



### PROPERTIES

**COLOR:**

Black

**COMPOSITION:**

Rubber-modified asphalt with cross-laminated polyethylene

**SERVICE TEMPERATURE:**

Temperature at membrane surface.  
-25°F to 160°F (-32°C to 71°C)

**STANDARD ROLL SIZE:**

35.5" x 75' (0.9 m x 22.9 m)\*

**TOTAL FILM THICKNESS:**

50 mils (1.3 mm)

**TENSILE STRENGTH AND ELONGATION (ASTM D412):**

Tensile Strength: > 400 psi  
Elongation: > 300%

**WATER VAPOR PERMEANCE:**

ASTM F1249: < 0.015 perms, tested at 100°F (38°C) and 90% RH.

ASTM E96, Procedure A: < 0.01 perms.

**PUNCTURE RESISTANCE (ASTM E154):**

50 lbf (222 N) minimum

**OVERLAP ADHESION (ASTM D1000):**

10 lb/in. width (18 N/cm)

**SURFACE BURNING CHARACTERISTICS (ASTM E84):**

Flame Spread: 0

Applied to 1/4 inch (6.4 mm) inorganic reinforced cement board. The flame spread may vary when applied over other surfaces.

**RESISTANCE TO DETERIORATION FROM CONTACT WITH SOIL (ASTM E154):**

Pass. No loss of performance.

**PLIABILITY AT LOW TEMPERATURE (ASTM D146):**

No cracking, remains pliable at -25°F (-32°C)

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### VAPOR RETARDER SHEET MEMBRANE

**FOSTER® C.I. WRAP™ 50** is a heavy-duty, 50 mil, flexible, vapor retarder, sheet membrane. It is comprised of synthetic, rubber-modified asphalt laminated to a tough, polymer film and a treated peel and stick release liner. It is available in 35.5" width.

**C.I. WRAP™ 50** is used to provide a protective, moisture retarder and vapor retarder film over cold and cryogenic piping and equipment insulation. It may be used over thermal insulation including cellular glass, polyurethane, polyisocyanurate, polystyrene, rigid fiberglass and others.

**C.I. WRAP™ 50** is used for direct burial underground and jacketed, above ground applications. It provides a factory-controlled film thickness and fast, labor-saving application. The membrane is elastomeric, allowing for expansion and contraction of the insulation system. It is self-healing and forms a strong bond to the substrate and the sheet overlaps.

**C.I. WRAP™ 50** has a Class 1 flame spread when tested by ASTM E84.

**C.I. WRAP™ 50** is also used to protect insulation on buried, hot service pipelines.

**LIMITATIONS**

Apply below 125°F (52°C). Sheet should be stored at 70°F for at least 24 hours before applying in temperatures below 60°F. Keep rolls warm until used. See application guide for applying in temperatures below 50°F (10°C).

Do not apply to damp, frosty or contaminated surfaces.

Membrane should not be left exposed to UV for more than 14 days. Cover with jacketing as specified. If jacketing is not to be applied for longer than 14 days, cover temporarily with black plastic sheeting.

Membrane is not to be used for banding or mechanical fastening. Standard fastening of insulation is required.

Over polystyrene insulation on exterior applications, the membrane should be jacketed immediately with a white or light reflective jacket. If left exposed to sun, the black color of C.I. WRAP™ 50 may heat up enough to melt the insulation.

Maximum temperature at C.I. WRAP™ 50 surface is 160°F (71°C). On hot lines, ensure that excess heat does not escape through insulation joints and exceed upper temperature limit.

For application by skilled professionals only.

\* Actual width cut to 23.5" or 35.5" for convenient application when C.I. WRAP™ 50 is pre-applied to insulation in-shop.

# APPLICATION GUIDE FOR FOSTER® C.I. WRAP™ 50

## PREPARATION

Insulation must be properly secured in place per insulation manufacturer's instructions. Remove any loose insulation, dust or other contaminants. Prime dusty insulation with Foster® 85-45 FOS-STIK™ Aerosol Adhesive to improve adhesion of C.I. WRAP™ 50. Ensure insulation is dry and free of frost or condensation. Blistering of sheet may occur if wrap is applied over wet insulation.

## APPLICATION

C.I. WRAP™ 50 is best applied by cigarette wrapping. Cut membrane to desired length. Ensure length includes a minimum 2" (50 mm) overlap. Start by positioning the membrane such that the finished overlap will allow for water to drain over and not into the lap. Peel back six to twelve inches of the release liner taking care not to allow any exposed adhesive to touch itself. Firmly press exposed edge of sheet in place and continue removing release liner and smoothing sheet to substrate. Avoid wrinkling.

All longitudinal and circumferential seams must be overlapped a minimum of 2" (50 mm). Ensure complete contact at the laps and to the substrate using a roller or firm pressure throughout. Stagger laps of subsequent pieces. When C.I. WRAP™ 50 is applied to the insulation in the shop, finish butted up seams in the field. Any fish mouths or wrinkles in the sheet shall be slit to allow for smoothing and wrapped with a 4" strip that covers the entire seam with a minimum 2" overlap.

All penetrations, insulation supports, valves, expansion and contraction joints and other protrusions must be properly flashed to ensure complete seal between the protrusion and the polymer film of the membrane. Foster® 95-44 ELASTOLAR® Sealant may be flashed directly over the C.I. WRAP™ 50 facing. Consult engineer's application instructions for recommendation on proper flashing.

Use 4" strip to spiral wrap elbows or cut gores using appropriate templates. Overlap all seams by 50%. If a mastic is preferred to cover elbows or fittings adjacent to C.I. WRAP™ 50 membrane, do so by extending the mastic and reinforcing mesh a minimum of 2" over the C.I. WRAP™ 50 facing. Foster® 60-25 C.I. MASTIC® may be used for this purpose with no concern for bleed-through. Where white, solvent-based mastics are desired, such as Foster® 60-38 MONOLAR® II Mastic, tape terminations of sheet membrane with an acrylic PSA tape to cover the exposed asphalt cut ends. This will prevent bleed-through. Mastic and reinforcing mesh should be extended at least 2" past edge of PSA tape onto membrane facing.

On exterior applications, C.I. WRAP™ 50 must be protected from the sun within a maximum of 14 days of exposure. It is recommended jacketing be applied as soon as possible to protect the membrane from damage.

On low temperature applications where ambient temperatures of the substrates are below 60°F (16°C), the membrane should be stored, until used, at 70°F (21°C) minimum. To ensure good adhesion, the substrate may be heated with a bullet heater or heat gun just before applying warm sheet. Ensure the insulation and sheet are free from frost or condensation. On cold applications, a primer may also be used to improve adhesion. For application below 50°F (10°C), apply Foster® 85-45 FOS-STIK™ Aerosol Adhesive or a compatible roofing underlayment primer to the facing of the sheet on the underside of the intended overlap. Allow the adhesive to tack up before removing the release liner and mating the top of the overlap. When temperatures are cold, but above freezing, a water-based primer may also be used. Alternately, a heat gun and roller may be used to warm the sheet on the overlap. Caution must be used to avoid melting the facing on the sheet. If both a solvent-based primer and heat gun are being used, ensure all solvent vapors are exhausted before applying heat.

**CAUTION: Do not burn or overheat membrane as asphalt fumes can be generated.**

Repair damaged sheet by cutting out the damaged section and patching it with new membrane over the empty section, overlapping the existing sheet by a minimum of 2" all the way around the repaired area.

## UNDERGROUND DIRECT BURIAL APPLICATION

Follow application instructions above. When sealing around protrusions, use Foster® 60-25 C.I. MASTIC® and MAST-A-FAB® reinforcing membrane. On below grade applications, it is recommended that longitudinal overlaps be increased to 3" (76 mm) minimum.

**BACKFILLING:** Backfill shall be sand and free of rocks or other objects that may puncture membrane. Fill containing clay or other materials that may result in sticking to the membrane or shrinking and pulling at seams should not be used. Where soil stress conditions are possible on large pipes, an un-adhered layer of polyethylene or other fabric should be placed over the wrap and taped in place prior to backfilling, thus allowing for expansion and contraction of the insulation and C.I. WRAP™ 50 without pulling at the seams.

**DRAINAGE:** C.I. WRAP™ 50 is not designed for long-term immersion in water. The insulated pipe must be installed above the water line with a gravel and sand or fabric and drain tile drainage system and ditch configuration designed by an architect or engineer.

## CUSTOMER SERVICE: (800) 832-9002

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