Note to Specifier: Use this product for coated glass-mat faced polyisocyanurate insulation boards such as Rboard.

*Note to Specifier: Make selections, such as board thickness and sizes, etc. Where selection is indicated with an [OR] statement, select the appropriate paragraph and delete the inappropriate statement.* ***Delete all “Note to Specifier” paragraphs and [AND] [OR] options before final print.***

*Disclaimer: The manufacturer has reviewed the product information contained in this guide specification. The information is organized and presented to assist the specification writer working on a construction project to select the appropriate products and to save time in writing the project specification Section. The specification writer is responsible for product selection as well as the use and application of this information, and should contact the manufacturer to ensure that all options are available and that the associated specification information is valid and correct.*

SECTION 072115 – COATED GLASS-MAT FACED POLYISOCYANURATE FOAM BOARD INSULATION

1. GENERAL
   * + 1. SECTION INCLUDES
          1. Rigid polyisocyanurate foam insulation with coated glass-mat facers.
          2. Fasteners, adhesives, and sealants necessary for a complete installation.

Note to Specifier: Carefully and completely edit "WORK SPECIFIED IN OTHER SECTIONS" below to coordinate with other sections being included in the project manual.

* + - 1. WORK SPECIFIED IN OTHER SECTIONS
         1. Division 01 Section 017419, “Construction Waste Management,” for proper separation, handling, and disposal of waste materials.
         2. Division 01 Section 018100, “Facility Performance Requirements,” for thermal and air infiltration characteristics for assemblies utilizing rigid polyisocyanurate foam board insulation.
         3. Division 01 Section 018113.13, “Sustainable Design Requirements – LEED for New Construction and Major Renovations,” for commissioning requirements.
         4. Division 01 Section 018113.19, “Sustainable Design Requirements – LEED for Core and Shell Development,” for commissioning requirements.
         5. Division 01 Section 019113, “General Commissioning,” for commissioning requirements.
         6. Division 03 Section **[insert section number]** for “**[Cast-in-Place] [Architectural Precast]** Concrete” assemblies utilizing rigid polyisocyanurate foam board insulation.
         7. Division 04 Section 042000, “Unit Masonry,” for masonry assemblies utilizing rigid polyisocyanurate foam board insulation.
         8. Division 05 Section 054000, “Cold Formed Metal Framing,” for cold formed metal framing supported wall assemblies utilizing rigid polyisocyanurate foam board insulation.
         9. Division 06 Section 061060, “Sheathing,” for substrate materials for rigid polyisocyanurate board foam insulation.
         10. Division 07 Section 072500, “Weather Barriers” for requirements of weather barriers in conjunction with rigid polyisocyanurate foam board insulation.
         11. Division 07 Section 079200, “Joint Sealants” for requirements of joint sealants in conjunction with rigid polyisocyanurate foam board insulation.
         12. **[Continue as appropriate for the project]**.
      2. SUBMITTALS
         1. Make submittals in accordance with requirements specified in Division 01 Section 013300 “Submittal Procedures.”
         2. Product Test Reports: Submit evaluation reports published by independent authority indicating evidence of compliance with specified criteria.
         3. Product Data: Submit product data for each type of product indicated.
         4. Samples: Submit three samples, minimum size 101 mm x 203 mm (4 in X 8 in).

Note to Specifier: DELETE the following Paragraph and subparagraphs if project requirements do not include LEED. If LEED is included, coordinate selections made below with the LEED requirements for the project.

* + - * 1. LEED Submittals:

Product Certificates for Credit MR 5.1 and Credit MR 5.2: For products and materials required to comply with requirements for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material.

Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

* + - 1. QUALITY ASSURANCE
         1. Surface Burning Characteristics: Mark products with readily identifiable mark from recognizable testing agency indicating compliance with CAN/ULC S102.

Flame spread less than 500.

* + - * 1. CCMC Evaluation Report No. 12423-L: Meets CAN/ULC S704-03, Type 2, Class 3
      1. STORAGE AND HANDLING
         1. Comply with Manufacturer’s recommendations for the proper storage and handling of insulation materials.
         2. Store materials off of ground, protected from physical damage, and covered or otherwise shielded from sunlight.
         3. Protect insulation so that insulation does not come in direct contact with rain, snow, or other moisture sources.
         4. Cover installation within 60 calendar days of initial installation.

Note to Specifier: Delete the following if a Construction Waste Management Plan is not required for the project.

* + - 1. WASTE MANAGEMENT AND DISPOSAL
         1. Separate and recycle waste materials in accordance with Section 017419, "Construction Waste Management."

1. PRODUCTS
   * + 1. POLYISOCYANURATE RIGID FOAM BOARDWALL INSULATION
          1. Coated Glass-Mat Faced Polyisocyanurate Foam Board Wall Insulation: High performance rigid insulation board consisting of CAN/ULC S704-03, Type 2, Class 3 closed-cell polyisocyanurate foam core laminated between two coated glass-mat facers with a minimum weight of 360 grams/m2. 1219 mm x 2438 mm (4 ft x 8 ft) or factory cut to 406 mm x 2438 mm (16 in x 8 ft) Energy Shield CGF formerly Rboard manufactured by Atlas Roofing Corporation.

Note to Specifier: Select the appropriate thickness/RSI Value/R-value for project requirements. Delete those not used. Coordinate with details shown on drawings

Provide coated glass faced insulation with the following thickness, RSI Value, and R-values:

|  |  |  |  |
| --- | --- | --- | --- |
| Thickness | Thickness  inches | "RSI" Value | "R" Value |
| 13 mm | 1/2 | 0.53 | 3.0 |
| 19 mm | 3/4 | 0.79 | 4.5 |
| 25 mm | 1.0 | 1.06 | 6.0 |
| 38 mm | 1.5 | 1.58 | 9.0 |
| 51 mm | 2.0 | 2.13 | 12.1 |
| 64 mm | 2.5 | 2.69 | 15.3 |
| 76 mm | 3.0 | 3.26 | 18.5 |
| 89 mm | 3.5 | 3.82 | 21.7 |
| 102 mm | 4.0 | 4.40 | 25 |

Facer Materials: Coated glass-mat facer on each face of insulation.

Note to Specifier: Indicate preference for size of board. If not critical, delete reference and let Contractor choose. Bold text indicates a selection is required, please choose accordingly and delete unused data.

Size: **[1219 mm x 2438 mm] (4 ft x 8 ft) or/ and [1219 mm x 2743 mm](4 ft x 9 ft).**

Size: 2438 mm (8 ft) x **[406 mm] (16 in) [or] [610 mm] (24 in)** to fit between wall ties.

Flame Spread and Smoke Developed: Less than 500 when tested in accordance with CAN/ULC S102.

Water Vapour Permeance: Greater than 60 ng/(Pa s m2) at 25.4 mm (1 perm per inch) when tested in accordance with ASTM E 96, Desiccant Method.

Compressive Strength: Greater than 140 kPa when tested in accordance with ASTM D 1621.

Tensile Strength: Greater than 35 kPa when tested in accordance with ASTM D 1623.

Flexural Strength: Greater than 275 kPa when tested in accordance with ASTM C 203.

Water Absorption: Less than 3.5% by volume when tested in accordance with ASTM D 2842.

Dimensional Stability: Less than 1% linear change in length or width when tested in accordance with ASTM D 2126.

Service Temperatures: -73ºC to +122ºC.

Produced without using HCFC, CFC and HFC blowing agents.

* + - 1. ACCESSORIES

Note to Specifier: Retain adhesive or mechanical fastener installation as appropriate for the intended supporting materials. Generally retain the adhesive installation when insulation is intended to be installed to a flat surface such as CMU or continuous sheathing. If unsure of the best installation method, consult with Manufacturer's representative.

* + - * 1. Insulation Adhesive and Joint Treatment: High strength, heavy-bodied, adhesive formulated to bond insulation to metal, concrete, air/ vapour membranes or masonry surfaces.

Product: Subject to compliance with the requirements, provide one of the following:

Bakor/Henry Air Block 21

Other products approved in writing by the insulation board manufacturer.

Note to Specifier: Generally retain mechanical fastener when insulation is intended to be installed to a stud wall. Consult with fastener manufacturer's representative for the appropriate fastener for each situation.

* + - * 1. Mechanical Fasteners: Select type, size and length compatible with the substrate, wall system and exposure.
        2. Joint Sealant: Single component, non-shrink joint sealants and backings compatible with each other and with other materials in the assembly.
        3. Expanding Foam Sealant: Single component, non-shrink, complying with CAN/ULC S710 that is compatible with insulation board.

Note to Specifier: Always retain tape insulation if insulation is to function as sheathing membrane.

* + - * 1. Joint Tape: Joint tape suitable for use with coated glass-mat facers. Ensure compatibility prior to use by field testing.

1. EXECUTION
   * + 1. EXAMINATION
          1. Inspect areas to receive insulation. Ensure that substrates intended for adhesive fastening are clean and free from moisture or other materials that may have a deleterious effect on adhesion. Prepare report identifying conditions that may be detrimental to the performance of the insulation and proceed with installation only after the conditions noted have been properly addressed.
       2. INSTALLATION
          1. General:

Comply with Manufacturer's instructions for installation of polyisocyanurate rigid foam board wall insulation.

Do not install polyisocyanurate rigid foam board wall insulation that has become soiled, wet, or has not been properly protected from sunlight.

Dry fit polyisocyanurate rigid foam board wall insulation prior to final installation. Neatly trim around conduits, pipes, and other items that will penetrate insulation board.

Note to Specifier: Retain Adhesive attachment, Mechanical attachment, or both depending on the proposed substrates(s).

* + - * 1. Adhesive Attachment:

Apply adhesive in accordance with the manufacturers written instructions. Ensure insulation is well bonded to the substrate at all joints between boards and at all penetrations.

* + - * 1. Mechanical Attachment:

Select a mechanical fastener appropriate for the intended substrate. Fasten insulation board to substrate with mechanical anchors spaced no greater than 9.5 mm (3/8 in) from edge of board or opening, 305 mm (12 in) on center at perimeter edges and openings and no greater than 406 mm (16 in) on center in both directions within the field of the perimeter. The washer of a single 44.5 mm (1 ¾ in) washer style fastener may be used to bridge adjoining boards.

* + - 1. ACCESSORIES

Note to Specifier: Generally retain both joint sealant and expanding foam sealants.

* + - * 1. Joint Treatment: For joints, gaps, and openings less that 13 mm wide, install continuous bead of joint treatment to form a seal at all board joints and openings.
        2. Expanding Foam Sealant: For joints, gaps, and openings greater than 13 mm wide, install sealant in a continuous ribbon between adjacent board edges, working sealant in to joint for a full depth bead of sealant.

Note to Specifier: Always retain tape installation if insulation is to function as sheathing membrane.

* + - * 1. Tape: Install tape to form a continuous seal between adjacent boards. Ensure compatibility and maintain adequate overlaps.
      1. PROTECTION
         1. Protect polyisocyanurate rigid foam board wall insulation from excess moisture, mechanical damage, and exposure to open flame.
         2. Promptly repair damage caused to insulation in a manner that retains integrity and continuity of insulation and facer materials.
         3. Cover insulation with cladding promptly, but no later than 60 days after installation of insulation.

END OF SECTION