Owens Corning Thermafiber® RainBarrier® Dark™ insulation is continuous insulation with a bonded black facing that is designed for exceptional performance in rainscreen and cavity wall construction applications for use on exterior above grade rainscreen and cavity wall construction applications. Suitable for use with common z-girt, wall-tie and clip cladding attachment solutions with open or closed joint facades.

Thermafiber® RainBarrier® Dark™ offers camouflaging behind open-joint facade systems and eliminates the material and installation costs associated with an additional masking layer.

Thermafiber® RainBarrier® Dark™ insulation provides enhanced thermal and acoustical performance and is non-combustible, highly UV resistant, moisture resistant, non-corrosive and vermin resistant.

Thermafiber® RainBarrier® Dark™ insulation supports sustainable design strategies for projects seeking compliance with LEED, WELL Building Standard, Living Building Challenge, and other sustainable performance targets. Thermafiber® RainBarrier® Dark™ insulation contains a minimum 70% recycled content, has been issued a e and has obtained an Environmental Product Declaration (EPD) certified by UL Environment.

# General

## SECTION INCLUDES

In this article, select the components or assemblies that are intended to be part of the content of this section and will not be included in other sections.

### Board insulation in [exterior wall construction].

## RELATED SECTIONS

In this article, indicate those sections that inter-rely on this section. The listing below is only partial and should be edited to include those sections specific to the project that describe subjects or products that affect this section directly.

### Section 04 27 23 - Cavity Wall Unit Masonry: Cavity space for thermal board insulation.

### Section [06 11 00 - Wood Framing]: Thermal insulation.

### Section 07 26 00 - Vapour Retarders: Vapour retarder materials to adjacent insulation.

### Section 07 27 00 - Air Barriers: Air seal materials to adjacent insulation.

### Section [07 46 16 - Preformed Metal Siding]: Board insulation behind metal wall cladding.

## REFERENCES

Edit this article after editing the rest of this section. Only list reference standards below, that are included within the text of this section, when edited for a project specification - delete other references that do not apply.

Both Canadian and US standards are listed and in some cases the test methods and acceptance criteria are the same. It is suggested that Canadian standards be referenced whenever possible, while the US standards are included to evaluate cited test results from competing manufacturers.

### ASTM C423-23 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

### ASTM C518-21 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

### ASTM C612-14(2019) - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

### ASTM C665-23 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

### ASTM C795-08(2023) - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel.

### ASTM C1104/C1104M-19 - Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation.

### ASTM C1338-19(2022) - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.

### ASTM D2243-20 - Standard Test Method for Freeze-Thaw Resistance of Water-Borne Coatings.

### ASTM E84-23d - Standard Test Method for Surface Burning Characteristics of Building Materials.

### ASTM E96/E96M-24 - Standard Test Methods for Water Vapor Transmission of Materials.

### ASTM E136-24a - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C.

### CAN/ULC S102-18 – Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

### CAN/ULC S129-15 – Standard Method of Test for Smoulder Resistance of Insulation (Basket Method).

### CAN/ULC S702.1-21 - Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specifications.

### ICC-ES AC38 – Water-resistive Barriers - Section 4.1.2 - UV Exposure.

### ISO 14025:2006 - Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

## SYSTEM DESCRIPTION

Edit and use this article carefully; restrict statements to describe the combined result of the components used to piece together an operating or functional assembly. Do not repeat statements from the SECTION INCLUDES article.

### Assembly of components includes materials providing:

#### Continuity of thermal barrier at building enclosure elements [in conjunction with thermal insulating materials in Section [\_\_\_\_]].

#### Thermal protection to vapour retarder in conjunction with vapour retarder materials in Section [07 26 00].

#### Thermal protection to air seal materials at building enclosure elements in conjunction with air barrier materials in Section [07 27 00].

## ADMINISTRATIVE REQUIREMENTS

### Section 01 31 00 - Available Project Information: Project management and coordination procedures.

### Coordination:

#### Coordinate with other work having a direct bearing on work of this section.

#### Coordinate the work with Section [07 26 00] for installation of vapour retarder and Section [07 27 00] for air seal materials.

### Pre-installation Meetings: Convene [one (1) week] [[\_\_\_\_] weeks] before starting work of this section.

## SUBMITTALS FOR REVIEW

Do not request submittals if this specification section or drawings sufficiently describe the products of this section - or if proprietary specifying is used. This requested review of submittals increases the possibility of unintended variations to the contract documents, thus increasing a consultant's liability. The following submittals are intended for review to determine eligibility for the project.

### Section 01 33 00: Submission procedures.

### Product Data: Provide data on product characteristics, performance criteria and limitations.

### Manufacturer's Certificate: Certify that Products meet or exceed specified [requirements][sustainability standards certifications].

## SUBMITTALS FOR INFORMATION

The following submittals are for information only; do not request these submittals if the information submitted will be assessed for acceptability.

### Section 01 33 00: Submission procedures.

### Installation Data: Indicate special environmental conditions required for installation, installation techniques [and [\_\_\_\_]].

Include the following ONLY if specifying for a LEED project. Specify only the technical requirements necessary to achieve the credits desired for this project.

### Sustainable Design:

#### Section [01 35 18]: LEED documentation procedures.

#### Provide required LEED documentation for Product [recycled content] [regional materials] [low-emitting materials].

## CLOSEOUT SUBMITTALS

The following submittals are for project close-out purposes; do not request these submittals if the information submitted will be assessed for acceptability.

### Section [01 78 10]: Submission procedures.

Include the following ONLY if specifying for a LEED project.

### Sustainable Design Closeout Documentation: [\_\_\_\_\_].

## QUALITY ASSURANCE

### Sustainability Standards Certifications:

#### The manufacturer shall disclose insulation product's environmental impacts determined in accordance with ISO 14025, evidenced by an Environmental Product Declaration.

## MOCK-UP

Use this article for assessing full sized erected assemblies for review of construction, coordination of work of several sections, testing, or observation of operation. A mock-up may also be used for assessing field applied finishes.

### Section 01 43 00: Requirements for mock-up.

### Provide mock-up of materials of this section and [wall cladding] materials of Sections [\_\_\_\_\_] and [\_\_\_\_\_].

### Locate [where directed by Consultant].

### Approved mock-up [may] [may not] remain as part of the Work.

## DELIVERY, STORAGE, AND PROTECTION

### Section 01 61 00Common Product Requirements: Transport, handle, store, and protect products.

### Deliver products in their original packages.

### Store products in weather protected environment, clear of ground and moisture and protected from direct exposure to sunlight.

# Products

* 1. **MANUFACTURERS**
     1. Manufacturer - Basis of Design:
        + 1. Thermafiber Inc.

1 Owens Corning Parkway

Toledo, OH, 43659

Toll Free: 1-800-GET-PINK

Website: www.owenscorning.ca/thermafiber

* + - * 1. English-language Contact: Joe Innocente

E-mail: joe.innocente@owenscorning.com

Telephone: (647) 554-8336

* + - * 1. French-language Contact: Salvatore Ciarlo

E-mail: Salvatore.ciarlo@owenscorning.com

Telephone: 1-800-504-8294

* + 1. Substitutions: [Not permitted] [Refer to Section 01 62 00].

## PERFORMANCE CRITERIA

### Thermal Resistance to ASTM C518: Minimum <RSI-0.74 per 25 mm><<R-4.2 per inch>>].

Surface burning characteristics for CAN/ULC S702.1 Type 1 products to have flame-spread classification not exceeding 25 and smoke-developed classification not exceeding 50 tested according to CAN/ULC S102. Values noted below are actual results, well below required limits. Flame spread / smoke developed values for Thermafiber Rainbarrier Dark are 20/5 tested to ULC S102, and 20/15 tested to ASTM E84.

### Surface Burning Characteristics: [CAN/ULC S102] [ASTM E84].

#### Flame Spread: 20.

#### Smoke Developed: [5] [15].

### Non-combustible when tested in accordance with [CAN/ULC S114][ASTM E136].

Smoulder resistance for CAN/ULC S702.1 Type 1 product requires the insulation to have a mean mass loss less than or equal to 2% tested according to CAN/ULC S129. Value noted below is actual result, well below required limits.

Smoulder resistance: Maximum 0.02% to CAN/ULC S129.

Vapour permeance values vary by thickness. Specify 2170 ng/Pa.s.m² for 25 to 50 mm thick insulation, or 2689 ng/Pa.s.m² for 64 to 208 mm thickness

### Water vapour permeance: [2170 ng/Pa.s.m² (38 perms)] [2689 ng/Pa.s.m² (47 perms)], tested to ASTM E96/E96M.

### Moisture Absorption: Maximum 0.06% by volume, to ASTM C1104.

### Fungi resistant when tested in accordance with ASTM C1338.

### Non-corrosive when tested in accordance with ASTM C665 (steel, aluminum and copper) and ASTM C795 (stainless steel).

### Recycled Content: Minimum 70%.

### Acoustic Performance: Sound absorption coefficients, tested to ASTM C423.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **THICKNESS** | **125 Hz** | **250 Hz** | **500 Hz** | **1000 Hz** | **2000 Hz** | **4000 Hz** | **NRC** |
| 51 mm (2") | 0.36 | 0.79 | 1.15 | 1.04 | 1.01 | 1.04 | 1.0 |
| 76 mm (3") | 0.70 | 1.07 | 1.24 | 1.13 | 1.07 | 1.08 | 1.15 |
| 102 mm (4") | 1.03 | 1.25 | 1.20 | 1.05 | 1.05 | 1.08 | 1.15 |

## INSULATION MATERIALS

### Mineral Wool Board Insulation: [CAN/ULC S702.1 Type 2] [ASTM C612 Type IA, IB, II, III, IVA, IVB], semi-rigid board, with the following characteristics:

Consult with Thermafiber for project conditions requiring higher-density 96 kg/m3 (6.0 lbs/ft3) Thermafiber® RainBarrier® Dark

#### Board Density: [<72 kg/cu m><<4.5 lb/cu ft>>][<96 kg/cu m><<6 lb/cu ft>>].

Consult with the Thermafiber® RainBarrier® Dark™ insulation data sheet for available thickness for Thermafiber® RainBarrier® Dark™ and edit following to suit project conditions. Thermafiber® RainBarrier® Dark™ is available in 12.7 mm (1/2 inch) thickness increments from 51 mm (2 inch) thick to 203 mm (8 inches) thick.

#### Thickness: [<<51 mm><<2 inch>>][<203 mm><<8 inch>>][<\_\_\_\_\_\_\_\_\_\_ mm><<\_\_\_\_\_\_\_\_\_\_ inch>>].

#### Size: [<406 mm><<16 inch>>] [<610 mm><<24 inch>>] width x [<1219 mm><<48 inch>>] length.

#### Facing: Bonded black facing

#### Board Edges: Square.

#### Acceptable Product: Thermafiber® RainBarrier® Dark™ insulation

## ACCESSORIES

Insulation accessories are project specific; edit the following to suit. Delete items not required.

### Insulation Fasteners: Impaling pin of [galvanized steel] [plastic] [nylon] to be [mechanically fastened] [adhered] to surface to receive board insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.

### Retainer Clips: Insulation retainer designed to secure insulation against wall at [masonry tie][impaling pin] locations.

#### Acceptable Product: Thermafiber® RainBarrier™ Clip.

### Joint & Exposed Edge Treatment: If concealing joints and exposed edges is required, we recommend the use of small rolls of the black facing adhered to Thermafiber® RainBarrier® Dark™ insulation or a black coating.

#### Acceptable Black Roll: RainBarrier® Black Roll

#### Acceptable Black Roll Adhesive: 3M® Super 77

#### Acceptable Black Coating: GE® Elemax™ 2600

## ULTRA VIOLATE LIGHT CRITERIA

Consult with the Thermafiber® RainBarrier® Dark™ insulation data sheet for available information. Delete items not required.

### Complies; acceptable change in black color after UV exposure

#### Better building practices calls for covering of insulation as soon as possible.

#### If insulation is to be exposed for longer than 30 days, please contact Owens Corning representative for further instruction.

# Execution

## EXAMINATION

### Section 01 70 00 - Examination and Preparation: Verify existing conditions before starting work.

### Verify that substrate, adjacent materials, and insulation boards are dry and ready to receive insulation.

### Ensure base work to be covered by the insulation has been inspected.

### Do not commence installation until base work has been corrected and inspection completed.

## INSTALLATION - EXTERIOR WALLS

Use the following where insulation occurs behind composite cladding, metal siding, or other finishing material. Insulation accessories used to secure insulation are project specific; edit the following to suit. Delete items not required.

### Secure impale fasteners to substrate.

### Install boards on [wall surface], [vertically] [horizontally] over impale fasteners and friction fit between cladding framing members.

### Place boards in a method to maximize contact bedding. Stagger end joints. Butt edges and ends tight to adjacent board and to protrusions.

### Cut and fit insulation tight to protrusions or interruptions to the insulation plane.

### If required, treat joints and exposed edges of insulation boards with acceptable joint & exposed edge treatment options as per manufacturers instructions.

## INSTALLATION - CAVITY WALLS

Utilize this article where insulation occurs in cavity walls, placed on outer surface of inner masonry wythe or other substrate. Ensure insulation board is sized to suit spacing of through wall reinforcement. Insulation accessories used to secure insulation are project specific; edit the following to suit. Delete items not required.

### Secure impale fasteners to substrate.

### Install boards [horizontally between wall reinforcement] [vertically].

### Place boards in a method to maximize contact bedding. Stagger [side] [end] joints. Butt edges and ends tight to adjacent board and to protrusions. [Place impale fastener locking discs.]

### Cut and fit insulation tight to protrusions or interruptions to the insulation plane.

### If required, treat joints and exposed edges of insulation boards with acceptable joint & exposed edge treatment options as per manufacturers instructions.

## PROTECTION OF FINISHED WORK

### Section 01 76 00 - Protecting Installed Construction: Protecting installed work.

### Do not permit work to be damaged prior to covering insulation.

## SCHEDULES

The following article will assist in preparing a schedule of insulation for the project. The following schedule includes are EXAMPLES only. Edit the paragraphs below to create a schedule for the components specified in this section. Do not repeat statements that may exist on drawings.

### Cavity Wall Insulation: Type [\_\_\_\_\_\_], secured with impaling fasteners.

END OF SECTION