Code Compliance Research Report CCRR-0197

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1.0 Subject

EnergyGuard™ Polyiso Insulated Sheathing

2.0 Research Scope

2.1. Building Codes:

2015 and 2012 International Building Code (IBC)

2015 and 2012 International Residential Code (IRC)

2.2. Properties:

Surface Burning Characteristics

Physical Properties

Thermal Performance

3.0 Description

3.1. General – *EnergyGuard*™ Polyiso Insulated Sheathing is rigid insulation panel with a closed-cell polyisocyanurate foam core used for non-structural thermal insulating material.

3.2. Materials and Processes - *EnergyGuard*™ Polyiso Insulated Sheathing has a foam plastic core faced on each side with a 50 # Kraft paper and 27-mil aluminum foil facing.

3.3. Profiles - *EnergyGuard*™ Polyiso Insulated Sheathing is produced in panels measuring 4 feet by 8 feet with thicknesses from 0.5 inch (12.7 mm) to 2 inches (50.8 mm)

4.0 Performance Characteristics

4.1. *EnergyGuard*™ *Polyiso Insulated Sheathing* is classified as Type 1, Class 1 in accordance with ASTM C1289-13E1.

4.2. The foam core has a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with UL 723-08 at a maximum thickness of 2 inches and a maximum density of 2 lb/ft^3.

4.3. At a minimum thickness of 0.5 inches, EnergyGuard™ Polyiso Insulated Sheathing has a vapor permeance less than 0.3 as determined by ASTM E96, Procedure A.

4.4. The sheathing board has a thermal resistance (R-value) as shown in the table below when tested at a mean temperature of 75±2°F

Thickness (inches)	R-Value (°F ft^2 h/BTU)
0.5	3.6
0.75	5.0
1.0	6.0
1.25	7.6
1.5	8.9
1.75	10.3
2.0	11.7

5.0 Installation

Installation shall be in accordance with the manufacturer's installation instructions and this report. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

5.1. *EnergyGuard*™ Polyiso Insulated Sheathing is installed so that the longest edge is positioned vertically with the edges resting on the middle of the stud. Board joints are in contact with each other. The printed side shall face the exterior when installed on the exterior of walls and face the interior when installed on the interior side of walls.

5.2. Boards are fastened using galvanized ring shank nails with minimum ⅜ inch diameter heads or staples with minimum 1 inch diameter plastic caps. Fasteners must be long enough to penetrate the substrate at least 3/4 inch. *EnergyGuard*™ Polyiso Insulated Sheathing is fastened 12 inches o.c. around the perimeter and 16 inches o.c. in the field or as required by local codes. Fasteners must not be over driven.

5.3. All openings and penetrations are sealed with an all-weather sealant such as silicone caulk prior to taping. Make sure that all areas are clean prior to sealing and taping to ensure proper adhesion.

5.4. Three inch wide foil flashing tape is centered and applied to all board joints, penetrations, window flanges and door edges. Tape and sealant is applied in accordance with the manufacturer's application instructions.

6.0 Supporting Evidence

6.1. Manufacturer's drawings and installation instructions.

6.2. Reports of testing demonstrating compliance with ASTM C1289-13E1, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation, UL 723-08, Surface Burning Characteristics of Building Materials and, ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12) revised May 2016.

6.3. Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

7.0 Conditions of Use

The *EnergyGuard*™ Polyiso Insulated Sheathing *Board* identified in this report is deemed to comply with the intent of the provisions of the referenced building codes per the following conditions:

7.1. *EnergyGuard*™ Polyiso Insulated Sheathing identified in this report is limited to non-structural exterior and interior wall use in Type V (IBC) construction and structures constructed in accordance with the IRC.

7.2. The insulation boards must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4 or IRC Section R316.4 as applicable.

Exception: Within an attic or crawl space where entry is made only for service of utilities, the insulation board shall be protected against ignition with a protective barrier conforming to IBC Section 2603.4.1.6 and, IRC Section R316.5.3 and R316.5.4.

7.3. In areas of high humidity as required by local codes and when used in the construction of walls, a vapor retarder must be installed in accordance with IBC Section 1405.3 or IRC R702.7.

7.4. In areas where the probability of termite infestation is "very heavy" the installation must meet the requirements of 2012 IBC section 2603.9 or 2015 IBC section 2603.8 or IRC Section R318.4 as applicable.

7.5. When used on exterior stud framed walls, *EnergyGuard*™ Polyiso Insulated Sheathing shall be covered with a code compliant exterior structural sheathing and wall covering including water resistive barrier and wall cladding system such as vinyl siding, wood siding, aluminum siding, brick or stucco. Walls must be structurally braced in accordance with IBC sections 2308.9.3 and 2308.12.4 or IRC Section R602.10 as applicable.

7.6. *EnergyGuard*™ Polyiso Insulated Sheathing shall not be left exposed to weather and shall not be exposed to high heat sources.

7.7. *EnergyGuard*™ Polyiso Insulated Sheathing is manufactured in Cedar City, Utah, Gainesville, Texas, and Statesboro Georgia in accordance with the manufacturer's approved quality control system with inspections by Intertek NA (IAS AA-676).

8.0 Identification

EnergyGuard™ Polyiso Insulated Sheathing produced in accordance with this report shall be identified with labeling on the individual panels or product packaging that includes the following information:

8.1. Name and/or trademark, address, and telephone number of the manufacturer

8.2. Insulation specification Type 1 Class 1

8.3. Lot number

8.4. Thermal Resistance value

8.5. The Code Compliance Research Report mark and number (CCRR-0197)

9.0 Code Compliance Research Report Use

9.1. Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product or manufacturer by Architectural Testing.

9.3. Reference to the Architectural Testing internet web site address at www.ati-es.com is recommended to ascertain the current version and status of this report.