PART 1 GENERAL

1.1 SECTION INCLUDES

A. Reflective insulation.

1.2 RELATED REQUIREMENTS

A. Section 06 11 00 – Wood Framing.
B. Section 07 26 00 – Vapor Retarders.
C. Section 07 27 00 – Air Barriers.
D. Section 09 22 13 – Metal Furring.

1.3 REFERENCE STANDARDS

Room Temperature Using Portable Emissometers.


H. ICC-ES AC 02 – Acceptance Criteria for Reflective Insulation.

1.4 SUBMITTALS

A. Comply with Section 01 33 00 – Submittal Procedures.

B. Product Data: Submit manufacturer’s product data, including installation instructions.

C. Samples: Submit manufacturer’s sample of reflective insulation, minimum 6 inches square.

D. Manufacturer’s Certification: Submit manufacturer’s certification that materials comply with specified requirements and are suitable for intended application.

E. Warranty Documentation: Submit manufacturer’s standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer’s Qualifications: Manufacturer regularly engaged, for a minimum of 10 years, in the manufacturing of reflective insulation of similar type to that specified.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery Requirements: Deliver materials to site in manufacturer’s original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage and Handling Requirements:
   1. Store and handle materials in accordance with manufacturer’s instructions.
   2. Keep materials in manufacturer’s original, unopened containers and packaging until installation.
   3. Store materials in clean, dry area indoors.
   4. Protect materials during storage, handling, and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURERS


B. Substitutions: [Not permitted] [In accordance with Division 1].
2.2 REFLECTIVE INSULATION

A. Reflective Insulation: Fi-Foil “M-Shield”.

1. Tab: [Staple tab for wood or metal furring]

B. Description:
   1. Multi-layer reflective insulation.
   2. Inside Layer: Premium grade aluminum foil.
   3. Outside Layer: Specially designed synthetic polymers that contain no cellulose, a food for mold. The layers separate with internal expanders, creating a reflective air space when installed.
   4. When installed on furring strips spaced 16 inches or 24 inches on center, a second reflective air space is formed, dependent on thickness of furring strips.
   5. Small perforations throughout reflective insulation allow vapor transmission.

1. C. Compliance and Approvals:
   2. Evaluated in Accordance with: ICC-ES AC 02.

D. Testing:
   1. R-Value, Nominal, Heat Flow Horizontal, ASTM C 1224:
      a. 3/4-Inch Cavity: 4.1.
      b. 7/8-Inch Cavity: 4.6.
      c. 1-1/2-Inch Cavity: 5.1.
   3. Surface Burning Characteristics, ASTM E 84/E 2599:
      a. Flame Spread Index: Less than 25.
      b. Smoke Developed Index: Less than 450.
      c. Interior Wall and Ceiling Finish Application: Class A.
   5. Adhesive Performance, ASTM C 1224, Section 9:
      a. Bleeding: None.
      b. Delamination: None.
      c. Pliability: No signs of cracking or delamination.
   7. Foil Emittance, ASTM C 1371: 0.034.

2.3 ACCESSORIES

A. Aluminum Foil Tape: Fi-Foil aluminum foil tape.
   1. Description: 2-mil aluminum foil coated with cold weather acrylic adhesive.
   2. UL Classified facing.
   3. Width: 3 inches.
   4. Length: 50 yards.
   5. Thickness: 3.5 mils, exclusive of liner.
   7. Elongation: 4.4 percent.
8. Tensile Strength: 27 lbs/inch width.

B. Double Sided Tape: Fi-Foil double sided tape.
   1. Description: 0.5-mil polyester film coated on both sides with 3-mil acrylic adhesive.
   2. Width: 3/4 inch.
   3. Length: 180 lineal feet.
   4. Temperature Resistance: Minus 40 degrees F to 200 degrees F (minus 40 degrees C to 93 degrees C).

PART 3 EXECUTION

3.1 EXAMINATION
   A. Examine areas to receive reflective insulation.
   B. Notify Architect of conditions that would adversely affect installation.
   C. Do not begin installation until unacceptable conditions are corrected.
   A. 3.2 INSTALLATION
      A. Install reflective insulation in accordance with manufacturer's instructions and ASTM C 727.
      B. Install reflective insulation at locations indicated on the Drawings.
      C. Splice reflective insulation in wall cavities in accordance with manufacturer's instructions to avoid gaps.
         1. Tape seams if gaps appear where splice has been butted.
      D. Cut reflective insulation to fit snugly around electrical wall outlets and other cutouts.
         1. Tape edges of reflective insulation to outlets and cutouts, if wall can be seen.
      E. Tape tears in reflective insulation.
      F. Replace damaged reflective insulation as directed by Architect.

3.3 PROTECTION
   A. Protect installed reflective insulation from damage during construction.

END OF SECTION