHENE® membrane.

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