SECTION 07 21 53 – REFLECTIVE INSULATION

 GENERAL

 SUBMITTALS

 Action Submittals:

 Product Data: Manufacturer’s descriptive data and product attributes for insulation.

 Informational Submittals:

 Certificate of Compliance: Certification that installed products meet specified fire hazard requirements.

 QUALITY ASSURANCE

 Installer Qualifications: Firm specializing in work of this Section with minimum [2] [\_\_] years’ experience.

 PRODUCTS

 MANUFACTURERS

 Contract Documents are based on products by Fi-Foil Company, [www.fi-foil.com](http://www.fi-foil.com)

 Substitutions: [Refer to Division 01.] [Not permitted.]

 MATERIALS

 Reflective Insulation:

 Source: HY-Fi.

 Comply with ASTM C1224.

 Description: Three-layer reflective insulation.

* + - * 1. Outer Layer: Blue kraft paper coated with polyethylene.
				2. Middle Layer: Aluminum foil.
				3. Inner Layer: Kraft paper laminated to aluminum foil reinforced with fiberglass scrim.
				4. Layers separate with internal expanders, creating reflective air space when installed.

 Type: [Perforated.] [Non-perforated (solid).]

 Fire hazard characteristics: Flame spread/smoke developed rating of 25/450, tested to ASTM E84.

 Water vapor permeance: [0.18 perms] [2.6 perms], tested to ASTM E96.

 Corrosivity: None, tested to ASTM D3310.

 Mold and mildew resistance: Pass, tested to ASTM C1338.

 Foil emittance: 0.034, tested to ASTM C1371.

\*\*\*\* OR \*\*\*\*

 Reflective Insulation:

 Source: VR Plus Shield.

 Comply with ASTM C1224.

 Description: Three-layer reflective insulation.

* + - * 1. Outer Layer: White kraft paper coated with polyethylene.
				2. Middle Layer: Kraft paper aluminum foil.
				3. Inner Layer: Kraft paper laminated to aluminum foil reinforced with fiberglass scrim.
				4. Layers separate with internal expanders, creating reflective air space when installed.

 Type: [Perforated.] [Non-perforated (solid).]

 Tabs: [Staple tabs.] [Tape tabs.]

 Fire hazard characteristics: Flame spread/smoke developed rating of 25/450, tested to ASTM E84.

 Water vapor permeance: [0.018 perm,] [2.6 perms], tested to ASTM E96.

 Corrosivity: None, tested to ASTM D3310.

 Mold and mildew resistance: Pass, tested to ASTM C1338.

 Foil emittance: 0.034, tested to ASTM C1371.

\*\*\*\* OR \*\*\*\*

 Reflective Insulation:

 Source: M-Shield.

 Comply with ASTM C1224.

 Description: Multi-layer reflective insulation.

* + - * 1. Inside Layer: Aluminum foil.
				2. Outside Layer: Synthetic polymers, free from cellulose.
				3. Layers separate with internal expanders, creating reflective air space when installed.

 Fire hazard characteristics: Flame spread/smoke developed rating of 25/450, tested to ASTM E84.

 Water vapor permeance, tested to ASTM E96: 7.46 perms.

 Corrosivity: None, tested to ASTM D3310.

 Mold and mildew resistance: Pass, tested to ASTM C1338.

 Foil emittance: 0.034, tested to ASM C1371.

\*\*\*\* OR \*\*\*\*

 Reflective Insulation:

 Source: AA2 Vapor Shield.

 Comply with ASTM C1224.

 Description: Multi-layer reflective insulation.

* + - * 1. Inside Layer: Aluminum foil.
				2. Outside Layer: Kraft paper coated with polyethylene.
				3. Layers separate with internal expanders, creating reflective air space when installed.

 Type: [Perforated.] [Non-perforated (solid).]

* + - 1. Tabs: [Staple tabs.] [Tape tabs.]

 Fire hazard characteristics: Flame spread/smoke developed rating of 75/450, tested to ASTM E84.

 Water vapor permeance: [Less than 1 perm] [6.5 perms], tested to ASTM E96.

 Corrosivity: None, tested to ASTM D 3310.

 Mold and mildew resistance: Pass, tested to ASTM C 1338.

 Foil emittance: 0.03, tested to ASTM C 1371.

\*\*\*\* OR \*\*\*\*

 Reflective Insulation:

 Source: RBI Shield.

 Comply with ASTM C1224.

 Description: Reflective bubble insulation, [polyethylene.] [reflective.]

 Type: Double bubble.

 Fire hazard characteristics: Flame spread/smoke developed rating of 0/50, tested to ASTM E84.

 Water vapor permeance: [[0.12] [0.02], tested to ASTM E96

 Corrosivity: None, tested to ASTM D3310.

 Mold and mildew resistance: Pass, tested to ASTM C1338.

 Foil emittance: 0.05, tested to ASTM C1371.

 Hot surface performance: Minus 50 degrees Fahrenheit to plus 250 degrees Fahrenheit; tested to ASTM C411.

 Ultraviolet exposure; 90 percent retention after 4,000 hours; tested to ASTM G155.

\*\*\*\* OR \*\*\*\*

 Reflective Insulation:

 Source: Flex Foam.

 Comply with ASTM C1224.

 Description: ½ inch thick closed cell polyethylene with perforated low-e aluminum reinforced facing.

 Fire hazard characteristics: Flame spread/smoke developed rating of 25/25, tested to ASTM E84.

 R-value: 1.6.

 Water vapor permeance: Maximum 1.5 perms, tested to ASTM E96.

 Mold and mildew resistance: Pass, tested to ASTM C1338.

 Compressive strength (average Kilopascal), tested to ASTM D1621: 9.9 percent, value at 10 percent compression.

 Linear shrinkage: Less than 3 percent, tested to ASTM C1427.

 ACCESSORIES

 Tape: [1170 Aluminum Foil Tape by 3M or equivalent.] [FS-K7751 FSK Insulation Facing Tape by Echo Tape or equivalent.]

\*\*\*\* OR \*\*\*\*

 Tape: [PE-M4535 Silver] [PE-M4535 White] by Echo Tape or equivalent.

 Mechanical Fasteners: Provided by insulation manufacturer; type best suited to application.

 EXECUTION

 INSTALLATION

 Install insulation in accordance with manufacturer’s instructions.

 [Tape seal to perimeter and at joints between insulation pieces.]

END OF SECTION