ESR-1261
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This report is subject to re-examination in one year.

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DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07210—Building Insulation

REPORT HOLDER:

ENVIRONMENTALLY SAFE PRODUCTS
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EVALUATION SUBJECT:

LOW-E™ REFLECTIVE FOIL INSULATION

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2000 *International Building Code*® (IBC)
- 2000 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

Properties evaluated:

- Thermal resistance
- Surface burning characteristics

2.0 USES

Low-E™ reflective foil insulation is used as wall cavity insulation.

3.0 DESCRIPTION

Low-E™ reflective foil insulation consists of a nominal $^1/_4$-inch-thick (6.4 mm) core of polyethylene foam plastic material laminated between two layers, each consisting of aluminum foil with a fiberglass scrim and a polyethylene film. The insulation is available in rolls 4 feet (1219 mm) wide by 125 feet (38 100 mm) long, 5 feet (1524 mm) wide by 100 feet (30 480 mm) long, and 6 feet (1828 mm) wide by 84 feet (25 603 mm) long. Low-E™ has a flame-spread index of not more than 25 and a smoke-developed index of not more than 450 when tested in accordance with ASTM E 84 and UBC Standard 8-1.

4.0 INSTALLATION

Low-E™ insulation is placed on the inside of the stud cavity and installed with staples a minimum of 6 inches on center, at the midpoint of the 3½-inch-deep (89 mm) side of 2-by-4 wood studs spaced 16 inches (406 mm) on center. The insulation forms two $1^5/_8$-inch-deep (41.3 mm) air spaces within the wall cavity. The exterior surface is covered with minimum $^1/_2$-inch-thick (12.7 mm) plywood, installed in accordance with the applicable code. The interior surface is covered with minimum $^1/_2$-inch-thick (12.7 mm) gypsum wallboard complying with ASTM C 36, attached in accordance with the applicable code. Inside surface-to-surface thermal resistance of the assembly is noted in Table 1 of this report. See Figure 1 of this report for an illustration of the assembly. Seams or tears shall be patched with Low-E™ aluminum foil seam tape.

5.0 CONDITIONS OF USE

The Low-E™ Insulation described in this report complies with, or is a suitable alternative to what is specified in, those codes specifically listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation complies with this report, the manufacturer's published installation instructions and the applicable code.

5.2 The Low-E ™ insulation is manufactured in New Oxford, Pennsylvania, under a quality control program with inspections by Intertek Testing Services NA Ltd. (AA-647).

6.0 EVIDENCE SUBMITTED

6.1 Data and reports of tests in accordance with the ICC-ES Evaluation Guideline for Reflective Foil Insulation (EG02), dated February 2004.

6.2 Installation instructions.

6.3 Quality control manual.

7.0 IDENTIFICATION

Each roll of the product is labeled with the manufacturer's name (Environmentally Safe Products), product name (Low-E), evaluation report number (ESR-1261), lot number, thermal resistance values, product dimensions, and name of the inspection agency (Intertek Testing Services NA Ltd.).

TABLE 1—INSIDE SURFACE-TO-SURFACE THERMAL RESISTANCE OF LOW-E™ INSULATION IN WALL CAVITIES[1]

ASSEMBLY	THERMAL RESISTANCE ®) (hr.• ft.²•°F/Btu)	REFER TO
Wall cavity—horizontal heat flow	6.0	Figure 1

For **SI:** 1 inch = 25.4 mm, 1 (hr.• ft.²•°F)/Btu = 0.176 (m²•K)/W.

[1]Framing is 2-by-4 wood studs spaced 16 inches on center. Insulation is installed as described in Section 4.0.

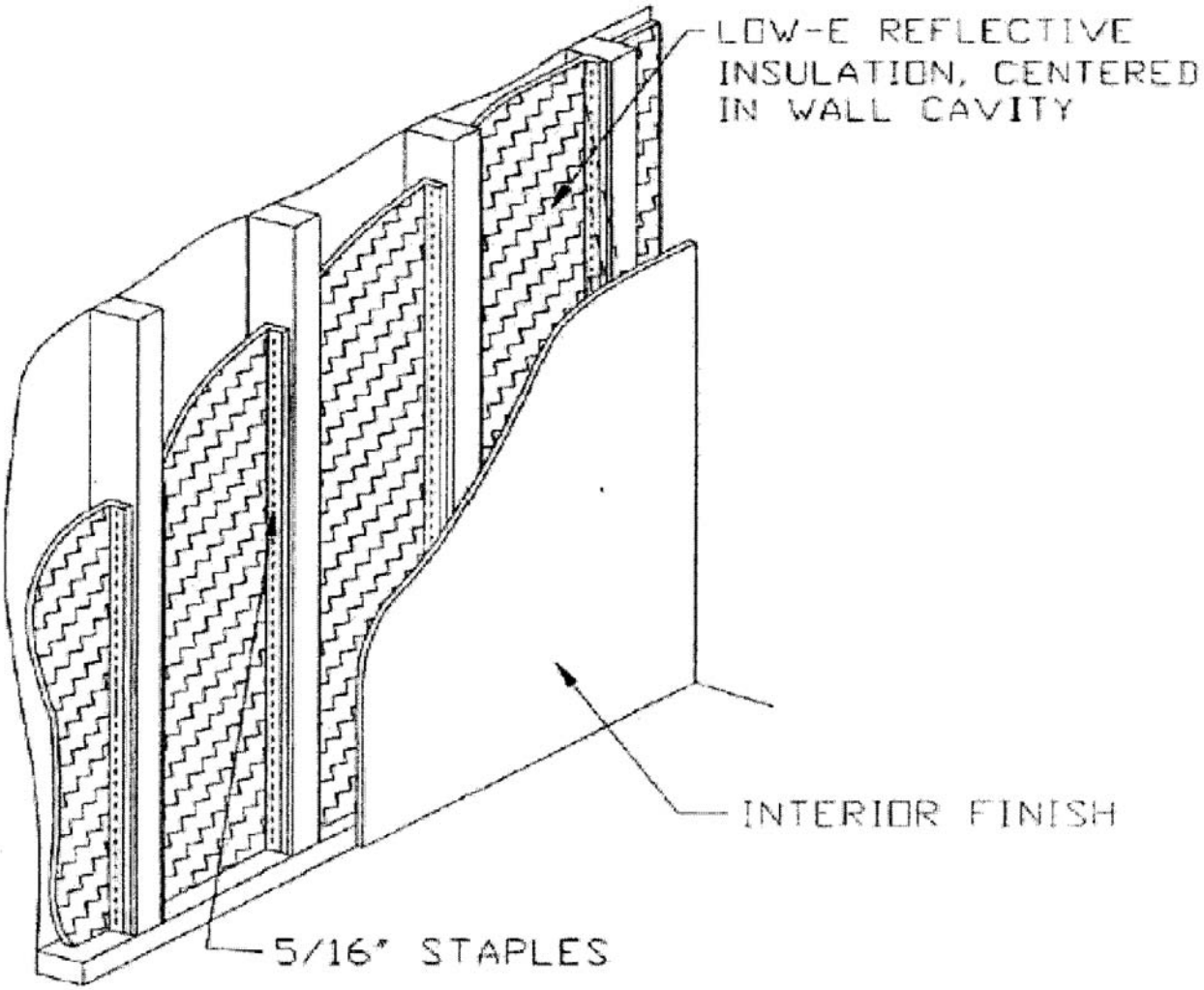

FIGURE 1—WALL CAVITY APPLICATION