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