ICC EVALUATION SERVICE®

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ICC-ES Evaluation Report
ESR-1375

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation
Section: 07 22 00—Roof and Deck Insulation
Section: 07 25 00—Water-Resistive Barriers/Weather Barriers

REPORT HOLDER:

ATLAS ROOFING CORPORATION

EVALUATION SUBJECT:

ENERGYSHIELD® XR, ENERGYSHIELD® CGF, ENERGYSHIELD® PANELCAST, ENERGYSHIELD® CGF PRO, ENERGYSHIELD® AND ENERGYSHIELD® PRO INSULATION BOARDS

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015 and 2012 *International Building Code®* (IBC)
- 2021, 2018, 2015 and 2012 *International Residential Code®* (IRC)
- 2021, 2018, 2015 and 2012 *International Energy Conservation Code®* (IECC)

Properties evaluated:

- Surface-burning characteristics
- Thermal resistance (*R*-values)
- Water resistance
- Physical properties
- Attic and crawl space installation
- Air permeability
- Air barrier assembly
- Air barrier material
- Use without thermal barrier

1.2 Evaluation to the following green code(s) and/or standards:

- 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2021, 2018, 2015 and 2012 *International Green Construction Code®* (IgCC) (air barrier only)
- 2020, 2017, 2014 and 2011 ANSI/ASHRAE/USGBC/IES Standard 189.1–Standard for the Design of High-Performance Green Buildings, Except Low-Rise Residential Buildings (air barrier only)
- 2020, 2015, 2012 and 2008 ICC 700 *National Green Building Standard™* (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

See Section 2.0.

2.0 USES

The Atlas insulation boards described in this report are non-structural foam plastic boards used within or on interior walls, roof assemblies, floor assemblies, ceiling assemblies, below-grade walls, below slabs-on-grade, and wall cavities in all types of construction, under the IBC and construction allowed under the IRC. They are also used as an alternative to the water-resistive barrier requirements of 2021 and 2018 IBC Section 1403.2 (2015 and 2012 IBC Section 1404.2) and IRC Section R703.2 when installed on exterior walls as described in Section 4.2 of this report.

The insulation boards may be left exposed without an ignition barrier when installed on walls or ceilings in attics and crawl spaces in accordance with Section 4.5. EnergyShield® Pro may be left exposed to the interior of the building with no thermal barrier when installed on walls only or ceilings only in accordance with Section 4.4.

The attributes of the foam boards used as a water-resistive barrier have been verified as conforming to the provisions of (i) CALGreen Section 5.407.1 for water-resistive barriers and Section A4.407.5 for air barriers; (ii) 2021 IgCC Section 701.3.1.2 (2018 IgCC Section 701.3.1.1; 2015 and 2012 IgCC Section 605.1.2.1) for air barriers; (iii) 2020 ASHRAE 189.1 Section 7.3.1.2 (2017 and 2014 ASHRAE 189.1 Section 7.3.1.1; 2011 ASHRAE 189.1 Section 7.4.2.9) for air barriers; (iv) ICC 700-2020 Sections 602.1.8, 11.602.1.8, 1202.6 and 13.104.1.4 (ICC 700-2015 Sections 602.1.8, 11.602.1.8 and 12.6.602.1.8; ICC 700-2012 Sections 602.1.8, 11.602.1.8 and 12.5.602.1.8; ICC 700-2008 Section 602.9) for water-resistive barriers; and (v) ICC 700-2008 Section 703.2.1.1.1(c) as an air impermeable insulation. Note that decisions on compliance for those

areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.0 DESCRIPTION

3.1 General:

The Atlas insulation boards each consist of closed cell, rigid polyisocyanurate foam core complying with ASTM C1289 Type I, Class I or Type II, Class 2 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 mm) and lengths of 8 and 9 feet (2.44 and 2.74 m).

3.2 Atlas Insulation Boards:

3.2.1 EnergyShield® CGF, EnergyShield® PanelCast and ACFOAM-III: EnergyShield® CGF and EnergyShield® PanelCast complies with ASTM C1289 Type II, Class 2 and has coated glass fiber facers on both sides. ACFOAM-III is the same as EnergyShield® CGF and EnergyShield® PanelCast except ACFOAM-III is used in roof applications.

3.2.2 EnergyShield® CGF Pro: EnergyShield® CGF Pro complies with ASTM C1289 Type II, Class 2 and has coated glass fibers on both sides.

3.2.3 EnergyShield®, EnergyShield® XR and ACFOAM Supreme: EnergyShield® and EnergyShield® XR comply with ASTM C1289 Type I, Class 1 and has tri-laminate (foil/kraft/foil) facers on both sides or a tri-laminate facer on one side and aluminum hard foil on the other side. ACFOAM Supreme is the same as EnergyShield® with tri-laminate facers on both sides except ACFOAM Supreme is used in roof applications.

3.2.4 EnergyShield Pro: EnergyShield Pro complies with ASTM C1289 Type I, Class 1 and has solid aluminum facers on both sides.

3.3 Joint-sealing Materials:

Joint-sealing materials as described in this section 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 3M Venture Tape® 1599: The tape is a polypropylene self-adhering flashing tape with an acrylic adhesive. The tape is nominally 0.003-inch thick and is produced in minimum 3-inch-wide (76 mm) rolls.

3.3.2 3M Venture Tape® 1521CW or 1520CW: The tape is an aluminum foil–coated, self-adhering flashing tape with an acrylic adhesive. The tape is nominally 0.003-inch 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. The tape is nominally 0.002-inch thick and is produced in minimum 2-inch-wide (51 mm) rolls.

3.3.4 3M All Weather Flashing Tape 8067: The tape is a pressure sensitive tape consisting of a proprietary multi-layer film with acrylic adhesive. The tape is nominally 9.9 mils thick and produced in rolls with a minimum width of 2 inches (51 mm) and in various lengths, as described in ESR-2797.

3.3.5 Zip System™ flexible flashing tape: The tape is a pressure-sensitive tape consisting of a polyolefin film with an acrylic adhesive which complies with AAMA 711. The tape is nominally 12 mils thick and produced in rolls with a minimum width of 3$^3/_4$ inches (95 mm) and in various lengths, as described in ESR-2227.

3.3.6 Dupont Stryofoam™ Brand Tape: The tape is a self-adhered UV resistant tape consisting of an acrylic adhesive and polypropylene backer. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 4 mils (0.1 mm) thick and comes in minimum 2-7/8 -inch-wide (73 mm) rolls.

3.3.7 GCP Applied Technologies Perm-A-Barrier® Aluminum Flashing: The tape is a self-adhered tape consisting of rubberized asphalt and polyethylene membrane. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 40 mils (1.02 mm) thick and comes in minimum 4-inch-wide (102 mm) rolls.

3.3.8 GCP Applied Technologies Perm-A-Barrier® Detail Membrane: The tape is a self-adhered tape consisting of rubberized asphalt and polyethylene membrane. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 40 mils (1.02 mm) thick and comes in minimum 6-inch-wide (152 mm) rolls.

3.3.9 GCP Applied Technologies Perm-A-Barrier® Wall Flashing: The tape is a self-adhered tape consisting of rubberized asphalt and polyethylene membrane. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 40 mils (1.02 mm) thick and comes in minimum 12-inch-wide (305 mm) rolls.

3.3.10 Henry Blueskin® Butyl Flash: The tape is a self-adhered tape consisting of synthetic butyl compound. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 19 mils (0.48 mm) thick and comes in minimum 4-inch-wide (102 mm) rolls.

3.3.11 Henry Blueskin® SA: The tape is a self-adhered tape consisting of SBS rubberized asphalt compound. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 40 mils (1.02 mm) thick and comes in minimum 4-inch-wide (102 mm) rolls.

3.3.12 IPG UL723 Cold Weather Aluminum Foil Tape: The tape is a aluminum foil tape with acrylic pressure-sensitive adhesive. The tape must be applied in accordance with manufacturer's recommendations. The tape is 3.3 mils (0.08 mm) thick and comes in minimum 3-inch-wide (76 mm) rolls.

3.3.13 Protecto Wrap® Super Stick Building Tape®: The tape is a self-adhered tape consisting of a butyl adhesive. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 11 mils (0.028 mm) thick and comes in minimum 3-inch-wide (76 mm) rolls.

3.3.14 Protecto Wrap® Protecto Seal 45 Butyl: The tape is a self-adhered tape consisting of a butyl adhesive. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 45 mils (1.14 mm) thick and comes in minimum 4 inch-wide (102 mm) rolls.

3.3.15 Protecto Wrap® BT25-XL: The tape is a self-adhered tape consisting of a butyl adhesive. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 25 mils (0.64 mm) thick and comes in minimum 4-inch-wide (102 mm) rolls.

3.3.16 Siga Wigluv® 60 and Wigluv® Black 60: Both are self-adhered tapes consisting of acrylic pressure sensitive adhesive. The tapes must be installed in accordance with manufacturer's recommendations. The tapes are nominal 14 mils (0.36 mm) thick and come in 2.4-inch-wide (61 mm) rolls.

3.3.17 Kemper System Universal Tape UT-40 Seam Sealing Tape: The tape is a self-adhered tape consisting of butyl rubber based adhesive. The tape must be installed in accordance with manufacturer's recommendations. The tape is nominal 40 mils (1.02 mm) thick and comes in 4-inch-wide (102 mm) rolls.

3.3.18 Zip System™ liquid flashing: A one-component sealant used to seal joints complying with ESR-4597. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 40 mils (1.02 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.19 Prosoco Fast Flash Liquid: A single component, ready-mixed, flexible, polymer-based, gun grade material used to seal joints as described in ESR-4363. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 12 mils (0.30 mm) and a minimum width across the joint of 4 inches (102 mm).

3.3.20 STO RapidGuard Liquid Flashing: A one-component sealant used to seal joints. The sealant must be applied in accordance with manufacturer's recommendations at a minimum wet film thickness of 20 mils (0.51 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.21 GCP Applied Technologies Perm-A-Barrier Universal Flashing and Sealant: A one-component sealant used to seal joints. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 80 mils (2.04 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.22 Tremco Sealants Dymonic 100 Liquid Flashing: A one-component sealant used to seal joints. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 40 mils (1.02 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.23 Carlisle Barribond HP Liquid Flashing: A one-component sealant used to seal joints. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 40 mils (1.02 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.24 Henry Air Block LF Liquid Flashing: A one-component sealant used to seal joints. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 25 mils (0.64 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.25 Siplast® Wallcontrol™ STPE Liquid-applied Flashing: A single component sylil-terminated polyether (STPE) sealant used to seal joints. The sealnt must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 40 mils (1.02 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.26 Sustant SealSkin® Flash & Seal: A one-component Modified Silicone sealant used to seal joints. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 25 mils (0.64 mm) and a minimum width across the joint of 2 inches (51 mm).

3.3.27 Atlas EnergyShield WAVE Liquid Wall Flashing: A one-component STPE sealant used to seal joints. The sealant must be applied in accordance with the manufacturer's recommendations at a minimum wet film thickness of 40 mils (1.02 mm) and a minimum width across the joint of 2 inches (51 mm).

3.4 Surface-burning Characteristics:

The insulation core of EnergyShield®, EnergyShield® CGF and EnergyShield® PanelCast insulation boards 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 (UL 723).

The insulation core of EnergyShield® XR, EnergyShield® Pro and EnergyShield® CGF Pro insulation boards has a flame-spread index of less than 25 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 (UL 723).

3.5 Thermal Resistance, *R*-values:

Atlas Insulation Boards have the thermal resistance (*R*-value) at a mean temperature of 75°F (24°C) as shown in Table 1.

3.6 Vapor Retarder:

3.6.1 EnergyShield® and EnergyShield® XR have a vapor permeance of 0.1 perm ($5.7x10^{-12}$ kg/Pa-s-m^2) or less at a minimum thickness of 1 inch (25.4 mm) when tested in accordance with ASTM E96 (Procedure A desiccant method), and qualify as a Class I vapor retarder.

3.6.2 EnergyShield® Pro has a vapor permeance of greater than 0.1 perm ($5.7x10^{-12}$ kg/PA-s-m^2) and 1 perm ($5.7x10^{-11}$ kg/Pa-s-m^2) or less at a minimum thickness of 1 inch (25.4 mm) when tested in accordance with ASTM E96 (Procedure A desiccant method), and qualify as a Class II vapor retarder.

3.6.3 EnergyShield® CGF EnergyShield® CGF Pro and EnergyShield® PanelCast have a vapor permeance of greater than 1.0 perm ($5.7x10^{-11}$ kg/PA-s-m^2) and 10 perms ($5.7x10^{-10}$ kg/PA-s-m^2) or less at a minimum thickness of 1 inch (25.4 mm) when tested in accordance with ASTM E96 (Procedure A desiccant method), and qualify as a Class III vapor retarder.

3.7 Air Permeability:

3.7.1 EnergyShield® CGF, EnergyShield® PanelCast and EnergyShield® CGF Pro, at a minimum thickness of 1.1 inches (28 mm), is considered air-impermeable based on testing in accordance with ASTM E2178.

3.7.2 EnergyShield® and EnergyShield® XR , at a minimum thickness of $^3/_4$ inch (19.1 mm), are considered air-impermeable based on testing in accordance with ASTM E2178.

3.8 Water Absorption Rate:

3.8.1 EnergyShield® XR with distinctive orange facer at a minimum thickness of 1 inch (25.4 mm), has a water absorption rate less than 0.3 percent by volume when tested in accordance with ASTM C272 as required in AHSRAE A90.1-2019 Section 5.8.1.7.3. ASHRAE A90.1-2019 is reference under the 2021 IECC Section C401.2.2.

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.

The boards shall be separated from the interior of the building by an approved thermal barrier except when installed in accordance with Section 4.4.2. 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 EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® CGF Pro and EnergyShield®, EnergyShield Pro and EnergyShield® XR insulation boards described in Section 3.2 of this report, along with the joint-sealing materials described in Section 3.3, may be used as an alternate to the water-resistive barrier prescribed in 2021 and 2018 IBC Section 1403.2 (2015 and 2012 IBC Section 1404.2) and IRC Section R703.2 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), 1-inch-crown (25.4 mm) galvanized staples, 1-inch-head (25.4 mm) plastic cap nails or equivalent fasteners long enough to penetrate into the framing members a minimum of $^3/_4$ inch (19.1 mm). Where steel framing is used, the fasteners shall be corrosion-resistant self-drilling screws with minimum $^3/_4$-inch-diameter (19.1 mm) cap washers. Penetrations and all joints between boards and between boards and corners or abutments with dissimilar materials shall be covered with one of the flashing materials described in Section 3.3 of this report. Boards shall be installed with a corrosion-resistant weep screed and require the use of self-adhering flashing complying with AAMA 711 or the ICC-ES Acceptance Criteria for Flashing Materials (AC148), around penetrations. The boards shall be covered by an approved wall cladding complying with the requirements of the applicable code.

4.2.2 Flashing of Penetrations: For window installation, the installation must be in accordance with the window manufacturer's instructions. Minimum 3-inch-wide flashing is used to seal the sill of windows, and minimum 2-inch-wide flashing is used to seal jambs and heads. Fasteners for window installation must be of sufficient length to achieve $1^1/_4$ inch (31.8 mm) embedment into framing. See also Figure 1.

4.3 Air Barrier:

4.3.1 Air Barrier Material: When used as an air barrier material, the Atlas insulation boards noted in Section 3.6 must be installed in accordance with the Atlas Roofing installation instructions and this report.

4.3.2 Air Barrier Assembly: When installed as described in Section 4.2, the Atlas insulation boards noted in Section 3.6, comply with the requirements for an air barrier assembly in accordance with 2021 IECC Section C402.5.1.4 [2018 and 2015 IECC Section C402.5.1.2.2 (2012 IECC Section C402.4.1.2.2)], based on testing in accordance with ASTM E2357.

Penetrations in the air barrier assembly must be sealed as described in Section 4.2.2 and in 2021, 2018 and 2015 IECC Section C402.5.1.1 (2012 IECC Section C402.4.2).

Wall coverings must be mechanically attached through the insulation boards to the wall framing or sheathing.

4.4 Thermal Barrier:

4.4.1 Application with a Prescriptive Thermal Barrier: Atlas Insulation Boards, at a maximum thickness of 4 inches (102 mm), must be separated from the interior of the building by an approved thermal barrier of $^1/_2$-inch-thick (12.7 mm) gypsum wallboard or an equivalent 15-minute thermal barrier complying with and installed in accordance with the applicable code, except where the installation complies with the requirements set forth in Section 4.4.2. When installation is within an attic or crawlspace, as described in Section 4.5, a thermal barrier is not required between the foam plastic and the attic or crawlspace, but is required between the insulation and the interior of the building.

4.4.2 Application without a Prescriptive Thermal Barrier: Atlas EnergyShield® Pro, at a maximum thickness of 4 inches (102 mm), may be installed exposed to the interior of the building without installation a thermal barrier when installed in accordance with this section. The Atlas insulation boards must be applied to either the walls only or ceilings only.

4.5 Ignition Barrier-Attics and Crawlspaces:

4.5.1 Application with a Prescriptive Ignition Barrier: When Atlas Insulation Boards are installed within attics and crawl spaces, where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section 2603.4.1.6 or IRC Sections R316.5.3 and R316.5.4, as applicable. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in such a manner that the insulation boards are not exposed. The attic or crawl space area must be separated from the interior of the building by an approved thermal barrier, as described in Section 4.4.1.

4.5.2 Application without a Prescriptive Ignition Barrier:

4.5.2.1 EnergyShield® CGF, EnergyShield® PanelCast and EnergyShield® , EnergyShield® CGF Pro, and EnergyShield® XR Insulation Boards may be installed at a maximum thickness of 4 inches (102 mm) on walls and ceilings of attics and crawl spaces. The insulation boards are permitted to be installed exposed in attics and crawl spaces without a covering applied to the attic or crawl space side of the insulation boards provided all of the following conditions apply:

1. Entry into the attic is only for service to utilities, and no storage is permitted.
2. There are no interconnected attic areas or crawl space areas.
3. Air in the attic or crawl space is not circulated to other parts of the building.
4. Attic ventilation is provided when required by 2018 IBC Section 1202.2.1 (2015 and 2012 IBC Section 1203.2) or IRC Section R806, except air-impermeable insulation is permitted in unvented attics in accordance with 2021, 2018 and 2015 IRC Section R806.5 [2012 IRC Section R806.4].

5. Under-floor (crawl space) ventilation is provided when required by 2021 and 2018 IBC Section 1202.4 [2015 IBC Section 1203.4 and 2012 IBC Section 1203.3] or IRC Section R408.1, as applicable.
6. Combustion air is provided in accordance with IMC (International Mechanical Code) Section 701.

4.5.2.2 EnergyShield® Pro may be installed at a maximum thickness of 4 inches (102 mm) to either walls only or ceilings only of attics and crawl spaces. The insulation boards are permitted to be installed exposed in attics and crawl spaces without a covering applied to the attic or crawl space side of the insulation boards provided all of the following conditions apply:

1. Attic ventilation is provided when required by 2021 and 2018 IBC Section 1202.2.1 (2015 and 2012 IBC Section 1203.2) or IRC Section R806, except air-impermeable insulation is permitted in unvented attics in accordance with IRC Section R806.5.
2. Under-floor (crawl space) ventilation is provided when required by 2021 and 2018 IBC Section 1202.4 [2015 IBC Section 1203.4 and 2012 IBC Section 1203.3] or IRC Section R408.1, as applicable.
3. Combustion air is provided in accordance with IMC (International Mechanical Code) Section 701.

4.6 Application in Direct Soil Contact: Atlas EnergyShield® XR, at a minimum thickness of 1 inch (25.4 mm), complies with the direct soil contact provisions of ASHRAE 90.1-2019 section 5.8.1.7.3 and may be installed exposed to direct soil contact below grade without installation of a protection layer when installed in accordance with this section. The Atlas insulation boards must be applied to exterior basement walls, interior or exterior foundation walls, horizontally below slabs, or horizontally 24 inches (610 mm) below grade. Where installed on exterior basement or foundation walls extending above grade, EnergyShield® XR above grade must be covered with a protection board extending 6 inches (152 mm) below grade.

4.7 Wind Resistance: The Atlas insulation boards have the wind resistance values noted in Table 4 based on testing in accordance with ASTM E330 and ANSI/FS100 as specified in 2021, 2018 and 2015 IBC Section 2603.10. The values are based on direct attachment to the type and spacing of wall framing described in Table 2. The design and construction of the wall framing must comply with the applicable requirements of the IBC or IRC, as applicable, and Table 2.

Attachment of the cladding over the insulation boards must be in accordance with 2021 and 2018 IBC Section 2603.13 and Table 2603.13.1.

5.0 CONDITIONS OF USE

The Atlas Roofing Products EnergyShield® XR, EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® CGF Pro, EnergyShield® and EnergyShield® Pro 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 Use of the insulation boards in exterior walls of Types I through IV construction under the IBC is outside the scope of this report.

5.3 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 wall shall be covered by a water-resistive barrier complying with the requirements of the applicable code.

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

5.5 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.

5.6 Jobsite certification and labeling of the insulation must comply with 2021, 2018 and 2015 IRC Section N1101.10, or 2012 IRC Section N1101.12 and IECC Sections C303.1, R303.1 and R401.3, as applicable.

5.7 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 2021 and 2018 IRC Section R318.4 (2015 and 2012 IRC Section R320.4) or 2021, 2018 and 2015 IBC Section 2603.8 (2021 IBC Section 2603.9), as applicable.

5.8 Installation in unvented attics, when equipped with vapor diffusion ports in accordance with Section 1202.3, Item 5.2 of the 2021 IBC and Section R806.5, Item 5.2 of the 2021 and 2018 IRC, is outside the scope of this report

5.9 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; Delta, British Columbia, Canada; and Etobicoke, Ontario, Canada, under a quality-control program with inspections provided by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2015 (editorially revised December 2020), including testing in accordance with Appendix B.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Sheathing Panels Used as Water-Resistive Barriers (AC71), dated February 2003 (editorially revised March 2021)

6.3 Data in accordance with NFPA 286 for room corner testing.

6.4 Data in accordance with ASTM E2357 for air barrier assemblies.

6.5 Data in accordance with ASTM E2178 for air barrier material.

6.6 Data in accordance with ASTM C272 for water absorption.

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-1375) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, the Atlas Roofing Products EnergyShield® XR, EnergyShield®, EnergyShield Pro, EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® CGF Pro, ACFOAM-III and ACFOAM Supreme insulation boards described in this report shall be identified by a label bearing the Atlas Roofing Corporation name, the specific product name, the manufacturing location, and the evaluation report number (ESR-1375).

7.3 The report holder's contact information is the following:

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

TABLE 1—THERMAL RESISTANCE (*R*-VALUES)

ASTM C1289 TYPE, CLASS	THICKNESS (INCHES)	R-VALUE (minimum) [(° F-ft²-hr)/BTU] at 75° F MEAN TEMPERATURE
Type I, Class 1	1	6.0
Type I, Class 1	1.5	9.0
Type I, Class 1	2	12.0

For **SI:** 1 inch = 25.4 mm: 1° F-ft²-hr/BTU = 0.176 K-m²/W.

TABLE 2—WIND PRESSURE RESISTANCE OF ATLAS INSULATION BOARDS

PRODUCT NAME	THICKNESS (inches)	FASTENER SPACING (inches)[1]	FRAMING[2] SPACING (inches on center)	ALLOWABLE DESIGN LOAD[3] (PSF_ [PEF=1.0]	DESIGN WIND SPEED (MPH)[4] [PEF=1.0]
ENERGYSHIELD®, ENERGYSHIELD® XR, ENERGYSHIELD® PRO	1	12 Perimeter : 16 Field	16	46.1	133.8
	1.5		16	72.1	167.4
	1.5		24	37.3	121.6
	2		16	123.1	220.9
ENERGYSHIELD® CGF, ENERGYSHIELD® PANELCAST, ENERGYSHIELD® CGF PRO	0.75		16	78.7	174.9
	1		16	120.5	218.6
	1		24	48.2	138.2

For **SI:** 1 inch= 25.4 mm, 1 psf= 47.8 Pa, 1 mph= 1.609 kph.

[1] Fasteners must be minimum 11 gauge by 3 inch long roofing nails complying with ASTM F1667.
[2] Framing consists of minimum 2 x 4 wood studs, SPF species, Stud or No. 2 grade with spacing as noted.
[3] Insulation boards must be installed with all edges supported by framing or blocking.
[4] Design wind speed determined for Components and Cladding 3-Second Gust Exposure C at height of 33 feet in accordance with ASCE 7.

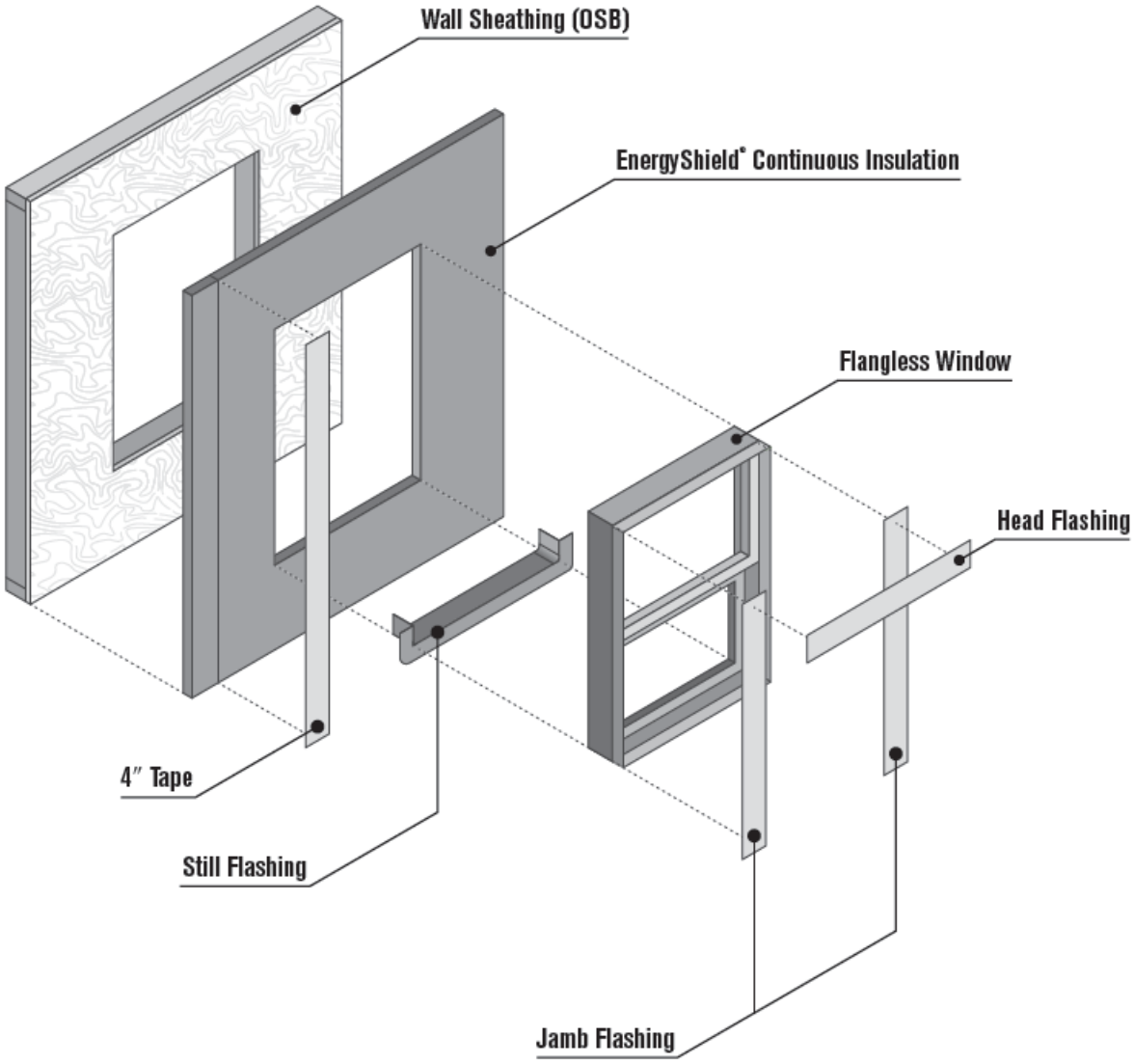

FIGURE 1—TYPICAL WINDOW FLASHING INSTALLATION

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation
Section: 07 22 00—Roof and Deck Insulation
Section: 07 25 00—Water-Resistive Barriers/Weather Barriers

REPORT HOLDER:

ATLAS ROOFING CORPORATION

EVALUATION SUBJECT:

ENERGYSHIELD® XR, ENERGYSHIELD® CGF, ENERGYSHIELD® PANELCAST, ENERGYSHIELD® CGF PRO, ENERGYSHIELD® AND ENERGYSHIELD® PRO INSULATION BOARDS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Atlas insulation boards, described in ICC-ES evaluation report ESR-1375, have also been evaluated for compliance with the code*(s)* noted below.

Applicable code editions:

- 2022 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 *California Residential Code* (CRC)
- 2022 *California Energy Code* (CEC)

2.0 CONCLUSIONS

2.1 CBC and CRC:

The Atlas insulation boards, described in Sections 2.0 through 7.0 of the evaluation report ESR-1375, comply with the 2022 CBC and CRC, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CEC:

The Atlas insulation boards, described in Sections 2.0 through 7.0 of the evaluation report ESR-1375, comply with the 2022 CEC, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report.

2.2.1 Conditions of Use:

In accordance with Section 110.8 of the 2022 California Energy Code, verification of certification by the Department of Consumer Affairs, Bureau of Household Goods and Services, must be provided to the code official, demonstrating that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24, Part 12, Chapters 12-13, Article 3, “Standards for Insulating Material.” Certification can be verified with the DCA Bureau of Household Goods and Services using the following link to the bureau’s Directory of Certified Insulation Materials: https://bhgs.dca.ca.gov/consumers/ti_directory.pdf

This supplement expires concurrently with the evaluation report, reissued March 2022 and revised January 2024.