

# Technical Evaluation Report™

**TER 1212-03**

Rmax® ECOMAXci® FR Air Barrier and EVOMAXci™

**Rmax®**

**Product:**

**Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™**

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SECTION: 06 16 00 - Sheathing	SECTION: 07 21 13 - Foam Board Insulation
SECTION: 06 16 13 - Insulated Sheathing	SECTION: 07 25 00 - Water-Resistive Barriers/Weather Barriers
SECTION: 06 16 53 - Moisture-Resistant Sheathing Board	SECTION: 07 27 00 - Air Barriers
DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION	SECTION: 07 27 23 - Board Product Air Barriers
SECTION: 07 20 00 - Thermal Protection	

## 1 Innovative Products Evaluated<sup>1,2</sup>

- 1.1 Rmax® ECOMAXci® FR Air Barrier
- 1.2 Rmax® EVOMAXci™

## 2 Applicable Codes and Standards<sup>3,4</sup>

- 2.1 Codes
  - 2.1.1 IBC—15, 18, 21: International Building Code®
  - 2.1.2 IRC—15, 18, 21: International Residential Code®
  - 2.1.3 IECC—15, 18, 21: International Energy Conservation Code®

<sup>1</sup> For more information, visit [drjcertification.org](http://drjcertification.org) or call us at 608-310-6748.

<sup>2</sup> **Federal Regulation Definition.** 24 CFR 3280.2 "Listed or certified" means included in a list published by a nationally recognized testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. **International Building Code (IBC) Definition of Listed.** Equipment, materials, products or services included in a list published by an organization acceptable to the building official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose Listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose. **IBC Definition of Labeled.** Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

<sup>3</sup> This Listing is a code defined research report, which is also known as a duly authenticated report, provided by an approved agency (see IBC Section 1703.1) and/or an approved source (see IBC Section 1703.4.2). An approved agency is "approved" when it is ANAB accredited. DrJ Engineering, LLC (DrJ) is listed in the ANAB directory. A professional engineer is "approved" as an approved source when that professional engineer is properly licensed to transact engineering commerce. Where sealed by a professional engineer, it is also a duly authenticated report certified by an approved source. (i.e., Registered Design Professional). DrJ is an ANAB accredited product certification body.

<sup>4</sup> Unless otherwise noted, all references in this Listing are from the 2021 version of the codes and the standards referenced therein. This material, product, design, service and/or method of construction also complies with the 2000-2021 versions of the referenced codes and the standards referenced therein.

- 2.1.4 *CBC—16, 19: California Building Code (Title 24, Part 2)<sup>5</sup>*
- 2.1.5 *CRC—16, 19: California Residential Code (Title 24, Part 2.5)<sup>5</sup>*
- 2.1.6 *FBC-B—20, 23: Florida Building Code – Building<sup>6</sup>*
- 2.1.7 *FBC-R—20, 23: Florida Building Code – Residential<sup>6</sup>*
- 2.1.8 *BCNYS – 20: Building Code of New York State<sup>7</sup>*
- 2.1.9 *RCNYS – 20: Residential Code of New York State<sup>7</sup>*
- 2.1.10 *ECCNYS – 20: Energy Conservation Code of New York State<sup>7</sup>*
- 2.2 *Standards and Referenced Documents*
  - 2.2.1 *AATCC TM127: Test Method 127 Water Resistance: Hydrostatic Pressure Test*
  - 2.2.2 *ASTM C209: Standard Test Methods for Cellulosic Fiber Insulating Board*
  - 2.2.3 *ASTM C272: Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions*
  - 2.2.4 *ASTM C518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus*
  - 2.2.5 *ASTM C1289: Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*
  - 2.2.6 *ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials*
  - 2.2.7 *ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials*
  - 2.2.8 *ASTM E119: Standard Test Methods for Fire Tests of Building Construction and Materials*
  - 2.2.9 *ASTM E136: Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C*
  - 2.2.10 *ASTM E331: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*
  - 2.2.11 *ASTM E1354: Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*
  - 2.2.12 *ASTM E2178: Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials*
  - 2.2.13 *ASTM E2357: Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies*
  - 2.2.14 *CAN/ULC-S742: Standard for Air Barrier Assemblies – Specification*
  - 2.2.15 *NFPA 259: Standard Test Method for Potential Heat of Building Materials*
  - 2.2.16 *NFPA 285-12: Standard Fire Test Method for the Evaluation of Fire Propagation Characteristics of Exterior Nonload-bearing Wall Assemblies Containing Combustible Components<sup>8</sup>*
  - 2.2.17 *NFPA 286: Standard Methods of Fire Test for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*
  - 2.2.18 *UL 263: Standard for Fire Tests of Building Construction and Materials*

<sup>5</sup> All references to the CBC and CRC are the same as the 2018 IBC and 2018 IRC unless otherwise noted in the California Supplement at the end of this TER.

<sup>6</sup> All references to the FBC-B and FBC-R are the same as the 2021 IBC and 2021 IRC unless otherwise noted in the Florida Supplement at the end of this TER.

<sup>7</sup> All references to the BCNYS, RCNYS, and ECCNYS are the same as the 2018 IBC, 2018 IRC, and 2018 ECCNYS unless otherwise noted in the New York State (NYS) Supplement at the end of this TER.

<sup>8</sup> References to NFPA 285-12 in this TER are code compliant through the 2018 version of the IBC.

### 3 Performance Evaluation

- 3.1 Tests, test reports, research reports, duly authenticated reports and related engineering evaluations are defined as intellectual property and/or trade secrets and protected by Defend Trade Secrets Act 2016 (DTSA).<sup>9</sup>
- 3.2 Testing and/or inspections conducted for this TER were performed at an ISO/IEC 17025 accredited testing laboratory,<sup>10</sup> an ISO/IEC 17020 accredited inspection body,<sup>11</sup> which are internationally recognized accreditations through International Accreditation Forum (IAF), and/or a licensed Registered Design Professional (RDP).
- 3.3 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ were evaluated to determine:
  - 3.3.1 Performance in accordance with foam plastic requirements of IBC Section 2603.
  - 3.3.2 Performance for use as Insulating Sheathing (R-Value) in accordance with IECC Section C402
  - 3.3.3 Performance for use as a Water-Resistive Barrier (WRB) in accordance with IBC Section 1403.2<sup>12</sup>
  - 3.3.4 Performance for use as a vapor retarder in accordance with IBC Section 202 and IBC Section 1404.3<sup>13</sup>
  - 3.3.5 Performance for use as an air barrier in accordance with IECC Section C402
  - 3.3.6 Performance for use in exterior walls of buildings of Type I-IV construction in accordance with 2018 IBC Section 2603.5
    - 3.3.6.1 Fire resistance rated assembly in accordance with IBC Section 2603.5.1
    - 3.3.6.2 Potential heat in accordance with IBC Section 2603.5.3
    - 3.3.6.3 Flame spread and smoke development ratings in accordance with IBC Section 2603.3 and IBC Section 2603.5.4
    - 3.3.6.4 Vertical and lateral fire propagation in accordance with 2018 IBC Section 2603.5.5
    - 3.3.6.5 Ignition characteristics in accordance with 2018 IBC Section 2603.5.7
- 3.4 Use of Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ in structures where the exterior wall covering is unable to resist 100% of the transverse wind load is outside the scope of this TER.
- 3.5 Any building code and/or accepted engineering evaluations (i.e. research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ Engineering, LLC (DrJ), an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDPs / approved sources. DrJ is qualified<sup>14</sup> to practice product and code compliance services within its scope of accreditation and engineering expertise, respectively.

<sup>9</sup> <https://www.law.cornell.edu/uscode/text/18/part-II/chapter-90>. Given our professional duty to inform, please be aware that whoever, with intent to convert a trade secret (TS), that is related to a product or service used in or intended for use in interstate or foreign commerce, to the economic benefit of anyone other than the owner thereof, and intending or knowing that the offense will, injure any owner of that trade secret, knowingly without authorization copies, duplicates, sketches, draws, photographs, downloads, uploads, alters, destroys, photocopies, replicates, transmits, delivers, sends, mails, communicates, or conveys such information; shall be fined under this title or imprisoned not more than 10 years, or both. Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of \$5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. As the National Society of Professional Engineers states, "Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve." Therefore, to protect intellectual property (IP) and TS, and to achieve compliance with public records and trade secret legislation, requires approval through the use of Listings, certified reports, technical evaluation reports, duly authenticated reports and/or research reports prepared by approved agencies and/or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.

<sup>10</sup> Internationally recognized accreditations are performed by members of the International Accreditation Forum (IAF). Accreditation Body and Regional Accreditation Group Members of IAF are admitted to the IAF MLA only after a stringent evaluation of their operations by a peer evaluation team, which is charged to ensure that the applicant complies fully with both international standards and IAF requirements. Once an accreditation body is a signatory of the IAF MLA, it is required to recognise certificates and validation and verification statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA, with the appropriate scope.

<sup>11</sup> Ibid.

<sup>12</sup> 2015 IBC Section 1404.2

<sup>13</sup> 2015 IBC Section 1405.3

<sup>14</sup> Qualification is performed by a legislatively defined Accreditation Body. ANSI National Accreditation Board (ANAB) is the largest independent accreditation body in North America and provides services in more than 75 countries. DrJ is an ANAB accredited product certification body.

- 3.6 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope, which are also its areas of professional engineering competence.
- 3.7 Any regulation specific issues not addressed in this section are outside the scope of this TER.

#### 4 Product Description and Materials

- 4.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are proprietary Foam Plastic Insulating Sheathing (FPIS) panels. ECOMAXci® FR Air Barrier along with R-SEAL products make up the Rmax® Wall Solution.



**Figure 1.** Rmax® Wall Solution  
(ECOMAXci® FR Air Barrier, R-SEAL 3000, R-SEAL 6000, and R-SEAL 2000 LF)

- 4.1.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ consist of a closed-cell rigid polyisocyanurate (polyiso) foam core bonded to a glass fiber reinforced aluminum facer material on both sides (ASTM C1289 Type I, Class 1 and Class 2). The exposed side has a clear modified acrylic coating.
- 4.1.2 R-SEAL 3000 is a joint sealing tape with a nominal 2-mil aluminum foil backing and acrylic pressure-sensitive adhesive.
- 4.1.3 R-SEAL 6000 is a through-wall flashing tape with a nominal 35-mil black woven polyethylene membrane backing and butyl rubber adhesive.
- 4.1.4 R-SEAL 2000 LF is a durable one-component, hybrid technology, non-sag, flexible, flashing and water barrier sealant.

#### 4.2 Material Availability

##### 4.2.1 Thickness:

- 4.2.1.1 1/2" (13 mm) through 4 1/2" (114 mm)

##### 4.2.2 Standard Product Width:

- 4.2.2.1 48" (1219 mm)

##### 4.2.3 Standard Product Lengths:

- 4.2.3.1 96", 108", 120", and 144" (2438 mm, 2743 mm, 3048 mm, and 3658 mm)

- 4.2.4 Custom lengths, widths and thicknesses are available upon request.

#### 5 Applications

##### 5.1 General

- 5.1.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are used as wall sheathing and continuous insulation in buildings constructed in accordance with the IBC.
- 5.1.2 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall not be used as a nail base for other building products.
- 5.1.3 Stud walls insulated with Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ must be properly braced for lateral loads according to the requirements of local building codes.
- 5.1.4 The wall system shall be designed to handle cladding load and wind load per the applicable code.



- 5.1.5 Environmental Product Declarations (EPD) for Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are available at [polyiso.org](http://polyiso.org).
- 5.1.6 Where the application exceeds the limitations set forth herein, design shall be permitted in accordance with accepted engineering procedures, experience, and good technical judgment.
- 5.2 **Thermal Resistance (R-Value)**
  - 5.2.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ meet the continuous insulated sheathing requirements complying with the provisions of [IECC Section C402](#).
  - 5.2.2 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ have the thermal properties shown in Table 1.

**Table 1. Thermal Properties**

Nominal Thickness (in)	Thermal R-Value <sup>1</sup> (°F-ft <sup>2</sup> -hr/Btu)
0.5	3.2
1.0	6.5
1.5	10.0
2.0	13.1
2.5	16.7
3.0	20.3
3.5	23.9
4.0	27.4
4.5	31.0

SI: 1 in = 25.4 mm; 1 F-ft<sup>2</sup>-h/Btu = 0.1761 K-m<sup>2</sup>/W

1. Thermal values are determined using the ASTM C518 test method at 75° mean temperature on material conditioned according to ASTM C1289 Section 11.1.

- 5.3 **Water-Resistive Barrier (WRB)**
  - 5.3.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ may be used as a WRB as prescribed in [IBC Section 1403.2](#)<sup>15</sup> when installed on exterior walls as described in this section and the [manufacturer installation instructions](#).
  - 5.3.2 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall be installed horizontally or vertically with vertical board joints centered directly over exterior framing spaced a maximum of 24" (610 mm) o.c. The fasteners used to attach the board shall be installed in accordance with Section 6.
  - 5.3.3 All joints between boards shall be sealed with R-SEAL 3000 tape or R-SEAL 2000 LF liquid flashing per the manufacturer installation instructions.
  - 5.3.4 All corners, windows, doors, and other large through-wall penetrations shall be sealed with R-SEAL 6000 flashing or R-SEAL 2000 LF liquid flashing per the manufacturer installation instructions.
  - 5.3.5 Small through-wall penetrations shall be sealed using R-SEAL 2000 LF liquid flashing or a one-part moisture cure sealant per the manufacturer installation instructions.
  - 5.3.6 All ceiling and floor transitions shall be sealed with R-SEAL 6000 flashing per the manufacturer installation instructions.

<sup>15</sup> [2015 IBC Section 1404.2](#)

5.3.7 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ have the water-resistive properties shown in Table 2.

**Table 2. Water-Resistance Properties**

Property	Test Method	Results
Water Vapor Transmission	ASTM E96	< 0.03 U.S. Perm
Water Absorption	ASTM C209	< 0.2% by Volume
	ASTM C272	< 0.3% by Volume
SI: 1 U.S. Perm [gr(hr-ft <sup>2</sup> -inHg)] = 57.2135 ng/(Pa-s-m <sup>2</sup> )		

5.3.8 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are Class I Vapor Retarders in accordance with IBC Table 1404.3(1).<sup>16</sup>

5.4 Air Barrier

5.4.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ meet the requirements of IECC Section C402 for use as a component of the air barrier, when installed in accordance with the manufacturer installation instructions and this TER, with all joints and transitions including the top and bottom, sealed.

5.4.1.1 The air barrier material properties of Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are shown in Table 3.

**Table 3. Air Barrier Material Properties<sup>1</sup>**

Air Permeance	
< 0.005 L/(s.m <sup>2</sup> )	
IP: 1 L/(s <sup>2</sup> m <sup>2</sup> ) = 0.2 cfm/ft <sup>2</sup>	
1. Tested in accordance with ASTM E2178	

5.4.1.2 The air permeance of an air barrier material is defined by the IECC and the Air Barrier Association of America (ABAA) as being no greater than 0.02 liter per second per square meter (L/(s.m<sup>2</sup>)) at 75 Pa pressure difference when tested in accordance with ASTM E2178.

5.4.2 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ meet the requirements of IECC Section C402 for use as an air barrier assembly when installed in accordance with the manufacturer installation instructions and this TER with all joints and transitions including the top and bottom, sealed.

5.4.2.1 The air barrier assembly properties are shown in Table 4.

**Table 4. Air Barrier System Properties<sup>1</sup>**

Air Leakage	
< 0.05 L/(s.m <sup>2</sup> )	
IP: 1 L/s <sup>2</sup> m <sup>2</sup> = 0.2 cfm/ft <sup>2</sup>	
1. Tested in accordance with ASTM E2357 and CAN/ULC-S742	

<sup>16</sup> 2018 IBC Section 1404.3.3

- 5.4.2.2 The air leakage of an air barrier assembly is defined by the IECC and ABAA as being no greater than 0.2 L/(s.m<sup>2</sup>) at 75 Pa pressure difference when tested in accordance with ASTM E2357.
- 5.4.2.3 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are classified as an A1 air barrier assembly per CAN/ULC S742. The air leakage of an A1 classified air barrier assembly is defined as being no greater than 0.05 L/(s.m<sup>2</sup>) at 75 Pa pressure difference when tested in accordance with CAN/ULC-S742.
- 5.4.2.4 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall be installed horizontally or vertically with vertical board joints centered directly over exterior framing spaced a maximum of 24" (610 mm) o.c. The fasteners used to attach the board shall be installed in accordance with Section 6.
- 5.4.2.5 All joints between boards shall be sealed with R-SEAL 3000 tape or R-SEAL 2000 LF liquid flashing per the manufacturer installation instructions.
- 5.4.2.6 All corners, windows, doors, and other large through-wall penetrations shall be sealed with R-SEAL 6000 flashing or R-SEAL 2000 LF liquid flashing per the manufacturer installation instructions.
- 5.4.2.7 Small through-wall penetrations shall be sealed using R-SEAL 2000 LF liquid flashing or a one-part moisture cure sealant per the manufacturer installation instructions.
- 5.4.2.8 All ceiling and floor transitions shall be sealed with R-SEAL 6000 flashing per the manufacturer installation instructions.

5.5 *Draftstop*

- 5.5.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ may be used as a draftstop material in accordance with [IBC Section 708.4.2](#), [IBC Section 718.3](#), [IBC Section 718.4](#) and [IRC Section R302.12](#).
- 5.5.2 When installed as a draftstop, Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall be installed in accordance with Section 6.

5.6 *Fire Safety Performance*

5.6.1 *Surface Burning Characteristics:*

- 5.6.1.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ have the flame spread and smoke developed ratings shown in Table 5, when tested in accordance with ASTM E84 per [IBC Section 2603.3](#).

**Table 5.** Surface Burning Characteristics<sup>1</sup>

Flame Spread Index	Smoke Developed Index
< 25	< 250
1. Tested in accordance with ASTM E84.	

5.6.2 *Thermal Barrier:*

- 5.6.2.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall be separated from the building interior by a thermal barrier meeting the provisions of [IBC Section 2603.4](#), except in one-story buildings when the building is equipped throughout with an automatic sprinkler system and the foam sheathing, in a thickness of not more than 4 1/2", is covered by one of the following:
  - 5.6.2.1.1 Minimum 0.032" thick aluminum
  - 5.6.2.1.2 Minimum 0.016" thick corrosion resistance steel



5.6.3 **Fire Resistance Ratings (Fire-Rated Assemblies):**

5.6.3.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ have been tested and meet the requirements of UL 263 (ASTM E119) in accordance with [IBC Section 2603.5.1](#) for use in the following assembly designs when installed in accordance with the manufacturer installation instructions and this TER:

5.6.3.1.1 45 Minutes: [V321](#)

5.6.3.1.2 1-hour: [U026](#), [U326](#), [U330](#), [U349](#), [U354](#), [U355](#), [U364](#), [U424](#), [U425](#), [U460](#), [V454](#), [W417](#), [W429](#), [W448](#), [W451](#), [W452](#), [W456](#)

5.6.3.1.3 2-hour: [U905](#), [U906](#), [U939](#), [V332](#), [V499](#), [W449](#), [W456](#)

5.6.3.1.4 3-hour: [U904](#), [U912](#), [U939](#), [W429](#), [W451](#)

5.6.3.1.5 4-hour: [U902](#), [U907](#), [U939](#)

5.6.4 **Potential Heat:**

5.6.4.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ have been tested to assess their performance as shown in Table 6 with regard to potential heat in accordance with NFPA 259 and [IBC Section 2603.5.4](#).

**Table 6. Potential Heat<sup>1</sup>**

Potential Heat (Btu/lb)	
11,054	
SI: 1 Btu/lb = 2.326 kJ/kg	
1. Tested in accordance with NFPA 259	

5.6.5 **Vertical and Lateral Fire Propagation (NFPA 285 Applications):**

5.6.5.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ were tested to assess their performance with regard to vertical and lateral fire propagation in accordance with NFPA 285 and [2018 IBC Section 2603.5.5](#).

5.6.5.2 Engineering analysis has also been conducted to assess substitution of other products within the approved wall assemblies.

5.6.5.3 The wall assemblies listed in Table 7 are approved for use in buildings of Type I-IV construction.

**Table 7. Fire Performance – Vertical & Lateral Fire Propagation**

Wall Component	Materials
<b>Base Wall System</b> Select option 1, 2, 3, or 4	<ol style="list-style-type: none"> <li>1. Cast concrete walls</li> <li>2. CMU Concrete walls</li> <li>3. 20-gauge (min) 3 5/8 in. (min.) steel studs spaced 24" o.c. (max.)               <ol style="list-style-type: none"> <li>a. 1/2 in. (min.) type X Special Fire Resistant Gypsum Wallboard Interior</li> <li>b. Bracing as required by code</li> </ol> </li> <li>4. Where allowed by code in Types I, II, III, or IV construction, FRTW (Fire-Retardant-Treated Wood) studs complying with <a href="#">IBC Section 2303.2</a>, min. nominal 2x4 dimension, spaced 24" o.c. (max.)               <ol style="list-style-type: none"> <li>a. 5/8 in. type X Gypsum Wallboard Interior</li> <li>b. Bracing as required by code</li> </ol> </li> </ol>
<b>Floor-line Firestopping</b> Select option 1 or 2	<ol style="list-style-type: none"> <li>1. 4 pcf mineral wool installed with Z-clips</li> <li>2. FRTW fire blocking at floor line in accordance with applicable code requirements (use with FRTW framing)</li> </ol>

Wall Component	Materials
<p><b>Cavity Insulation</b> Select option 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, or 15</p> <p>EZ FLO may be used inside the box headers and jamb studs for NFPA 285 assemblies requiring SPF in stud cavities</p>	<ol style="list-style-type: none"> <li>1. None</li> <li>2. Any noncombustible insulation per ASTM E136</li> <li>3. Any Mineral Fiber (board type Class A, ASTM E84 faced or un-faced)</li> <li>4. Any Fiberglass (batt type Class A ASTM E84 faced or unfaced)</li> <li>5. 5 1/2 inch (max.) Icynene LD-C-50 SPF in 6-inch-deep studs (max.). Use with 5/8-inch exterior sheathing.</li> <li>6. 5 1/2 inch (max.) Icynene MD-C-200 2 pcf SPF in 6-inch-deep studs (max.) full fill without an air gap. Use with 5/8 inch exterior sheathing.</li> <li>7. 5 1/2 inch (max.) Icynene MD-R-210 2 pcf SPF in 6-inch-deep studs (max.) full fill without an air gap. Use with 5/8 inch exterior sheathing</li> <li>8. SWD Urethane QS 112 2 pcf SPF in 6-inch-deep studs (max.) partial fill with a maximum 2 1/2 inch air gap or full fill. Use with 5/8 exterior sheathing.</li> <li>9. Gaco Western 183M SPF (3 1/2 inch max). Use with 5/8 exterior sheathing.</li> <li>10. Gaco Western F1850 SPF (3 1/2 inch max.). Use with 5/8 exterior sheathing.</li> <li>11. Demilec SEALECTION 500 SPF (3 5/8 inch max). Use with 5/8 exterior sheathing.</li> <li>12. Demilec HeatLok Soy 200 Plus SPF (3.4 inch max). Use with 5/8 exterior sheathing.</li> <li>13. Bayer Bayseal SPF (3 inch max). Use with 5/8 exterior sheathing.</li> <li>14. Lapolla FoamLok FL 2000 SPF (3 inch max). Use with 5/8 exterior sheathing.</li> <li>15. BASF SprayTite 81206 or WallTite SPF (US &amp; US-N) (3 5/8 inch max). Use with 5/8 exterior sheathing.</li> </ol>
<p><b>Exterior Sheathing</b> Select option 1, 2, 3, 4, 5, 6, 7 or 8</p> <p>Note: When SPF is used, 5/8 inch exterior gypsum sheathing must be used.</p>	<ol style="list-style-type: none"> <li>1. None (when using Base Wall 1 or 2)</li> <li>2. None (3 in. max. exterior insulation with claddings 7-17)</li> <li>3. None (4-1/2 in. max. exterior insulation with claddings 1-6)</li> <li>4. 1/2" thick or thicker, exterior gypsum board sheathing</li> <li>5. 1/2" (min.) FRTW structural panels complying with <a href="#">IBC Section 2303.2</a> and installed in accordance with code allowances for Types I, II, III or IV construction</li> <li>6. 5/8" DensElement with DensDefy or Prosoco FastFlash flashing at joints/fasteners</li> <li>7. Soprema Sopraseal Xpress G</li> <li>8. Tremco/USG Securock® ExoAir® 430</li> </ol>
<p><b>Weather-Resistive Barrier Applied to Exterior Sheathing</b> Select option 1 or 2 installed per manufacturer installation instructions.</p> <p>Note: WRB over Exterior Sheathing Items 6-8 may not be used since they already incorporate a pre-installed WRB.</p> <p>Note: When using no exterior sheathing, sheet building wraps may be applied directly to studs.</p> <p>NLA = No Longer Available.</p>	<ol style="list-style-type: none"> <li>1. None</li> <li>2. Any WRB tested in accordance with ASTM E1354 (at a minimum of 20 kW/m<sup>2</sup> heat flux) and shown by analysis to be less flammable (improved T<sub>ign</sub>, Pk. HRR) than the baseline WRB or exterior insulation foam core. The following WRB products are allowed (Soprema Stick VP, Soprasolin HD or LM 204 VP based on NFPA 285):             <ol style="list-style-type: none"> <li>2.01 Carlisle (CCW) Fire Resist 705FR-A</li> <li>2.02 Carlisle (CCW) Fire Resist Barritech NP™</li> <li>2.03 Carlisle (CCW) Fire Resist Barritech VP</li> <li>2.04 Dörken Systems Inc. Delta® Stratus SA</li> <li>2.05 Dörken Systems Inc. Delta®-Fassade S</li> <li>2.06 Dörken Systems Inc. Delta®-Foxx/Plus</li> <li>2.07 Dörken Systems Inc. Delta®-Maxx/Plus</li> <li>2.08 Dörken Systems Inc. Delta®-Vent S/Plus</li> <li>2.09 Dörken Systems Inc. Delta®-Vent SA</li> <li>2.10 Dow Corning Dowsil™ DefendAir 200 (or LT version)</li> <li>2.11 Dow Corning Dowsil™ DefendAir 200C (Charcoal)</li> <li>2.12 Dryvit Backstop® NT™</li> <li>2.13 DuPont™ Tyvek® (Various per ESR 2375)</li> <li>2.14 DuPont™ WeatherMate™ Housewrap</li> <li>2.15 DuPont™ WeatherMate™ Plus Housewrap</li> <li>2.16 GCP PERM-A-BARRIER® Aluminum Wall Membrane</li> <li>2.17 GCP PERM-A-BARRIER® NPL 10</li> <li>2.18 GCP PERM-A-BARRIER® VPL</li> </ol> </li> </ol>

Wall Component	Materials
	<ul style="list-style-type: none"> <li>2.19 GCP PERM-A-BARRIER® VPL 50 Membrane</li> <li>2.20 GCP PERM-A-BARRIER® VPL Low Temperature</li> <li>2.21 GCP PERM-A-BARRIER® VPS</li> <li>2.22 Henry® Air-Bloc All Weather STPE</li> <li>2.23 Henry® Air-Bloc® 16 MR</li> <li>2.24 Henry® Air-Bloc® 17 MR</li> <li>2.25 Henry® Air-Bloc® 21 FR</li> <li>2.26 Henry® Air-Bloc® 31MR [NLA]</li> <li>2.27 Henry® Air-Bloc® 32MR [NLA]</li> <li>2.28 Henry® Air-Bloc® 33MR [NLA]</li> <li>2.29 Henry® Blueskin® MetalClad</li> <li>2.30 Henry® Blueskin® SA</li> <li>2.31 Henry® Blueskin® VP 160</li> <li>2.32 Henry® EnviroCap</li> <li>2.33 Henry® FoilSkin</li> <li>2.34 Henry® Super Jumbo Tex 60 Minute® (Fortifiber)</li> <li>2.35 Henry® WeatherSmart® Drainable Housewrap (Fortifiber)</li> <li>2.36 Kingspan (Pactiv) GreenGuard® MAX™ Building Wrap</li> <li>2.37 MasterSeal® AWB 660 (Formerly BASF Enershield® HP)</li> <li>2.38 MasterSeal® AWB 660 I (Formerly BASF Enershield® I)</li> <li>2.39 NaturaSeal Airseal NS-A-250HP™</li> <li>2.40 NaturaSeal Airseal NS-A-250LP™</li> <li>2.41 Parex WeatherSeal Spray &amp; Roll-On</li> <li>2.42 Pecora ProPerm VP</li> <li>2.43 Pecora XL-PermULTRA NP</li> <li>2.44 Pecora XL-PermULTRA VP (10 mil DFT)</li> <li>2.45 Prosoco R-Guard® Cat 5™</li> <li>2.46 Prosoco R-Guard® MVP (NLA)</li> <li>2.47 Prosoco R-Guard® Spray Wrap (NLA)</li> <li>2.48 Prosoco R-Guard® Spray Wrap MVP</li> <li>2.49 Prosoco R-Guard® VB</li> <li>2.50 SIGA Majvest® 500 SA</li> <li>2.51 Sika SikaGard® 535</li> <li>2.52 Sika SikaGard®-530</li> <li>2.53 Soprema Sopraseal® LM 204 VP</li> <li>2.54 Soprema Sopraseal® Stick 1100T</li> <li>2.55 Soprema Sopraseal® Stick VP</li> <li>2.56 Soprema Soprasolin® HD</li> <li>2.57 Tremco /USG Securock® ExoAir® 110AT</li> <li>2.58 Tremco/USG Securock® ExoAir® 230</li> <li>2.59 Vaproshield Revealshield SA®</li> <li>2.60 Vaproshield Wrapshield SA®</li> <li>2.61 W.R. Meadows® Air-Shield™ LMP (Black)</li> <li>2.62 W.R. Meadows® Air-Shield™ LMP (Gray)</li> <li>2.63 W.R. Meadows® Air-Shield™ LSR</li> <li>2.64 W.R. Meadows® Air-Shield™ SMP</li> <li>2.65 W.R. Meadows® Air-Shield™ TMP</li> </ul>
<p><b>Exterior Insulation</b> Use either 1 or 2</p> <p>Note: See Exterior sheathing options for thickness limitations when no exterior sheathing is used.</p>	<ul style="list-style-type: none"> <li>1. 4 1/2 in. (max. consisting of a single panel or multiple thinner panels) Rmax® ECOMAXci® FR Air Barrier</li> <li>2. 4 1/2 in. (max. consisting of a single panel or multiple thinner panels) Rmax® EVOMAXci™</li> </ul>

Wall Component	Materials
<b>FRTW Structural Panels over Exterior Insulation (Optional)</b>	<p>For use with all cladding options, installed in accordance with applicable code requirements. Must be applied with joints staggered. Fasteners used for securing FRTW panels must penetrate through the foam plastic into FRTW or steel framing. The system must be designed to handle the cladding load and wind load per the applicable code.</p> <p>Note: May be applied in the field or factory applied. Adhesive must not be full coverage.</p>
<b>Weather-Resistive Barrier Applied over Exterior Insulation (or FRTW)</b> Use any item 1 or 2 depending on cladding used  Note: Exterior WRB items in 1.02 are not traditional WRB products but are insulation panel joint tapes. The insulation panel joints shall be staggered.  NLA = No longer available.	<ol style="list-style-type: none"> <li>1. For use with all claddings             <ol style="list-style-type: none"> <li>1.01 None</li> <li>1.02 6" (max.) tape or flashing over insulation joints:                 <ol style="list-style-type: none"> <li>(a) Rmax® R-SEAL 3000</li> <li>(b) Rmax® R-SEAL 6000</li> <li>(c) Rmax® R-SEAL 2000 LF</li> <li>(d) Venture Tape CW</li> <li>(e) Asphalt or butyl based tape</li> <li>(f) Liquid flashing</li> </ol> </li> <li>1.03 Carlisle (CCW) Fire Resist 705FR-A</li> <li>1.04 DuPont™ Tyvek® (Various per ESR 2375)</li> <li>1.05 DuPont™ WeatherMate™ Housewrap</li> <li>1.06 DuPont™ WeatherMate™ Plus Housewrap</li> <li>1.07 GCP PERM-A-BARRIER® Aluminum Wall Membrane</li> <li>1.08 Henry® Blueskin® Metal Clad®</li> <li>1.09 Henry® FoilSkin</li> <li>1.10 Kingspan (Pactiv) GreenGuard® MAX™ Building Wrap</li> <li>1.11 Prosoco R-Guard® Spray Wrap MVP</li> <li>1.12 Soprema Soprasolin® HD</li> </ol> </li> <li>2. For use with cladding options 1-6 (heavy masonry) with non-open joint installation techniques (ex. shiplap, etc.)             <ol style="list-style-type: none"> <li>2.01 Carlisle (CCW) Fire Resist Barritech NP™</li> <li>2.02 Carlisle (CCW) Fire Resist Barritech VP</li> <li>2.03 Dörken Systems Inc. Delta®-Fassade S</li> <li>2.04 Dörken Systems Inc. Delta®-Foxx/Plus</li> <li>2.05 Dörken Systems Inc. Delta®-Maxx/Plus</li> <li>2.06 Dörken Systems Inc. Delta®-Vent S/Plus</li> <li>2.07 Dow Corning DefendAir 200C (Charcoal)</li> <li>2.08 Dow Corning Dowsil™ DefendAir 200 (or LT version)</li> <li>2.09 Dryvit Backstop® NT™</li> <li>2.10 GCP PERM-A-BARRIER® VPL</li> <li>2.11 GCP PERM-A-BARRIER® VPL Low Temperature</li> <li>2.12 GCP PERM-A-BARRIER® VPS</li> <li>2.13 Henry® Air-Bloc All Weather STPE</li> <li>2.14 Henry® Air-Bloc® 16MR</li> <li>2.15 Henry® Air-Bloc® 17MR</li> <li>2.16 Henry® Air-Bloc® 21 FR</li> <li>2.17 Henry® Air-Bloc® 31MR (NLA)</li> <li>2.18 Henry® Air-Bloc® 33MR (NLA)</li> <li>2.19 Henry® Blueskin® VP 160</li> <li>2.20 Henry® Envirocap</li> <li>2.21 Henry® Super Jumbo Tex 60 minutes (only with 3/4" stucco cladding) (Fortifiber)</li> <li>2.22 Henry® WeatherSmart Drainable (Fortifiber)</li> <li>2.23 Parex WeatherSeal Spray &amp; Roll-On</li> </ol> </li> </ol>

Wall Component	Materials
	2.24 Pecora ProPerm VP 2.25 Pecora XL-Perm <sup>ULTRA</sup> NP 2.26 Pecora XL-Perm <sup>ULTRA</sup> VP (10 mil DFT) 2.27 Prosoco R-Guard <sup>®</sup> Cat 5 <sup>™</sup> 2.28 Prosoco R-Guard <sup>®</sup> MVP (NLA) 2.29 Prosoco R-Guard <sup>®</sup> Spray Wrap (NLA) 2.30 Prosoco R-Guard <sup>®</sup> VB 2.31 Siga Majvest <sup>®</sup> 500 SA 2.32 Sika SikaGard <sup>®</sup> 535 2.33 Soprema Sopraseal <sup>®</sup> Stick VP 2.34 Vaproshield Revealshield SA <sup>®</sup> 2.35 Vaproshield Wrapshield SA <sup>®</sup> 2.36 W.R. Meadows <sup>®</sup> Air-Shield <sup>™</sup> LMP (Black) 2.37 W.R. Meadows <sup>®</sup> Air-Shield <sup>™</sup> LMP (Gray) 2.38 W.R. Meadows <sup>®</sup> Air-Shield <sup>™</sup> LSR 2.39 W.R. Meadows <sup>®</sup> Air-Shield <sup>™</sup> SMP 2.40 W.R. Meadows <sup>®</sup> Air-Shield <sup>™</sup> TMP
<p><b>Exterior Cladding</b>            Select option 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 or 17</p> <p>Note: For WRB over exterior insulation option 2 above, heavy masonry claddings 1-6 shall incorporate non-open joints.</p>	<p><b>Heavy Masonry</b></p> <ol style="list-style-type: none"> <li>1. Brick - nominal 4" clay brick or veneer with a maximum 2 in. air gap behind brick. Brick ties/anchors –24" o.c. (max.)</li> <li>2. Stucco – Minimum 3/4" thick, exterior cement plaster and lath with an optional secondary water resistive barrier between the exterior insulation and lath.*</li> <li>3. Limestone - minimum 2" thick any using standard installation technique.</li> <li>4. Natural Stone Veneer – Minimum 2 in. thick using any standard installation technique.</li> <li>5. Cast Artificial Stone -- Minimum 1 1/2 in. thick complying with ICC-ES AC 51 using any standard installation technique.</li> <li>6. Terra Cotta Cladding – Minimum 1 1/4 in. thick using any standard installation technique.</li> </ol> <p><b>Other</b></p> <ol style="list-style-type: none"> <li>7. Any MCM or ACM (aluminum, steel, copper, zinc) (w/ 2 1/2 in. max. air gap) that has successfully passed NFPA 285 using any standard installation technique, such as             <ul style="list-style-type: none"> <li>• Carter Companies EVO Architectural Panel Systems for use with any FR ACM/MCM NFPA 285 material</li> </ul> </li> <li>8. Uninsulated sheet metal building panels including aluminum, zinc, steel or copper using any standard installation technique.</li> <li>9. Uninsulated fiber-cement board siding using any standard installation technique.</li> <li>10. Stone/Aluminum honeycomb composite building panels that have passed NFPA 285 or equivalent.             <ul style="list-style-type: none"> <li>• Stone Panels Inc. Stone Lite Panel system has been analyzed using manufacturer standard installation technique</li> </ul> </li> <li>11. Autoclaved-aerated- concrete (AAC) panels that have successfully passed NFPA 285 using any standard installation technique.</li> <li>12. Thin Set Brick             <ul style="list-style-type: none"> <li>• Glen-Gary Thin Tech<sup>™</sup> Elite Series has been analyzed using manufacturer standard installation technique.</li> <li>• Tabs II Panel System with 1/2 inch bricks using Tabs Wall Adhesive</li> </ul> </li> <li>13. Natural Stone Veneer – minimum 1 1/4 inch (adhered with mortar or concrete/cement based adhesive).</li> <li>14. FunderMax M.Look using the manufacturer standard installation technique. The air gap between cladding and insulation or WRB must not exceed 1 1/2 inches.</li> <li>15. Glen-Gery Tru-Brix (only with optional non-combustible mortar)</li> <li>16. Thin brick (min 3/4" thick clay brick) fully adhered with cementitious mortar (standard or polymer-modified) to minimum 1/2" thick cement backer board or gypsum sheathing. A</li> </ol>

Wall Component	Materials
	<p>secondary water resistive barrier can be installed between the exterior sheathing and the brick.*</p> <p>17. Natural stone or artificial stone (min 3/4" thick) fully adhered with cementitious mortar (standard or polymer-modified) to minimum 1/2" thick cement backer board or gypsum sheathing. A secondary water resistive barrier can be installed between the exterior sheathing and the brick.*</p> <p>*NOTE: The secondary barriers shall not be full-coverage asphalt or butyl-based self-adhered membranes.</p>
<p><b>Rough openings</b></p> <p>Note: Must cover both the air gap between the cladding and the exterior insulation and the exposed edge of the exterior insulation.</p>	<p>Rough opening perimeters shall incorporate one of the following, spanning at a minimum from the interior edge of the cladding to the interior edge of the exterior insulation at the rough opening.</p> <ol style="list-style-type: none"> <li>1. 0.08" (min.) aluminum (examples include window frame, flashing, lintel, c-channel)</li> <li>2. 20 GA. (min.) sheet steel (examples include window frame, flashing, lintel, c-channel)</li> <li>3. 1/2" (min.) 4pcf (min.) mineral wool</li> <li>4. 3/4" (min.) FRT wood buck</li> <li>5. 3/4" (min.) FRT plywood</li> <li>6. 5/8" (min.) type X GWB</li> <li>7. 1/4" (min.) fiber cement board</li> </ol> <p>All fenestrations and penetrations shall be flashed in accordance with the applicable code using asphalt, acrylic or butyl flashing tape, liquid flashing, R-SEAL 6000, or R-SEAL 2000 LF up to 12" maximum width.</p>
SI: 1 in = 25.4 mm	
1. All WRBs shall be installed at recommended application rates and per the manufacturer installation instructions.	

**5.6.6 Ignition Properties:**

5.6.6.1 Thermasheath®, TSX-8500, TSX-8510, ECOMAXci® FR, and ECOMAXci® FR WHITE were evaluated to assess performance with regard to ignition in accordance with 2018 IBC Section 2603.5.7.

5.6.6.1.1 The insulation boards comply with this section when the exterior side of the sheathing is protected with one of the following materials:

5.6.6.1.1.1 A thermal barrier in accordance with 2018 IBC Section 2603.4

5.6.6.1.1.2 Masonry or concrete – minimum 1" (25 mm) thick

5.6.6.1.1.3 Glass-fiber-reinforced concrete panels – minimum 3/8" (9.5 mm) thick

5.6.6.1.1.4 Metal-faced panels having a minimum 0.019" (0.48 mm) thick aluminum or 0.016" (0.41 mm) thick corrosion-resistant steel outer facings

5.7 Where the application falls outside of the performance evaluation, conditions of use and/or installation requirements set forth herein, alternative techniques shall be permitted in accordance with accepted engineering practice and experience. This includes but is not limited to the following areas of engineering: mechanics or materials, structural, building science, and fire science.

## 6 Installation

- 6.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this TER and the applicable building code.
- 6.2 In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.
- 6.3 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall be applied to the base wall as follows:
  - 6.3.1 The insulation boards shall be oriented with the Rmax® Solutions shield facing the exterior side of the building.
  - 6.3.2 Each row of insulation shall be staggered a minimum of 6" (or one stud space) to the row below. All boards must be tightly abutted together.
  - 6.3.3 At changes in wall directions (corners), the boards shall fit snugly in an overlap.
- 6.4 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ fastener application shall be as follows:
  - 6.4.1 Insulation fastener components shall include a minimum 2" diameter plastic washer and corrosion resistant self-taping steel screw, wood screw or concrete fastener.
  - 6.4.2 Washers shall be snug and flush with the board surface. Washers should never break the foil facing of the boards, nor should the washer crown be countersunk.
    - 6.4.2.1 Each insulation board shall be secured with a fastening pattern as shown in Table 8.

**Table 8.** Fastening Pattern of ECOMAXci® FR Air Barrier and EVOMAXci™

Nominal Thickness (in)	Steel or FRTW Stud		Masonry
	Wall Perimeter (in)	Wall Field (in)	Wall Perimeter & Field (in)
≥ 1.5	24 o.c.	24 o.c.	24 o.c.
≥ 0.5	12 o.c.	16 o.c.	24 o.c.
			SI: 1 in = 25.4 mm

- 6.5 R-SEAL 3000 application shall be as follows:
  - 6.5.1 4" wide R-SEAL 3000 shall be used to seal all joints of adjacent insulation boards.
  - 6.5.2 R-SEAL 3000 can also be used to repair minor damages to the aluminum facer of the Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™.
  - 6.5.3 Refer to the R-SEAL 3000 data sheet for specific details on appropriate installation conditions.
- 6.6 R-SEAL 6000 application shall be as follows:
  - 6.6.1 9" or 12" wide R-SEAL 6000 shall be used to seal at corners, ceiling and floor transitions, windows, doors and other large through-wall penetrations.
  - 6.6.2 Refer to the R-SEAL 6000 data sheet for specific details on appropriate installation conditions.
- 6.7 R-SEAL 2000 LF application shall be as follows:
  - 6.7.1 1" wide at 30 mil shall be used to seal all joints of adjacent insulation boards.
  - 6.7.2 50 mil extended 3" beyond each last surface shall be used to seal at corners, windows, doors and other large through-wall penetrations.
  - 6.7.3 R-SEAL 2000 LF can also be used to repair minor damages to the aluminum facer of the Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™.
  - 6.7.4 Refer to the R-SEAL 2000 LF data sheet for specific details on appropriate installation conditions.

## 7 Substantiating Data

- 7.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:
  - 7.1.1 Material properties testing in accordance with ASTM C1289
  - 7.1.2 Thermal resistance properties testing in accordance with ASTM C518
  - 7.1.3 Water vapor permeance testing in accordance with ASTM E96
  - 7.1.4 Water-resistance properties testing in accordance with ASTM E331 and AATCC TM 127
  - 7.1.5 Water absorption testing in accordance with ASTM C209 and ASTM C272
  - 7.1.6 Air Permeance testing in accordance with ASTM E2178
  - 7.1.7 Air leakage testing in accordance with ASTM E2357 and CAN/ULC-S742
  - 7.1.8 Flame spread and smoke developed ratings testing in accordance with ASTM E84
  - 7.1.9 Fire resistance ratings in accordance with UL 263
  - 7.1.10 Heat propagation (potential heat) testing in accordance with NFPA 259
  - 7.1.11 Vertical and lateral fire propagation tests in accordance with NFPA 285-12, with analysis by Priest and Associates Consulting, LLC and Hughes Associates
- 7.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies (i.e., ANAB accredited agencies), approved sources (i.e., RDPs), and/or professional engineering regulations. Accuracy of external test data and resulting analysis is relied upon.
- 7.3 Where pertinent, testing and/or engineering analysis is based upon provisions that have been codified into law through state or local adoption of codes and standards. The developers of these codes and standards are responsible for the reliability of published content. DrJ's engineering practice may use a code-adopted provision as the control sample. A control sample versus a test sample establishes a product as being equivalent to the code-adopted provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.
- 7.4 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, Listings, certified reports, duly authenticated reports from approved agencies, and research reports prepared by approved agencies and/or approved sources provided by the suppliers of products, materials, designs, assemblies and/or methods of construction. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this TER, may be dependent upon published design properties by others.
- 7.5 Testing and engineering analysis: The strength, rigidity and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.<sup>17</sup>
- 7.6 Where additional condition of use and/or code compliance information is required, please search for Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ on the DrJ Certification website.

<sup>17</sup> See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition.



## 8 Findings

- 8.1 As delineated in Section 3, Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ have performance characteristics that were tested and/or meet pertinent standards and is suitable for use pursuant to its specified purpose.
- 8.2 When used and installed in accordance with this TER and the manufacturer installation instructions, Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall be approved for the following applications:
- 8.2.1 Buildings constructed in accordance with the IBC.
  - 8.2.2 Performance of foam plastics in accordance with [IBC Section 2603](#)
  - 8.2.3 Use as insulating sheathing in accordance with [IECC Section C402](#)
  - 8.2.4 Use as a WRB in accordance with [IBC Section 1403.2](#)<sup>18</sup>
  - 8.2.5 Use as an air barrier in accordance with [IECC Section C402](#)
  - 8.2.6 Use in exterior walls of buildings of Type I-IV construction in accordance with [2018 IBC Section 2603.5](#)
  - 8.2.7 Use in a fire resistance rated assembly in accordance with [IBC Section 2603.5.1](#)
  - 8.2.8 Flame spread and smoke developed indices in accordance with [IBC Section 2603.5.4](#)
  - 8.2.9 Vertical and lateral fire propagation in accordance with [2018 IBC Section 2603.5.5](#)
- 8.3 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Rmax®.
- 8.4 [IBC Section 104.11](#) ([IRC Section R104.11](#) and [IFC Section 104.10](#)<sup>19</sup> are similar) in pertinent part states:

**104.11 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

- 8.5 **Approved:**<sup>20</sup> Building codes require that the building official shall accept duly authenticated reports<sup>21</sup> or research reports<sup>22</sup> from approved agencies and/or approved sources (i.e., licensed RDP) with respect to the quality and manner of use of new products, materials, designs, services, assemblies, or methods of construction.
- 8.5.1 Acceptance of an approved agency, by a building official, is performed by verifying that the agency is accredited by a recognized accreditation body of the International Accreditation Forum (IAF).
  - 8.5.2 Acceptance of a licensed RDP, by a building official, is performed by verifying that the RDP and/or their business entity is listed by the licensing board of the relevant jurisdiction.
  - 8.5.3 Federal law, Title 18 US Code Section 242, requires that where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved, as denial without written reason deprives a protected right to free and fair competition in the marketplace.

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<sup>18</sup> [2015 IBC Section 1404.2](#)

<sup>19</sup> [2018 IFC Section 104.9](#)

<sup>20</sup> Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC [Section 201.4](#) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

<sup>21</sup> <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1>

<sup>22</sup> <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2>

- 8.6 DrJ is an engineering company, employs RDPs and is an ISO/IEC 17065 ANAB-Accredited Product Certification Body – Accreditation #1131.
- 8.7 Through ANAB accreditation and the IAF Multilateral Agreements, this TER can be used to obtain product approval in any jurisdiction or country that has IAF MLA Members & Signatories to meet the Purpose of the MLA – “*certified once, accepted everywhere.*” IAF specifically says, “*Once an accreditation body is a signatory of the IAF MLA, it is required to recognise certificates and validation and verification statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA, with the appropriate scope.*”<sup>23</sup>

## 9 Conditions of Use

- 9.1 Material properties shall not fall outside the boundaries defined in Section 3.
- 9.2 As defined in Section 3, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.
- 9.3 As listed herein, Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ shall not be used:
  - 9.3.1 As a structural nailing base for claddings.
- 9.4 This TER and the manufacturer installation instructions when required by a code official, shall be submitted at the time of permit application.
- 9.5 When the insulation boards are used on exterior walls of buildings of Type I-IV construction must be as described in Section 5.6.2.
- 9.6 The product shall be fully protected from the interior of the building by an approved thermal barrier or ignition barrier as required by the applicable code.
- 9.7 In areas where the probability of termite infestation is “very heavy”, in accordance with IBC Section 2603.8, the clearance between the products installed above grade and exposed earth shall be at least 6”.
  - 9.7.1 **Exceptions:**
    - 9.7.1.1 Buildings where the structural members of the walls, floors, ceilings, and roofs are entirely of noncombustible materials or are pressure preservative treated wood.
    - 9.7.1.2 An approved method of protecting the products and the structure from subterranean termite damage is used.
    - 9.7.1.3 On the interior side of basement walls.
- 9.8 Use of the insulation boards to resist structural loads is outside the scope of this TER. Walls shall be braced by other materials in accordance with the applicable code, and the exterior wall covering shall be capable of resisting the full design wind pressure.
- 9.9 When required by adopted legislation and enforced by the building official, also known as the authority having jurisdiction (AHJ) in which the project is to be constructed:
  - 9.9.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice, and, when prepared by an approved source, shall be approved when signed and sealed.
  - 9.9.2 This TER and the installation instructions shall be submitted at the time of permit application.
  - 9.9.3 These innovative products have an internal quality control program and a third-party quality assurance program.
  - 9.9.4 At a minimum, these innovative products shall be installed per Section 6 of this TER.
  - 9.9.5 The review of this TER, by the AHJ, shall be in compliance with IBC Section 104 and IBC Section 105.4.

<sup>23</sup> <https://iaf.nu/en/about-iaf-mla/#:~:text=required%20to%20recognise>



- 9.9.6 These innovative products have an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.4, IBC Section 110.4, IBC Section 1703, IRC Section R104.4 and IRC Section R109.2.
- 9.9.7 The application of these innovative products in the context of this TER are dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2 and any other regulatory requirements that may apply.
- 9.10 The approval of this TER by the AHJ shall comply with IBC Section 1707.1, where legislation states in pertinent part, “*the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.11”*, all of IBC Section 104, and IBC Section 105.4.
- 9.11 Design loads shall be determined in accordance with the building code adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).
- 9.12 The actual design, suitability, and use of this TER, for any particular building, is the responsibility of the owner or the owner’s authorized agent.

## 10 Identification

- 10.1 The innovative products listed in Section 1.1 are identified by a label on the board or packaging material bearing the manufacturer name, product name, TER number, and other information to confirm code compliance.
- 10.2 Additional technical information can be found at rmax.com.

## 11 Review Schedule

- 11.1 This TER is subject to periodic review and revision. For the most recent version, visit drjcertification.org.
- 11.2 For information on the status of this TER, contact DrJ Certification.

## 12 Approved for Use Pursuant to US and International Legislation Defined in Appendix A

- 12.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ are included in this TER published by an approved agency that is concerned with evaluation of products or services, maintains periodic inspection of the production of listed materials or periodic evaluation of services, and whose TER Listing states either that the material, product, or service meets identified standards or has been tested and found suitable for a specified purpose. This TER meets the legislative intent and definition of being acceptable to the AHJ.

## Appendix A

### 1 Legislation that Authorizes AHJ Approval

- 1.1 **Fair Competition:** State legislatures have adopted Federal regulations for the examination and approval of building code referenced and alternative products, materials, designs, services, assemblies and/or methods of construction that:
  - 1.1.1 Advance Innovation,
  - 1.1.2 Promote competition so all businesses have the opportunity to compete on price and quality in an open market on a level playing field unhampered by anticompetitive constraints, and
  - 1.1.3 Benefit consumers through lower prices, better quality, and greater choice.
- 1.2 **Adopted Legislation:** The following local, state, and federal regulations affirmatively authorize Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™ to be approved by AHJs, delegates of building departments, and/or delegates of an agency of the federal government:
  - 1.2.1 Interstate commerce is governed by the Federal Department of Justice to encourage the use of innovative products, materials, designs, services, assemblies and/or methods of construction. The goal is to “protect economic freedom and opportunity by promoting free and fair competition in the marketplace.”
  - 1.2.2 Title 18 US Code Section 242 affirms and regulates the right of individuals and businesses to freely and fairly have new products, materials, designs, services, assemblies and/or methods of construction approved for use in commerce. Disapproval of alternatives shall be based upon non-conformance with respect to specific provisions of adopted legislation, and shall be provided in writing stating the reasons why the alternative was not approved, with reference to the specific legislation violated.
  - 1.2.3 The federal government and each state have a public records act. In addition, each state also has legislation that mimics the federal Defend Trade Secrets Act 2016 (DTSA),<sup>24</sup> where providing test reports, engineering analysis and/or other related IP/TS is subject to prison of not more than 10 years<sup>25</sup> and/or a \$5,000,000 fine or 3 times the value of<sup>26</sup> the Intellectual Property (IP) and Trade Secrets (TS).
    - 1.2.3.1 Compliance with public records and trade secret legislation requires approval through the use of listings, certified reports, Technical Evaluation Reports, duly authenticated reports and/or research reports prepared by approved agencies and/or approved sources.
  - 1.2.4 For new materials<sup>27</sup> that are not specifically provided for in any building code, the design strengths and permissible stresses shall be established by tests, where suitable load tests simulate the actual loads and conditions of application that occur.
  - 1.2.5 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design using accepted engineering practice.<sup>28</sup>
  - 1.2.6 The commerce of approved sources (i.e., registered PEs) is regulated by professional engineering legislation. Professional engineering commerce shall always be approved by AHJs, except where there is evidence, provided in writing, that specific legislation has been violated by an individual registered PE.
  - 1.2.7 The AHJ shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in IBC Section 104.11.<sup>29</sup>

<sup>24</sup> <http://www.drjengineering.org/AppendixC> and <https://www.drjcertification.org/cornell-2016-protection-trade-secrets>.

<sup>25</sup> <https://www.law.cornell.edu/uscode/text/18/1832#:~:text=imprisoned%20not%20more%20than%2010%20years>

<sup>26</sup> <https://www.law.cornell.edu/uscode/text/18/1832#:~:text=Any%20organization%20that,has%20thereby%20avoided>

<sup>27</sup> <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1706.2>

<sup>28</sup> IBC 2021, Section 1706.1 Conformance to Standards

<sup>29</sup> IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General

- 1.3 **Approved<sup>30</sup> by Los Angeles:** The Los Angeles Municipal Code (LAMC) states in pertinent part that the provisions of LAMC are not intended to prevent the use of any material, device, or method of construction not specifically prescribed by LAMC. The Department shall use Part III, Recognized Standards in addition to Part II, Uniform Building Code Standards of Division 35, Article 1, Chapter IX of the LAMC in evaluation of products for approval where such standard exists for the product or the material and may use other approved standards, which apply. Whenever tests or certificates of any material or fabricated assembly are required by Chapter IX of the LAMC, such tests or certification shall be made by a testing agency approved by the Superintendent of Building to conduct such tests or provide such certifications. The testing agency shall publish the scope and limitation(s) of the listed material or fabricated assembly.<sup>31</sup> The Superintendent of Building roster of approved testing agencies is provided by the Los Angeles Department of Building and Safety (LADBS). The Center for Building Innovation (CBI) Certificate of Approval License is TA24945. Tests and certifications found in a CBI Listing are LAMC approved. In addition, the Superintendent of Building shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in the California Building Code (CBC) Section 1707.1.<sup>32</sup>
- 1.4 **Approved by Chicago:** The Municipal Code of Chicago (MCC) states in pertinent part that an Approved Agency is a Nationally Recognized Testing Laboratory (NRTL) acting within its recognized scope and/or a certification body accredited by the American National Standards Institute (ANSI) acting within its accredited scope. Construction materials and test procedures shall conform to the applicable standards listed in the MCC. Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any product, material, service, design, assembly and/or method of construction not specifically provided for in the MCC. This technical data shall consist of research reports from approved sources (i.e., MCC defined Approved Agencies).
- 1.5 **Approved by New York City:** The NYC Building Code 2022 (NYCBC) states in pertinent part that an approved agency shall be deemed<sup>33</sup> an approved testing agency via ISO/IEC 17025 accreditation, an approved inspection agency via ISO/IEC 17020 accreditation, and an approved product evaluation agency via ISO/IEC 17065 accreditation. Accrediting agencies, other than federal agencies, must be members of an internationally recognized cooperation of laboratory and inspection accreditation bodies subject to a mutual recognition agreement<sup>34</sup> (i.e., ANAB, International Accreditation Forum (IAF), etc.).

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<sup>30</sup> See Section 8 for the distilled building code definition of Approved

<sup>31</sup> Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES

<sup>32</sup> https://up.codes/viewer/california/ca-building-code-2022/chapter/17/special-inspections-and-tests#1707.1

<sup>33</sup> New York City, The Rules of the City of New York, § 101-07 Approved Agencies

<sup>34</sup> New York City, The Rules of the City of New York, § 101-07 Approved Agencies

- 1.6 **Approved by Florida:** Statewide approval of products, methods, or systems of construction shall be approved, without further evaluation, by 1) A certification mark or listing of an approved certification agency, 2) A test report from an approved testing laboratory, 3) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity; 4) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a professional engineer or architect, licensed in Florida. For local product approval, products or systems of construction shall demonstrate compliance with the structural wind load requirements of the Florida Building Code (FBC) through one of the following methods; 1) A certification mark, listing, or label from a commission-approved certification agency indicating that the product complies with the code; 2) A test report from a commission-approved testing laboratory indicating that the product tested complies with the code; 3) A product-evaluation report based upon testing, comparative or rational analysis, or a combination thereof, from a commission-approved product evaluation entity which indicates that the product evaluated complies with the code; 4) A product-evaluation report or certification based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a Florida professional engineer or Florida registered architect, which indicates that the product complies with the code; 5) A statewide product approval issued by the Florida Building Commission. The Florida Department of Business and Professional Regulation (DBPR) website provides a listing of companies certified as a Product Evaluation Agency (i.e., EVLMiami 13692), a Product Certification Agency (i.e., CER10642), and as a Florida Registered Engineer (i.e., ANE13741).
- 1.7 **Approved by Miami-Dade County (i.e., Notice of Acceptance [NOA]):** A Florida statewide approval is an NOA. An NOA is a Florida local product approval. By Florida law, Miami-Dade County shall accept the statewide and local Florida Product Approval as provided for in Florida legislation 553.842 and 553.8425.
- 1.8 **Approved by New Jersey:** Pursuant to Building Code 2018 of New Jersey in IBC Section 1707.1 General,<sup>35</sup> it states: “In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in the administrative provisions of the Uniform Construction Code (N.J.A.C. 5:23)”.<sup>36</sup> Furthermore N.J.A.C 5:23-3.7 states: Municipal approvals of alternative materials, equipment, or methods of construction. **(a) Approvals:** Alternative materials, equipment, or methods of construction shall be approved by the appropriate subcode official provided the proposed design is satisfactory and that the materials, equipment, or methods of construction are suitable for the intended use and are at least the equivalent in quality, strength, effectiveness, fire resistance, durability and safety of those conforming with the requirements of the regulations. 1. A field evaluation label and report or letter issued by a nationally recognized testing laboratory verifying that the specific material, equipment, or method of construction meets the identified standards or has been tested and found to be suitable for the intended use, shall be accepted by the appropriate subcode official as meeting the requirements of (a) above. 2. Reports of engineering findings issued by nationally recognized evaluation service programs, such as, but not limited to, the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI), the International Code Council (ICC), and the National Evaluation Service, Inc., shall be accepted by the appropriate subcode official as meeting the requirements of (a) above. The New Jersey Department of Community Affairs has confirmed that technical evaluation reports, from any accredited entity listed by ANAB, meets the requirements of item 2 given that the listed entities are no longer in existence and/or do not provide “reports of engineering findings”.

<sup>35</sup> [https://up.codes/viewer/new\\_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1](https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1)

<sup>36</sup> <https://www.nj.gov/dca/divisions/codes/codreg/ucc.html>

- 1.9 **Approved by the Code of Federal Regulations Manufactured Home Construction and Safety Standards:** Pursuant to Title 24, Subtitle B, Chapter XX, [Part 3282.14](#)<sup>37</sup> and [Part 3280](#),<sup>38</sup> the Department encourages innovation and the use of new technology in manufactured homes. The design and construction of a manufactured home shall conform with the provisions of Part 3282 and Part 3280 where key approval provisions in mandatory language follow: 1) “All construction methods shall be in conformance with accepted engineering practices”; 2) “The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.”; and 3) “The design stresses of all materials shall conform to accepted engineering practice.”
- 1.10 **Approval by US, Local, and State Jurisdictions in General:** In all other local and state jurisdictions, the adopted building code legislation states in pertinent part that:
- 1.10.1 For new materials that are not specifically provided for in this code, the design strengths and permissible stresses shall be established by tests.<sup>39</sup>
- 1.10.2 For innovative alternative products, materials, designs, services and/or methods of construction, in the absence of approved rules or other approved standards...the building official shall accept duly authenticated reports (i.e., listing and/or research report) from approved agencies with respect to the quality and manner of use of new materials or assemblies.<sup>40</sup> A building official approved agency is deemed to be approved via certification from an accreditation body that is listed by the International Accreditation Forum<sup>41</sup> or equivalent.
- 1.10.3 The design strengths and permissible stresses of any structural material...shall conform to the specifications and methods of design of accepted engineering practice performed by an approved source.<sup>42</sup> An approved source is defined as a PE subject to professional engineering laws, where a research and/or a technical evaluation report certified by a PE, shall be approved.
- 1.11 **Approval by International Jurisdictions:** The USMCA and GATT agreements provide for approval of innovative materials, products, designs, services, assemblies and/or methods of construction through the Technical Barriers to Trade agreements and the International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA), where these agreements:
- 1.11.1 Permit participation of conformity assessment bodies located in the territories of other Members (defined as GATT Countries) under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country,
- 1.11.2 State that conformity assessment procedures (i.e., ISO/IEC 17020, 17025, 17065, etc.) are prepared, adopted, and applied so as to grant access for suppliers of like products originating in the territories of other Members under conditions no less favourable than those accorded to suppliers of like products of national origin or originating in any other country, in a comparable situation.
- 1.11.3 State that conformity assessment procedures are not prepared, adopted, or applied with a view to or with the effect of creating unnecessary obstacles to international trade. This means that conformity assessment procedures shall not be more strict or be applied more strictly than is necessary to give the importing Member adequate confidence that products conform to the applicable technical regulations or standards.

<sup>37</sup> <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14>

<sup>38</sup> <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280>

<sup>39</sup> [IBC 2021, Section 1706 Design Strengths of Materials, 1706.2 New Materials](#). Adopted law pursuant to IBC model code language 1706.2.

<sup>40</sup> [IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General](#). Adopted law pursuant to IBC model code language 1707.1.

<sup>41</sup> Please see the [ANAB directory](#) for building official approved agencies.

<sup>42</sup> [IBC 2021, Section 1706 Design Strengths of Materials, Section 1706.1 Conformance to Standards](#) Adopted law pursuant to IBC model code language 1706.1.



1.11.4 **Approved:** The purpose of the IAF MLA is to ensure mutual recognition of accredited certification and validation/verification statements between signatories to the MLA, and subsequently acceptance of accredited certification and validation/verification statements in many markets based on one accreditation for the timely approval of innovative materials, products, designs, services, assemblies and/or methods of construction. Accreditations granted by IAF MLA signatories are recognised worldwide based on their equivalent accreditation programs, therefore reducing costs and adding value to businesses and consumers.





Issue Date: November 3, 2021  
Subject to Renewal: October 1, 2024

## CBC and CRC Supplement to TER 1212-03

REPORT HOLDER: Rmax®

### 1 Evaluation Subject

- 1.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™

### 2 Purpose and Scope

- 2.1 Purpose
  - 2.1.1 The purpose of this Technical Evaluation Report (TER) supplement is to show Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, recognized in TER 1212-03, has also been evaluated for compliance with the codes listed below.
- 2.2 *Applicable Code Editions*
  - 2.2.1 *CBC—16, 19: California Building Code (Title 24, Part 2)*
  - 2.2.2 *CRC—16, 19: California Residential Code (Title 24, Part 2.5)*
  - 2.2.3 *CEC —16, 19: California Energy Code (Title 24, Part 6)*

### 3 Conclusions

- 3.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, described in TER 1212-03, comply with the CBC and CRC and are subject to the conditions of use described in this supplement.
- 3.2 Where there are variations between the IBC and IRC and the CBC and CRC applicable to this TER, they are listed here:
  - 3.2.1 No variations

### 4 Conditions of Use

- 4.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, described in TER 1212-03, must comply with all of the following conditions:
  - 4.1.1 All applicable sections in TER 1212-03.
  - 4.1.2 The design, installation, and inspections are in accordance with additional requirements of CBC and CRC, as applicable.



Issue Date: November 3, 2021  
Subject to Renewal: October 1, 2024

## FBC Supplement to TER 1212-03

REPORT HOLDER: Rmax®

### 1 Evaluation Subject

- 1.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™

### 2 Purpose and Scope

#### 2.1 Purpose

- 2.1.1 The purpose of this Technical Evaluation Report (TER) supplement is to show Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, recognized in TER 1212-03, has also been evaluated for compliance with the codes listed below as adopted by the Florida Building Commission.

#### 2.2 *Applicable Code Editions*

- 2.2.1 *FBC-B—20, 23: Florida Building Code – Building*
- 2.2.2 *FBC-R—20, 23: Florida Building Code – Residential*

### 3 Conclusions

- 3.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, described in TER 1212-03, comply with the FBC-B and FBC-R and are subject to the conditions of use described in this supplement.
- 3.2 Where there are variations between the IBC and IRC and the FBC-B and FBC-R applicable to this TER, they are listed here:
  - 3.2.1 FBC-B Section 104.4 and Section 110.4 are reserved
  - 3.2.2 FBC-R Section R104 and Section R109 are reserved
  - 3.2.3 FBC-B Section 1404.2 replaces IBC Section 1403.2

### 4 Conditions of Use

- 4.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, described in TER 1212-03, must comply with all of the following conditions:
  - 4.1.1 All applicable sections in TER 1212-03.
  - 4.1.2 The design, installation, and inspections are in accordance with additional requirements of FBC-B Chapter 16 and Chapter 17, as applicable.



Issue Date: April 11, 2022  
Subject to Renewal: October 1, 2024

## NYC Supplement to TER 1212-03

REPORT HOLDER: Rmax®

### 1 Evaluation Subject

- 1.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™

### 2 Purpose and Scope

#### 2.1 Purpose

- 2.1.1 The purpose of this Technical Evaluation Report (TER) supplement is to Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, recognized in TER 1212-03, has also been evaluated for compliance with the codes listed below as adopted by the State of New York.

#### 2.2 Applicable Code Editions

- 2.2.1 BCNYS – 20: Building Code of New York State
- 2.2.2 RCNYS – 20: Residential Code of New York State
- 2.2.3 ECCNYS – 20: Energy Conservation Code of New York State

### 3 Conclusions

- 3.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, described in TER 1212-03, comply with the BCNYS and RCNYS and are subject to the conditions of use described in this supplement.
- 3.2 Where there are variations between the IBC and IRC and the BCNYS and RCNYS applicable to this TER, they are listed here:
  - 3.2.1 BCNYS Section 104.3 replaces IBC Section 104.11
  - 3.2.2 BCNYS Section 105.3 replaces IBC Section 104.4
  - 3.2.3 BCNYS Chapter 1 removed IBC Section 110.3 and Section 110.4
  - 3.2.4 RCNYS Section R104.3 replaces IRC Section R104.11
  - 3.2.5 RCNYS Section R105.3 replaces IRC Section R104.4
  - 3.2.6 RCNYS Chapter 1 removed IRC Section R109.2

### 4 Conditions of Use

- 4.1 Rmax® ECOMAXci® FR Air Barrier and Rmax® EVOMAXci™, described in TER 1212-03, must comply with all of the following conditions:
  - 4.1.1 All applicable sections in TER 1212-03
  - 4.1.2 The design, installation, and inspections are in accordance with additional requirements of BCNYS Chapter 16 and Chapter 17, as applicable.