



**CERTIFICATION**



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## **Technical Evaluation Report**

### **TER 1808-05**

Ox ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD, & ISO RED MAX HD  
Foam Plastic Insulating Sheathing –  
Limit States – Canada

**Ox Engineered Products, LLC**

### **Product:**

**ISO RED Polyiso Foam Insulated  
Sheathing Products**

Issue Date:

November 19, 2018

Revision Date:

April 1, 2020

Subject to Renewal:

April 1, 2021



COMPANY  
INFORMATION:

ADDITIONAL  
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DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION

SECTION: 07 20 00 - Thermal Protection

SECTION: 07 21 00 - Thermal Insulation

SECTION: 07 22 00 - Roof and Deck Insulation

SECTION: 07 25 00 - Water-Resistive Barriers/Weather Barriers

SECTION: 07 27 00 - Air Barriers

## 1 PRODUCTS EVALUATED<sup>1</sup>

### 1.1 ISO RED Polyiso Foam Insulated Sheathing Products

- 1.1.1 ISO RED CI Polyiso Foam Insulated Sheathing
- 1.1.2 ISO RED MAX Polyiso Foam Insulated Sheathing
- 1.1.3 ISO RED MAX WF Polyiso Foam Insulated Sheathing
- 1.1.4 ISO RED MAX GF Polyiso Foam Insulated Sheathing
- 1.1.5 ISO RED MAX LD Polyiso Foam Insulated Sheathing
- 1.1.6 ISO RED MAX HD Polyiso Foam Insulated Sheathing

<sup>1</sup> Building codes require data from valid certification, evaluation, and qualification reports be obtained from accredited third-party organizations. An accredited certifying organization (a type of accredited third-party organization) is a certification body that performs "certification of a product, process, or system." An accredited third-party organization is accomplished via accreditation using ISO/IEC 17065 evaluation procedures meeting code requirements of independence, accredited testing, and professional personnel. DrJ is an ISO/IEC 17065 [ANAB-Accredited Product Certification Body - Accreditation #1131](#).

Through ANAB accreditation, DrJ certification can be used to obtain product approval in any country that is an [IAF MLA Signatory](#), such as Canada, and covered by an [IAF MLA Evaluation per the Purpose of the MLA](#) – "certified once, accepted everywhere." Manufacturers can go to jurisdictions in any IAF MLA Signatory Country and have their products readily approved by *authorities having jurisdiction* using DrJ's ANSI accreditation. For more information about DrJ's accreditation, refer to this [letter](#) from the Standards Council of Canada (SCC).

For more information on any of these topics or our mission, product evaluation policies, product approval process, and engineering law, see [drjcertification.org](http://drjcertification.org).



## 2 APPLICABLE CODES AND STANDARDS<sup>2,3</sup>

### 2.1 Codes

- 2.1.1 *NBC—10, 15: National Building Code of Canada*
- 2.1.2 *NECB—17: National Energy Code of Canada for Buildings*

### 2.2 Standards and Referenced Documents

- 2.2.1 *AAMA 711: Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products*
- 2.2.2 *ASTM C1289: Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*
- 2.2.3 *ASTM C203: Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation*
- 2.2.4 *ASTM C209: Standard Test Methods for Cellulosic Fiber Insulating Board*
- 2.2.5 *ASTM C518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus*
- 2.2.6 *ASTM D2126: Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging*
- 2.2.7 *ASTM E119: Standard Test Methods for Fire Tests of Building Construction and Materials*
- 2.2.8 *ASTM E1354: Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*
- 2.2.9 *ASTM E2178: Standard Test Method for Air Permeance of Building Materials*
- 2.2.10 *ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*
- 2.2.11 *ASTM E331: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*
- 2.2.12 *ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials*
- 2.2.13 *CAN/ULC-S102: Standard Method of Test for Surface Burning Characteristics of building Materials and Assemblies*
- 2.2.14 *CSA O86: Engineering Design in Wood*
- 2.2.15 *CWC: Engineering Guide for Wood Frame Construction*
- 2.2.16 *SBCA ANSI/FS 100: Standard Requirements for Wind Pressure Resistance of Foam Plastic Insulating Sheathing Used in Exterior Wall Covering Assemblies*

## 3 PERFORMANCE EVALUATION

### 3.1 ISO RED CI has been evaluated to determine:

- 3.1.1 Wind-pressure resistance performance for use as part of an exterior wall covering assembly in accordance with *NBC* Division B Subsection 4.1.7 and *ANSI/FS100*
- 3.1.2 Performance in accordance with the foamed plastic requirements of *NBC* Division B Article 3.1.5.15
- 3.1.3 Performance for use as continuous insulating sheathing in accordance with *NBC* Division B Part 5 and Article 9.36.2.5 and 9.36.2.6
- 3.1.4 Performance for use as a water-resistive barrier (WRB) in accordance with *NBC* Division B Note A-5.6.2.1

<sup>2</sup> Unless otherwise noted, all references in this TER are from the 2015 version of the *NBC*. This *alternative solution* is also approved for use with the 2010 *NBC* and the standards referenced therein (e.g., *CAN/CSA*, *CAN/ULC*). Where this TER is not approved, the AHJ shall respond in writing stating the reasons this TER was not approved. For any variations in provincial, territorial, and local codes, see Section 8.

<sup>3</sup> All terms defined in the applicable building codes are italicized.



- 3.1.5 Performance for use as a vapor retarder in accordance with *NBC* Division B Subsection 9.25.4
- 3.1.6 Performance for use as an air barrier in accordance with *NBC* Division B Section 5.4 and Subsection 9.25.3
- 3.1.7 Performance for surface burning characteristics in accordance with *NBC* Division B Subsection 3.1.12 and 9.10.3.2
- 3.1.8 Performance of ISO RED CI for vertical and lateral fire propagation is outside the scope of this TER.
- 3.2 ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD have been evaluated to determine:
  - 3.2.1 Performance in accordance with the foamed plastic requirements of *NBC* Division B Article 3.1.5.15
  - 3.2.2 Performance for use as continuous insulating sheathing in accordance with *NBC* Division B Part 5 and Article 9.36.2.5 and 9.36.2.6
  - 3.2.3 Performance for use as a vapour retarder in accordance with *NBC* Division B Subsection 9.25.4
  - 3.2.4 Performance for use as an air barrier in accordance with *NBC* Division B Section 5.4 and Subsection 9.25.3
  - 3.2.5 Performance for surface burning characteristics in accordance with *NBC* Division B Subsection 3.1.12 and 9.10.3.2
  - 3.2.6 Performance for vertical and lateral fire propagation is outside the scope of this TER
  - 3.2.7 Performance of for wind-pressure resistance and for use as a WRB is outside the scope of this TER.
- 3.3 This TER does not address wind-pressure resistance requirements for ISO RED CI used as part of an Exterior Insulation Finish System (EIFS). Refer to the EIFS manufacturer's installation instructions for building-code compliance.
- 3.4 These products shall comply with the material standards listed in Section 2 and shall be applied to exterior wall construction in accordance with the general requirements of Section 6. ISO RED CI shall also comply with the prescriptive wind-pressure resistance requirements of Section 5.6.
- 3.5 ISO RED CI used in accordance with this TER that is required to resist wind pressure in exterior wall covering assemblies shall also comply with the product marking requirements of Section 10, and the conditions of use listed in Section 8.
- 3.6 Any code compliance issues not specifically addressed in this section are outside the scope of this TER.
- 3.7 Any engineering evaluation conducted for this TER was performed on the dates provided in this TER and within DrJ's professional scope of work.

## 4 PRODUCT DESCRIPTION AND MATERIALS

### 4.1 ISO RED CI

- 4.1.1 ISO RED CI (Figure 1) is a Type 1, Class 1 Dual Faced Rigid Cellular Polyisocyanurate Insulation Board product as defined in *ASTM C1289*.
- 4.1.2 ISO RED CI consists of a proprietary polyisocyanurate rigid board, with facers on both sides. The facers are designed with a base foil layer, with which layers of other material(s) are combined.

### 4.2 ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD, ISO RED MAX HD

- 4.2.1 These products are Type 1, Class 2 Dual Faced Rigid Cellular Polyisocyanurate Insulation Board products as defined in *ASTM C1289*.
- 4.2.2 These products consist of a proprietary polyisocyanurate rigid board, with facers on both sides. The facers are designed with a base foil layer. Facer material thicknesses vary by product.



FIGURE 1. ISO RED CI (LEFT) & ISO RED MAX (RIGHT)

4.3 *Material Availability*

4.3.1 *Thicknesses:*

- 4.3.1.1 ISO RED CI – range from 12.7 mm (0.5") up to 50.8 mm (2.0")
- 4.3.1.2 ISO RED MAX (including WF, GF, LD and HD) – up to 102 mm (4.0")
- 4.3.2 Standard product width: 1219 mm (48")
- 4.3.3 Standard lengths: 2438, 2743 and 3048 mm (96", 108", and 120")

5 APPLICATIONS

- 5.1 ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD are used in buildings constructed in accordance with *NBC* Division B Section 9.23 for wood frame construction.
- 5.2 ISO RED CI is foamed plastic insulation used as wall sheathing in accordance with *NBC* Division B Articles 3.1.5.15 and 9.10.17.10.
- 5.3 ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD are foamed plastic insulation used as wall sheathing in accordance with *NBC* Division B Articles 3.1.5.15 and 9.10.17.10.
- 5.4 ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD must be used with full protection from the interior of the building by an approved thermal barrier in accordance with *NBC* Division B Note A-3.1.4.2.(1)(c), and Sentence 3.1.5.15.(2) and Clause 9.10.17.10(1)(c).
- 5.5 Where the application exceeds the limitations set forth herein, design shall be permitted in accordance with accepted engineering procedures, experience, and technical judgment.
- 5.6 *Transverse Loads*
  - 5.6.1 ISO RED CI may be used to resist wind loads transverse to the face of the wall, as shown in Table 1.
  - 5.6.2 Required component-and-cladding loads to be resisted are found in in *NBC* Division B Subsection 4.1.7 (see Sentence 4.1.7.1.(5)).
  - 5.6.3 As stated in Section 3.2.6, performance of ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD for wind-pressure resistance is outside the scope of this TER.

TABLE 1. SUMMARY OF SPECIFIED PRESSURES FOR ISO RED CI RESISTING TRANSVERSE WIND LOADS

ISO RED CI Nominal Thickness mm (in)	Hourly 1-in-50 Wind Pressure <sup>1</sup> kPa (psf)
25.4 (1)	2.0 (42)
SI: 25.4 mm = 1 in, 1 MPa = 145 psi 1. Hourly Wind Pressure (1-in-50) for selected locations are listed in <i>NBC</i> Division B, Appendix C, Table C-2.	



5.7 Thermal Resistance

- 5.7.1 ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD are used as foamed plastic insulation in wall, roof and ceiling assemblies.
- 5.7.2 These products meet the continuous insulating sheathing requirements complying with the provisions of NBC Division B Part 5 and Articles 9.36.2.5 and 9.36.2.6.
- 5.7.3 These products have the thermal properties shown in Table 2.

TABLE 2. ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD AND ISO RED MAX HD THERMAL RESISTANCE PROPERTIES

Product	Thickness mm (in)	RSI (R) Values <sup>1</sup> m <sup>2</sup> ·°K/W (h <sup>2</sup> ft <sup>2</sup> ·°F/Btu)
ISO RED CI	50.8 (2.0)	2.3 (13.0)
	39.4 (1.55)	1.8 (10.0)
	25.4 (1.0)	1.1 (6.5)
	19.1 (0.75)	0.9 (5.0)
	12.7 (0.5)	0.6 (3.3)
ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD, and ISO RED MAX HD	101.6 (4.0)	4.4 (25.2)
	88.9 (3.5)	3.9 (22.1)
	76.2 (3.0)	3.3 (19.0)
	63.5 (2.5)	2.8 (16.0)
	50.8 (2.0)	2.3 (13.0)
	39.4 (1.55)	1.8 (10.0)
	25.4 (1.0)	1.1 (6.3)
	19.1 (0.75)	0.9 (5.0)
12.7 (0.5)	0.6 (3.2)	

SI: 25.4 mm = 1 in  
 1. Thermal values are determined using the ASTM C518 test method at 23.9°C (75°F) mean temperature on material conditioned according to ASTM C1289 Section 11.1 (Degrees F.ft<sup>2</sup>.h/Btu).

5.8 Air Barrier

- 5.8.1 Wall and ceiling assemblies constructed with ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD are used to meet air-barrier requirements in accordance with NECC Division B Part 3.
- 5.8.2 All penetrations shall be flashed and sealed in accordance with the flashing manufacturer’s installation instructions. Self-adhered flashing tape shall meet AAMA 711 (FortiFlash® Butyl or equivalent).
- 5.8.3 These products are defined as air-barrier materials having an air permeance of less than 0.02 L/s·m<sup>2</sup>, in accordance with NBC Division B Article 5.4.1.2.

5.9 Water-Resistive Barrier

- 5.9.1 ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD are approved as the second plane of protection in accordance with NBC Division B Article 9.27.3.4 when installed with 63-mm (2½") -wide 3M (8087), White 3M Venture 1558 HT, Venture 1520 CW Aluminum Foil Sheathing Tape or equivalent on all sheathing seams. 102 mm (4") wide self-adhered flashing tape meeting AAMA 711 (FortiFlash® Butyl or equivalent) with release liner may be required for effective taping of inside and outside corners. See the manufacturer’s product information for further details.

- 5.9.2 ISO RED CI shall be installed with board joints placed directly over exterior framing spaced a maximum of 610 mm (24") o.c. The fasteners used to attach the board shall be installed in accordance with Section 6.
- 5.9.3 A separate sheathing membrane may also be provided. If a separate sheathing membrane method is used, taping of the sheathing joints is not required.
- 5.9.4 Flashing of penetrations shall comply with the applicable code and must be installed at all sheathing penetrations. Use qualified flashing material such as self-adhered flashing tape meeting AAMA 711 (3M All Weather Flashing Tape 8067 or equivalent). See Figure 2, Figure 3, and Figure 4 for typical penetration flashing details.
- 5.9.5 Flashing Details – Typical Flanged and Unflanged Penetration and Flanged Window

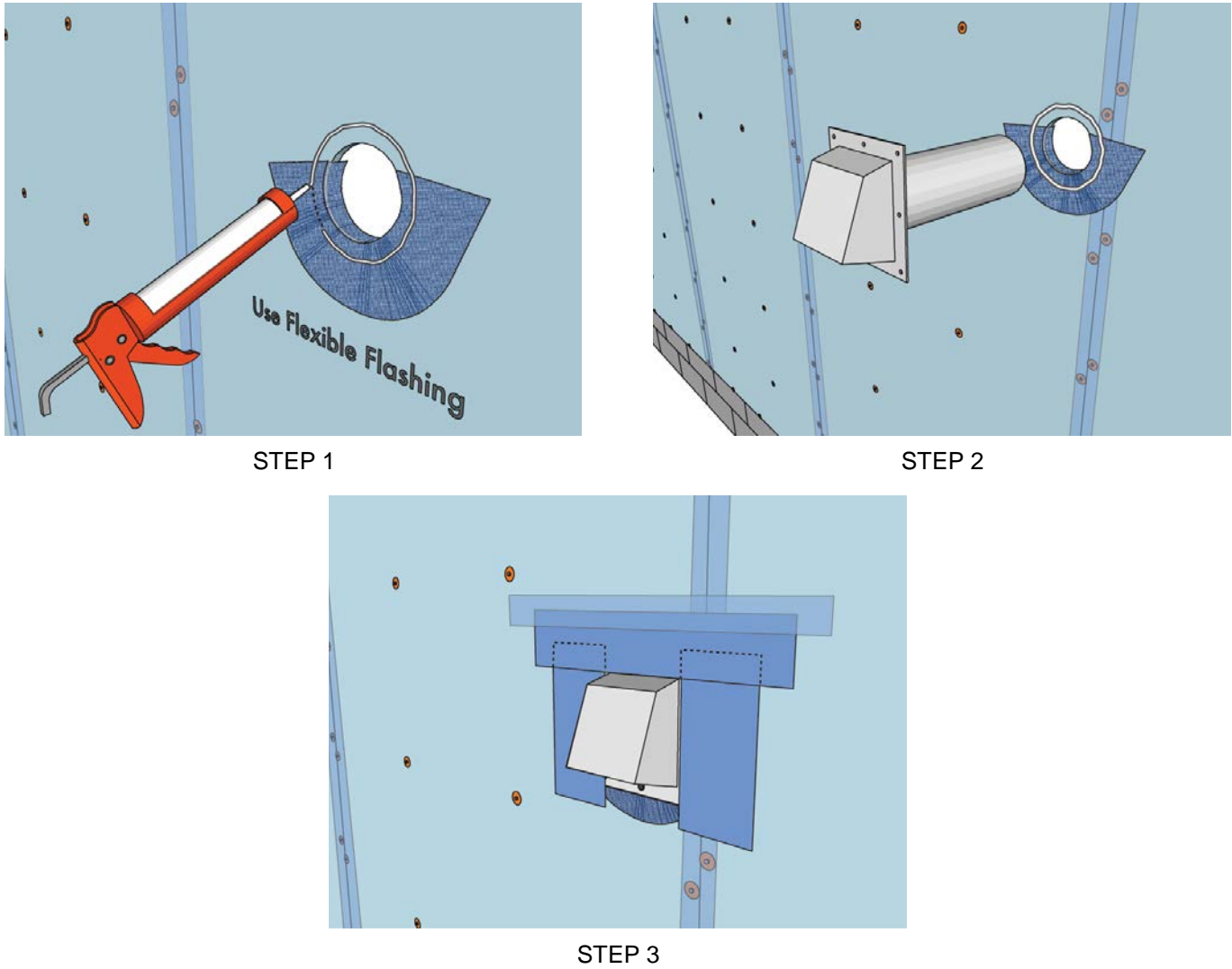


FIGURE 2. TYPICAL PENETRATION FLASHING DETAIL – FLANGED

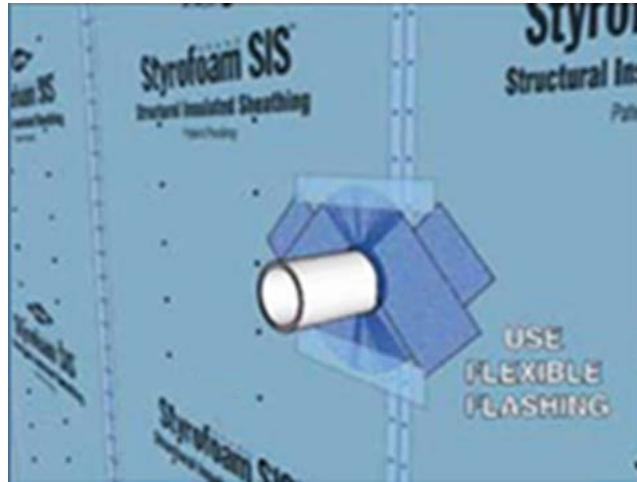
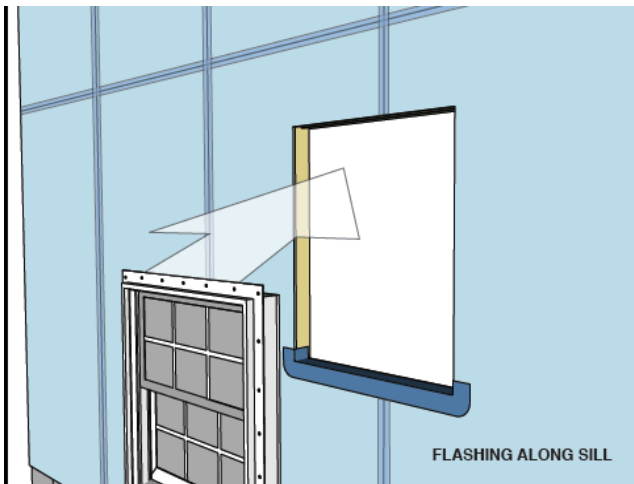
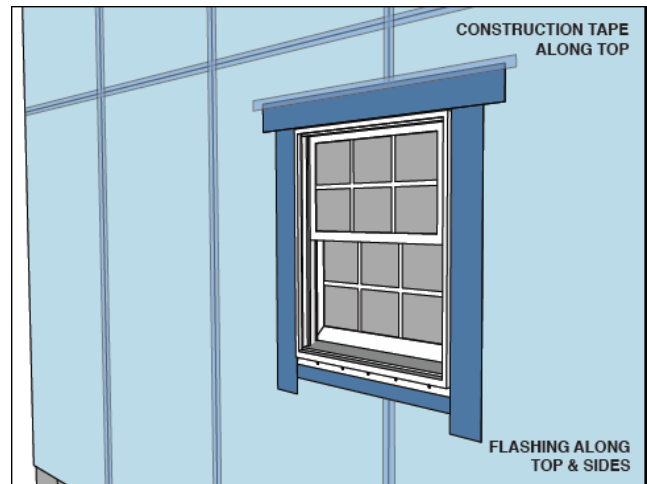


FIGURE 3. TYPICAL PENETRATION FLASHING DETAIL – UNFLANGED



STEP 1



STEP 2

FIGURE 4. TYPICAL WINDOW FLASHING DETAIL

## 5.10 Fire Safety Performance

### 5.10.1 Surface Burn Characteristics:

- 5.10.1.1 ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD, ISO RED MAX HD and ISO RED MAX SRONG-R have the flame-spread ratings as shown in Table 3, when tested in accordance with *CAN/ULC-S102* per *NBC* Division B Subsection 3.1.12 and 9.10.3.2.



TABLE 3. SURFACE BURN CHARACTERISTICS OF ISO RED CI & ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD, AND ISO RED MAX HD

Product	Flame Spread	Smoke Developed
ISO RED CI <sup>1</sup>	60	35
ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD, ISO RED MAX HD and ISO RED MAX STRONG-R <sup>2</sup>	20	125

1. Tested in accordance with CAN/ULC-S102, with maximum foam thickness of 2".  
 2. Tested in accordance with CAN/ULC-S102, with maximum foam thickness of 4".

5.10.2 Thermal Barrier

5.10.2.1 ISO RED CI, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD shall be fully protected from the interior of the building by an approved thermal barrier as required by NBC Division B Article 9.10.17.10.

6 INSTALLATION

6.1 Installation shall comply with the manufacturer’s installation instructions and this TER. In the event of a conflict between the manufacturer’s installation instructions and this TER, the more restrictive shall govern. See The Foam Sheathing Committee (FSC) Best Practices guide for further details.

6.2 Installation Procedure

6.2.1 These products may be cut to size with a utility knife, handsaw, or power saw.

TABLE 4. ATTACHMENT INFORMATION

Application <sup>1</sup>	Stud Spacing <sup>2</sup> mm (in)	Attachment Method	Fastener Spacing
Wood Framing	406 (16) or 610 (24)	Capped nails, capped staples or roofing nails (approximate 25 mm (1") framing embedment)	305 mm (12") Perimeter 305 mm (12") Field
Metal Framing	406 (16) or 610 (24)	Corrosion-resistant self-tapping screws with 25.4 mm (1") diameter cap or washer (approximate 25 mm (1") framing embedment)	305 mm (12") perimeter 305 mm (12") field
Interior Masonry or Concrete	N/A	Suitable construction adhesive or masonry fasteners with 25.4 mm (1") diameter cap or washer, or combination of adhesive & mechanical fasteners (approximate 25 mm (1") embedment into substrate)	Adhesive beads spaced 406 mm (16") horizontally & full-perimeter mechanical fasteners 305 mm (12") perimeter and 305 mm (12") field, spaced 406 mm (16") horizontally
Exterior Masonry or Concrete Below Grade	N/A	Granular water-draining fill	Only as required to ensure intimate contact to masonry surface or water-proofed surface

SI: 25.4 mm = 1 in  
 1. Butt panels tightly and seal all joints, where intrusion of bulk moisture or moisture vapor is undesirable, with sealant and/or approved tape.  
 2. Panels used to resist transverse wind pressure or used as a WRB shall be installed on studs spaced a maximum of 410 mm (16") o.c and all panel edges shall be located on framing or blocking.

6.2.2 Windows and doors shall be installed in accordance with the manufacturer’s installation instructions.

6.2.3 Windows, door openings and other penetrations shall be flashed in accordance with NBC Division B Article 9.7.6.2.

6.2.4 Follow the manufacturer's instructions for installation of claddings and rain screens over these products.



## 7 TEST ENGINEERING SUBSTANTIATING DATA

- 7.1 Evaluation and analysis of testing, data and reporting of thermal properties in accordance with *ASTM C518* performed by LaserComp
- 7.2 Evaluation and analysis of testing, data and reporting of material properties in accordance with *ASTM C1289* by Architectural Testing, Inc., an Intertek company
- 7.3 Evaluation and analysis of testing, data and reporting of fire-resistance testing performed in accordance with *ASTM E119* conducted by Architectural Testing, Inc., an Intertek company
- 7.4 Evaluation and analysis of testing, data and reporting of transverse wind pressure performed in accordance with *ASTM E330* conducted by SBCRI
- 7.5 Evaluation and analysis testing data and reporting of water penetration performed in accordance with *ASTM E331* by Uniform Static Air Pressure Difference, conducted by NTA, Inc
- 7.6 Evaluation and analysis of testing, data and reporting of air permeance in accordance with *ASTM E2178* conducted by Architectural Testing, Inc., an Intertek company
- 7.7 Evaluation and analysis of testing, data and reporting of surface burning characteristics in accordance with *CAN/ULC S102* conducted by Intertek
- 7.8 ISO RED CI Quality Control Manual in accordance with a third-party quality control program with inspections conducted by an approved agency.
- 7.9 Some information contained herein is the result of testing and/or data analysis by other sources which conform to *NBC* Volume I commentary on Conformity Assessment and relevant professional engineering law. DrJ relies on accurate data from these sources to perform engineering analysis. DrJ has reviewed and found the data provided by other professional sources to be credible.
- 7.10 Where appropriate, DrJ's analysis is based on design values that have been codified into law through codes and standards (e.g., *NBC*, *NECB*, *CAN/CSA*). This includes review of code provisions and any related test data that aids in comparative analysis or provides support for equivalency to an intended end-use application. Where the accuracy of design values provided herein is reliant upon the published properties of commodity materials (e.g., lumber, steel, and concrete), DrJ relies upon the grade mark, stamp, and/or design values provided by raw material suppliers to be accurate and conforming to the mechanical properties defined in the relevant material standard.

## 8 FINDINGS

- 8.1 When used and installed in accordance with this TER and the manufacturer's installation instructions, ISO RED CI complies with, or is a suitable alternative to, the applicable sections of the codes listed in Section 2 for the following applications:
  - 8.1.1 Wind-pressure resistance performance for use as part of an exterior wall covering assembly in accordance with in accordance with *NBC* Division B Subsection 9.23.13 and *ANSI/FS100*
  - 8.1.2 Performance in accordance with the foamed plastic requirements *NBC* Division B Article 3.1.5.15
  - 8.1.3 Performance for use as continuous insulating sheathing in accordance with *NBC* Division B Part 5 and Article 9.36.2.5
  - 8.1.4 Performance for use as a WRB in accordance with *NBC* Division B Note A-5.6.2.1
  - 8.1.5 Performance for use as a vapor retarder in accordance with *NBC* Division B Subsection 9.25.4
  - 8.1.6 Performance for use as an air barrier in accordance with *NBC* Division B Section 5.4 and Subsection 9.25.3.
  - 8.1.7 Surface burning characteristics in accordance with *NBC* Division B Subsection 3.1.12 and 9.10.3.2.



- 8.2 When installed in accordance with the manufacturer's installation instructions and this TER, ISO RED MAX, ISO RED MAX WF, ISO RED MAX GF, ISO RED MAX LD and ISO RED MAX HD comply with, or are a suitable alternative to, the applicable sections of the codes listed in Section 2 for the following applications:
  - 8.2.1 Performance in accordance with the foamed plastic requirements of *NBC* Division B Article 3.1.5.15.
  - 8.2.2 Performance for use as continuous insulating sheathing in accordance with *NBC* Division B Part 5 and Article 9.36.2.5.
  - 8.2.3 Performance for use as a vapour retarder in accordance with *NBC* Division B Subsection 9.25.4.
  - 8.2.4 Performance for use as an air barrier in accordance with *NBC* Division B Section 5.4 and Subsection 9.25.3.
  - 8.2.5 Surface burning characteristics in accordance with *NBC* Division B Subsection 3.1.12 and 9.10.3.2.
- 8.3 *NBC* Article 1.2.1.1. states:
  - 1.2.1.1. Compliance with this Code
    - 1) Compliance with this Code shall be achieved by
      - a) complying with the applicable acceptable solutions in Division B (see Note A-1.2.1.1.(1)(a)), or
      - b) using alternative solutions that will achieve at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the applicable acceptable solutions (see Note A-1.2.1.1.(1)(b)).
    - 2) For the purposes of compliance with this Code as required in Clause 1.2.1.1.(1)(b), the objectives and functional statements attributed to the acceptable solutions in Division B shall be the objectives and functional statements referred to in Subsection 1.1.2. of Division B.
- 8.4 *NBC* Division C Section 2.3 includes additional guidance for *alternative solutions*.
- 8.5 This product has been evaluated in the context of the codes listed in Section 2 and is compliant with all known provincial, territorial, and local building codes. Where there are known variations in provincial, territorial, or local codes applicable to this evaluation, they are listed here.
  - 8.5.1 No known variations

## 9 CONDITIONS OF USE

- 9.1 ISO RED CI shall be fully protected from the interior of the building by an approved 15-minute thermal barrier or ignition barrier where required by the applicable code
- 9.2 These products shall not be used as a structural nailing base for claddings.
- 9.3 In areas where termites are known to occur, and foundations are insulated or otherwise finished in a manner that could conceal a termite infestation, in accordance with *NBC* Division B Article 9.3.2.9, a metal or plastic barrier shall be installed through the insulation to control the passage of termites behind or through the insulation.
- 9.4 Walls sheathed with these products must not be used to resist horizontal loads from concrete or masonry walls.
- 9.5 When using these products, the stud walls shall be braced by other materials in accordance with the applicable code.
- 9.6 Where required by the *authority having jurisdiction* in which the project is to be constructed, this TER and the installation instructions shall be submitted at the time of permit application.
- 9.7 Any generally accepted engineering calculations needed to show compliance with this TER shall be submitted to the AHJ for review and approval.
- 9.8 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 *designer* (e.g., *owner*).
- 9.9 At a minimum, this product shall be installed per Section 6 of this TER.



- 9.10 This product is manufactured under a third-party quality control program with quality control inspections established by the governing legislation of the adopting province or territory, as described in *NBC* Volume 1 commentary on Conformity Assessment.
- 9.11 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. Therefore, the TER shall be reviewed for code compliance by the AHJ for acceptance.
- 9.12 The use of this TER is dependent on the manufacturer's in-plant QC, the ISO/IEC 17020 third-party quality assurance program and procedures, proper installation per the manufacturer's instructions, the AHJ's inspection, and any other code requirements that may apply to demonstrate and verify compliance with the applicable building code.

## 10 IDENTIFICATION

- 10.1 The product(s) listed in Section 1.1 are identified by a label on the board or packaging material bearing the manufacturer's name, product name, TER number, and other information to confirm code compliance.
- 10.2 Additional technical information can be found at [oxengineeredproducts.com](http://oxengineeredproducts.com).

## 11 REVIEW SCHEDULE

- 11.1 This TER is subject to periodic review and revision. For the most recent version of this TER, visit [drjcertification.org](http://drjcertification.org).
- 11.2 For information on the current status of this TER, contact [DrJ Certification](#).