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ICC-ES Evaluation Report

ESR-1375*

Reissued June 1, 2006

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DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07210—Building Insulation
Section: 07220—Roof and Deck Insulation
Section: 07280—Water-Resistive Barrier

REPORT HOLDER:

ATLAS ROOFING CORPORATION
2000 RIVEREDGE PARKWAY, SUITE 800
ATLANTA, GEORGIA 30328
(770) 933-4477
www.atlasroofing.com

EVALUATION SUBJECT:

RBOARD®, ENERGY SHIELD®, ENERGY SHIELD® PLUS, AND STUCCO SHIELD® INSULATION BOARDS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)
- BOCA® *National Building Code*/1999 (BNBC)
- 1999 *Standard Building Code*© (SBC)
- 1997 *Uniform Building Code*™ (UBC)

Properties evaluated:

- Surface-burning characteristics
- Water resistance
- Physical properties

2.0 USES

The Atlas insulation boards described in this report are non-structural foam plastic boards used on non-fire-resistance-rated exterior walls or roofs allowed to be of Type V-B or V-N (IBC and UBC) [Type 5B (BNBC) or Type VI (SBC)] construction and construction allowed under the IRC. They are also used as an alternative to the water-resistive barrier requirements of IBC Section 1404.2, IRC Section R703, BNBC Section 1404.3, SBC Section 2303.3 and UBC Sections 1402.1 and 2506.4, when installed on exterior walls as described in Section 4.2 of this report.

3.0 DESCRIPTION

3.1 General:

The Atlas insulation boards each consist of a rigid polyisocyanurate foam core complying with ASTM C1289 and having a nominal density of 2.0 pcf (32 kg/m^3). The difference between the boards is the various facer materials, as described in Section 3.2 of this report. The board thicknesses range from $^1/_2$ inch to 4 inches (12.7 to 102 mm) with a standard width of 48 inches (1219 m) and lengths of 8 and 9 feet (2.44 and 2.74 m).

3.2 Atlas Insulation Boards:

3.2.1 Rboard®: Rboard® has coated glass fiber facers on both sides.

3.2.2 Energy Shield®: Energy Shield® has either triplex (foil/kraft/foil) or solid aluminum facers on either side.

3.2.3 Energy Shield® Plus: Energy Shield® Plus is the same as Energy Shield®, except for a black colored-printed facer.

3.2.4 Stucco Shield®: Stucco Shield® is the same as Rboard®, except for the proprietary coated facer, and is intended for use as a substrate for exterior insulation and finish systems (EIFS).

3.3 Joint-sealing Tapes:

Joint-sealing tapes are used in conjunction with the insulation boards to seal joints between two or more edges of the boards, when installed as an alternative water-resistive barrier. The installation shall be as set forth in Section 4.2 of this report.

3.3.1 Venture Tape® 1599B: The tape is a polypropylene self-adhering flashing tape with an acrylic adhesive. The tape is nominally 0.003 inch (0.076 mm) thick and is produced in minimum 3-inch-wide (76 mm) rolls.

3.3.2 Venture Tape® 1519CW NS: The tape is an aluminum foil–coated, self-adhering flashing tape with an acrylic adhesive. The tape is nominally 0.003 inch (0.076 mm) thick and is produced in minimum 3-inch-wide (76 mm) rolls.

3.3.3 Protecto-Wrap BT-20XL: The tape is a polyethylene-backed, rubberized, self-adhering flashing tape, as described in ICC-ES report ESR-1825.

3.4 Surface-burning Characteristics:

The insulation core has a flame-spread index of less than 75 and a smoke-developed index of less than 450 at a maximum thickness of 4 inches (102 mm) when tested in accordance with ASTM E84.

4.0 INSTALLATION

4.1 General:

The Atlas insulation boards shall be attached in a manner that shall hold the insulation in place, prior to the installation of the exterior wall or roof covering material. The boards shall be installed in accordance with the manufacturer's published installation instructions, subject to the conditions of this report.

***Revised September 2012**

The boards shall be separated from the interior of the building by an approved 15-minute thermal barrier. The boards shall be covered on the outside with approved wall or roof coverings that are structurally adequate to resist all required forces. All walls shall be braced in accordance with the requirements of the applicable code.

4.2 Foam Plastic Boards Used as a Water-resistive Barrier:

4.2.1 General: The Rboard®, Energy Shield®, Energy Shield® Plus and Stucco Shield® insulation boards described in Section 3.2 of this report, along with the joint-sealing tapes described in Section 3.3, may be used as an alternate to the water-resistive barrier prescribed in Chapter 14 of the IBC, BNBC, SBC and UBC, or Chapter 7 of the IRC, when installed on exterior walls as described in this section.

The insulation boards shall be installed vertically with the board joints placed directly over exterior framing spaced a maximum of 24 inches (610 mm). Where wood framing is used, the fasteners used to attach the insulation shall be corrosion-resistant roofing nails with a minimum $^3/_8$-inch-diameter head (9.5 mm) and with a length sufficient to penetrate into the framing members a minimum of $^3/_4$ inch (19.1 mm). Where steel framing is used, the fasteners shall be self-drilling screws with minimum $^3/_4$-inch-diameter (19.1 mm) cap washers. Fastener heads and all joints between boards and between boards and corners or abutments with dissimilar materials shall be covered with one of the flashing tapes described in Section 3.3 of this report. Boards shall be installed with a corrosion-resistant weep screed and flashing complying with the requirements of the applicable code. The boards shall be covered by an approved wall cladding complying with the requirements of the applicable code.

4.2.2 Installation Around Penetrations and Openings: The system shall be limited to use with flange-type windows. At the perimeter of the flange, the interface shall be covered by one of the flashing tapes described in Section 3.3, completely covering the framing sill and extending a minimum of 6 inches (152 mm) up the sides of the opening and approximately $1^1/_2$ inches (38 mm) beyond the face of the foam plastic board at the front of the window opening. Windows shall be flashed with sill flashing complying with the requirements of the applicable code, prior to installation of the window. The window shall be set in accordance with the window manufacturer's installation instructions. Jamb flashing shall be installed prior to the installation of head flashing. All jamb and head flashing shall completely cover the window flanges. See Figure 1 of this report for typical installation details.

Flashing of pipe penetrations shall be accomplished by sealing around the pipe with one of the flashing tapes described in Section 3.3. Flashing of other penetrating items shall be in accordance with the wall covering manufacturer's instructions.

5.0 CONDITIONS OF USE

The Atlas Roofing Products Rboard®, Energy Shield®, Energy Shield® Plus, and Stucco Shield® insulation boards described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation shall comply with this report and the manufacturer's published installation instructions. In the event of a conflict between the manufacturer's installation instructions and this report, this report shall govern.

5.2 The insulation boards, when installed on the exterior face of exterior walls, shall be covered with an approved exterior wall cladding. Where the boards are not installed as an alternative water-resistive barrier, as described in Section 4.2 of this report, the boards shall be covered by a water-resistive barrier complying with the requirements of the applicable code.

5.3 Use of the insulation boards to structurally resist transverse, racking-shear or vertical loadings is outside the scope of this report.

5.4 The insulation boards shall not be used as a nailing base for exterior siding materials. All nailing shall be made through the sheathing into the wall framing or structural sheathing as required by the siding manufacturer's instructions or the applicable code.

5.5 In areas where the probability of termite infestation is "very heavy" and the insulation boards are installed on buildings containing wood frame construction, the installation shall meet the requirements of IRC Section R320.4 or SBC Section 2603.3, as applicable.

5.6 The insulation boards shall be manufactured at the Atlas Roofing Corporation plants located in Camp Hill, Pennsylvania; Diboll, Texas; Northglenn, Colorado; LaGrange, Georgia; East Moline, Illinois; Phoenix, Arizona; and Etobicoke, Ontario, Canada, under a quality control program with inspections provided by FM Approvals LLC (AA-653).

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated February 2005.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Sheathing Used as Weather-Resistive Barriers (AC71), dated February 2003.

7.0 IDENTIFICATION

The Atlas Roofing Products Energy Shield®, Energy Shield® Plus, Rboard® and Stucco Shield® insulation boards described in this report shall be identified by a label bearing the Atlas Roofing Products name, the specific product name, the manufacturing location, the evaluation report number (ESR-1375) and the name and logo of the inspection agency (FM Approvals LLC).

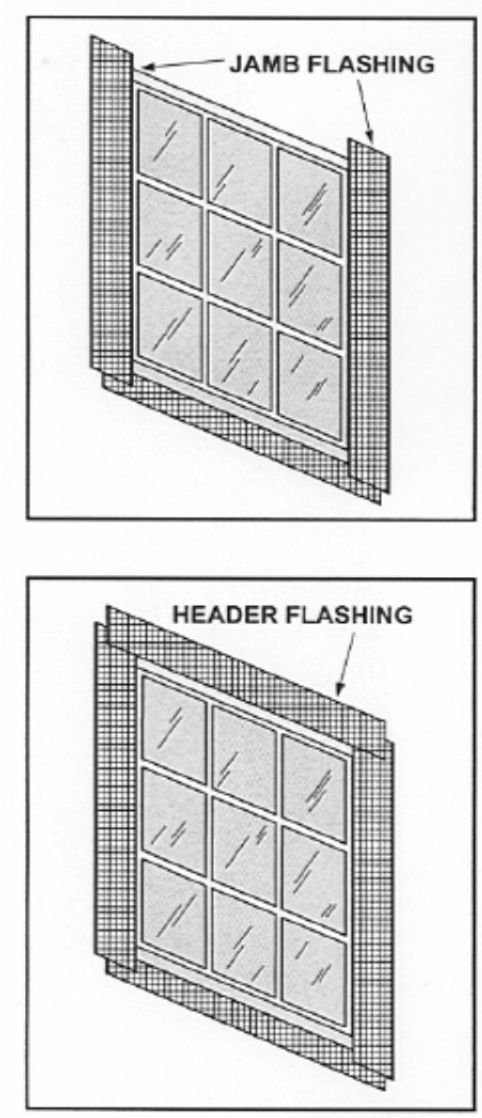

FIGURE 1—TYPICAL WINDOW FLASHING INSTALLATION