



OX Engineered Products
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isoREDMAX[®]
strong-**R**

Structural Insulation

Installation Guide

Our commercial-grade 4-in-1 structural insulated sheathing installs fast, saving you time and money while providing best-in-class energy efficiency, moisture resistance and fire performance.

Made in USA 

4-in-1

Insulation, structural reinforcement, air and moisture barrier in one.

Continuous Insulation

Provides best in class R-value.

Easy to Install

Lightweight design for fast, easy installation.

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Attention:

This installation guide is intended to provide general information for the end user. The following guidelines will help you properly install OX ISO REDMAX Strong-R polyiso sheathing. We encourage you to read these guidelines in order to minimize any risk of safety hazards and to prevent voiding any applicable warranties. This manual is a general installation guide and does not cover every installation situation. Customer is responsible for complying with all applicable laws, regulations, and building codes (collectively, "Laws") of the location where any products (individually, "Product" and collectively, "Products") manufactured by Ox Engineered Products, LLC ("Ox") are actually used, specially including, but not limited to, Laws regarding use and disposal of the Products by Customer. Ox expressly disclaims all liability for the Products other than as expressly provided in the applicable warranty for the Product (the "Product Warranty") which is available from Ox at the address below. OX EXPRESSLY DISCLAIMS ANY OTHER WARRANTY EXPRESSED OR IMPLIED INCLUDING SPECIFICALLY, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. None of the information contained in this brochure shall act as a waiver of any patent, trademark, copyright or other intellectual property right of Ox, nor shall any such information expand any rights or remedies set forth in the applicable Product Warranty. Ox shall not be liable for compliance of the Products with any test results obtained by third parties that may be included in this brochure. Actual results may vary. Not all Products are approved for use in all jurisdictions. The Products are not load bearing. Do not attempt to walk on them. Some Ox Products are amiable. Ox disclaims liability for damages caused by incineration of the Products. By purchasing the Products, Customer irrevocably consents that any dispute

arising between Ox and Customer will be determined under Michigan law without consideration of any of law analysis and that any such dispute shall be brought only in the state or federal courts serving the locality in which Ox's headquarters are then located. By purchasing the Products, Customer expressly consents to the exercise by such courts of personal and subject matter jurisdiction and venue for such purposes.

Ox Engineered Products offices:

22260 Haggerty Road, Suite 365,
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Phone (800)345-8881

Storage:

Maintain packaging protection until using the product. If stored exposed without protective packaging, cover with a waterproof tarpaulin. Do not store directly on the ground unprotected or in standing water. Normal care should be taken to avoid excessive moisture exposure (soaking) to unpackaged product.

Safety Guidelines:

- Follow all OSHA regulations and any other safety guidelines and safety practices.
- Use approved safety belts and/or harnesses or other fall protection equipment

03 | Installation Overview

Overview

The Strong-R System shall be defined to be OX ISO RED MAX Strong-R (ASTM E84 Class A), OX Commercial seam tape, Titan Butyl Flashing, Ox Butyl flashing, or Arctic Flash synthetic flashing tape, and OX ISO RED MAX®. In addition to being subject to the other limitations contained in this warranty, the water and air barrier warranties are expressly contingent upon the use of only Strong-R System component products. The use of any sheathing other than Strong-R Structural Insulation or OX ISO RED MAX or tapes other than OX Commercial seam tape, Titan Butyl Flashing, Ox Butyl flashing or Arctic Flash synthetic flashing tape shall render the air and water barrier warranties entirely inapplicable and/or null and void.

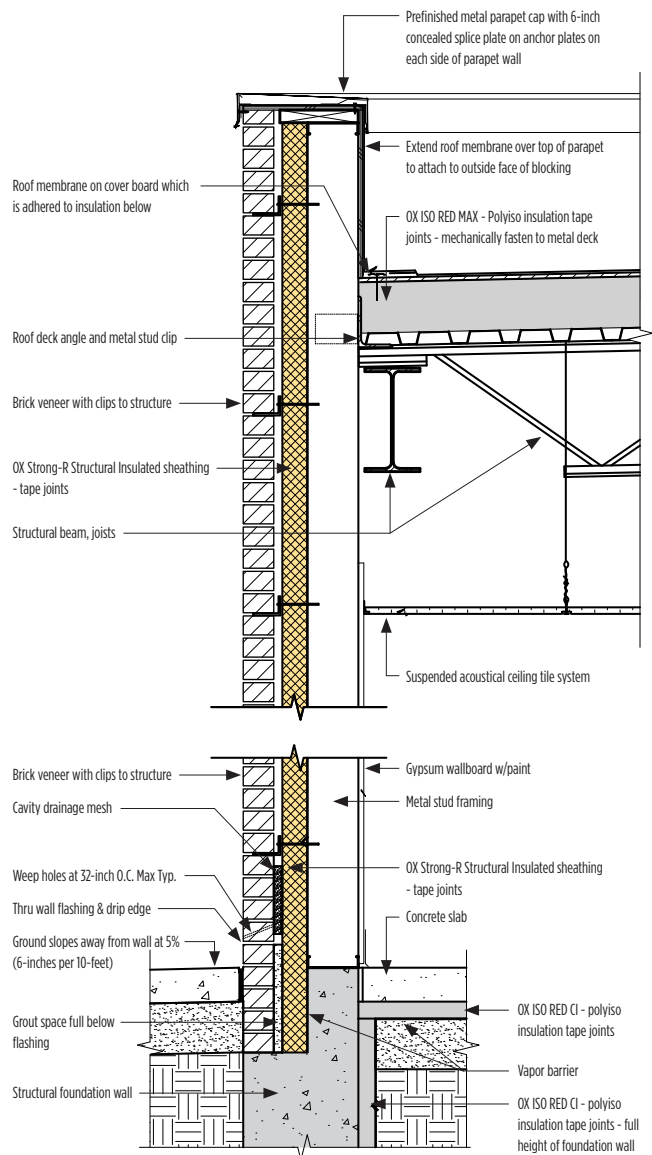
Structural Prep

Install any necessary mechanical strapping directly to framing.

- It is recommended that any metal straps, ties or other connectors designed to resist uplift, shear or diaphragm loading must be installed prior to Strong-R Structural Insulation.
- The requirement for mechanical uplift connections shall be determined by the responsible parties.
- Detail A should not be considered typical and only applies when mechanical uplift connections are required.

TIP: Straps, ties and connectors installed on the exterior face of the stud will not be visible after the Strong-R Structural Insulation panels are installed. Schedule necessary inspections accordingly.

Detail A



04 | Panel Orientation/Fastening

Orient Panels

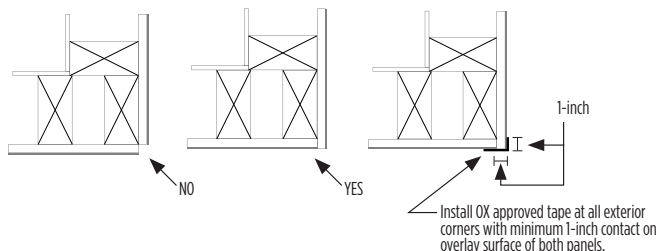
- Install Strong-R Structural Insulation panels with the printed foam side facing out
- The panels may be installed with the long side of the panels oriented either horizontally or vertically to the framing members
- All panel edges/seams must be fastened and backed by framing for structural applications
- Panels should be installed with foam edges touching
- Cut panels with standard circular saw

Orient Panels (combined w/standard foam sheathing)

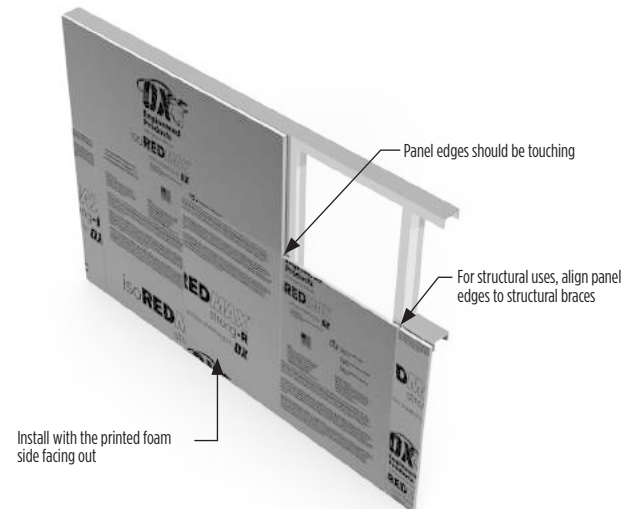
- Use Strong-R Structural Insulation in areas where bracing is required
- Supplement remaining wall with nonstructural foam sheathing such as OX ISO RED MAX Polyiso Foam Sheathing

Fasten Panels

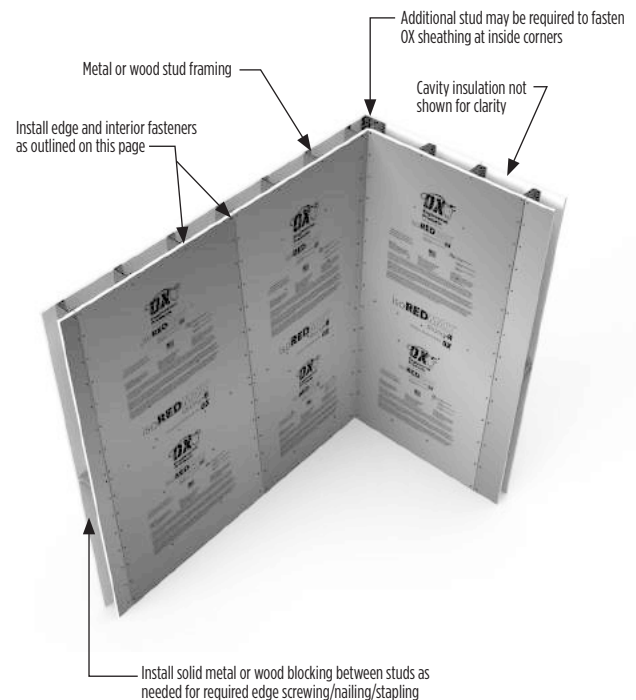
- **Metal studs:**
 - Fasten to metal studs with No. 8-18 x 1-1/2-inch Phillips modified truss head self-drilling screws (or equal) 6-inch at the edges and 12-inch in the field.
 - Reduce fastener spacing for added wall rigidity.
- **Wood studs:** Around perimeter and in the field of the board, fasten 6-inches at the edges and 12-inches in the field. Minimum embedment of 1-inch into framing. Counter sinking into foam is acceptable:
 - 7/16-inch to 1-inch crown
 - 16 gauge staple with 1-inch embedment. **DO NOT** countersink staples. Staples must run parallel with wood grain of framing studs at sheathing seams.
 - 11-gauge nail (roofing nail)
- Due to the self-sealing characteristics of Polysio thermoset foam, fastener penetrations are not required to be covered with seam or flashing tapes. Tape is only required on the panel edge seams and for larger penetrations and rough opening perimeters.



Detail B



Detail C

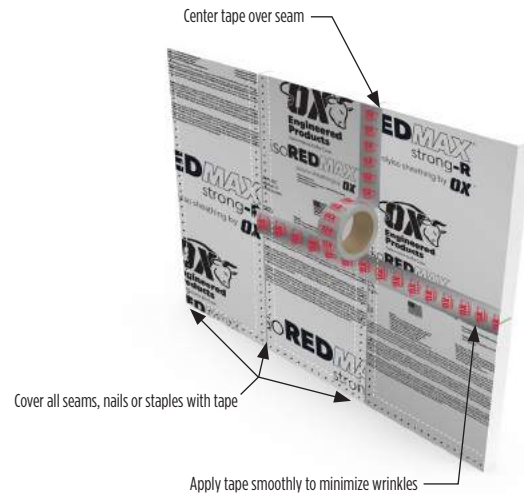


05 | Panel Taping

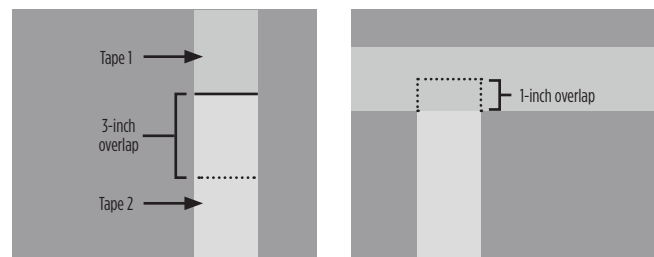
Taping

- Install tape on a clean/dry surface
- Center the tape over the joints/seams
- Apply pressure to the tape to ensure a secure bond. Smooth out any wrinkles to insure proper adhesion.
- When taping joints, use shingle fashion technique as shown in Detail E
- At T-joints, the tape pieces should overlap by at least 1-inch as shown in Detail E
- The warranty requires that interior and exterior corners use Arctic Flash, Titan Butyl Flashing Tape or Ox Butyl Flashing tapes to fully cover the joints/seams as shown in Detail F and Detail G
- Building wrap is not required to meet WRB requirements if all joints are taped
- **Use only OX approved tape:**
 - **Seam tape:** OX Commercial Seam Tape 2 1/2-inch nominal width
 - **Flashing tape:** Arctic Flash Synthetic Flashing Tape, Titan Butyl Flashing Tape or Ox Butyl Flashing Tape
 - 6-inches at all penetrations
 - 4-inches at interior and exterior corners

Detail D



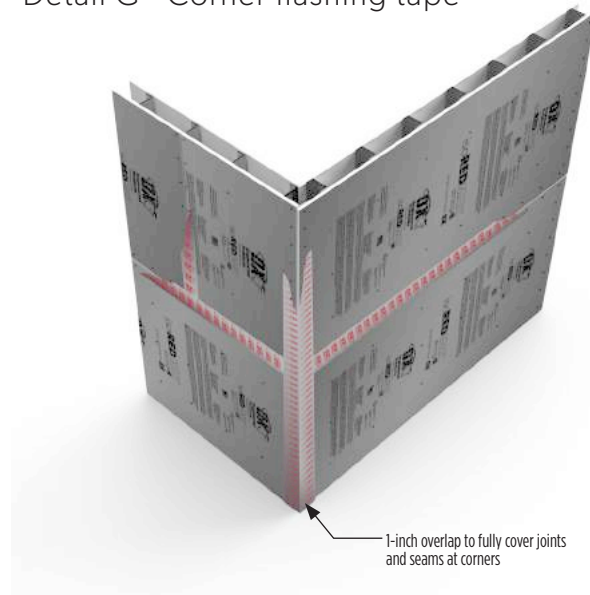
Detail E - Shingle fashion technique



Detail F - Corner flashing tape



Detail G - Corner flashing tape

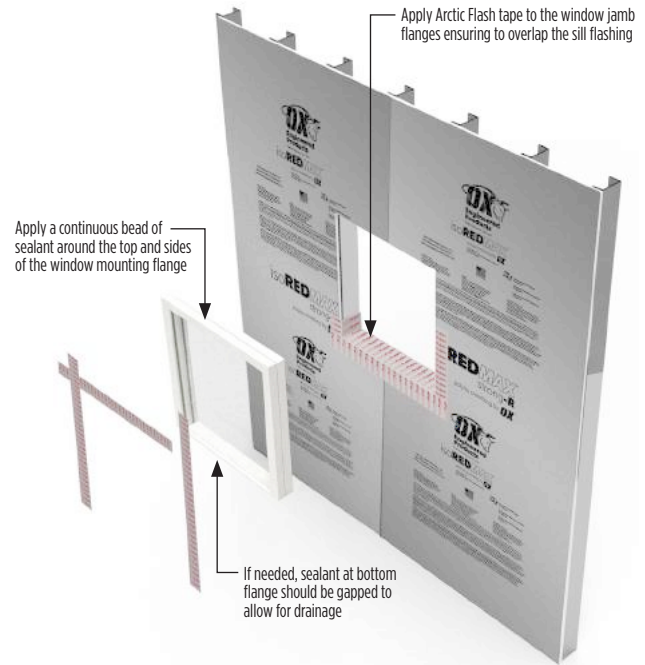


06 | Window Installation

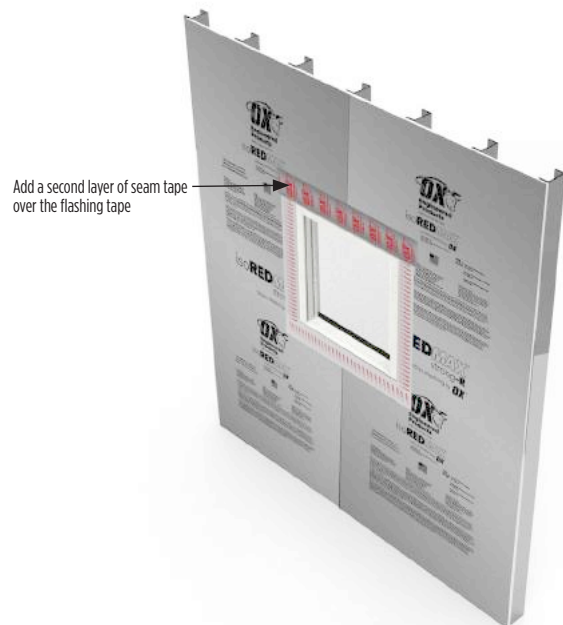
Window Installation

- Install approved OX sill/pan flashing as shown in Detail E on a clean/dry surface
- Apply sealant around inside face of window mounting flange. If needed, gap sealant at the bottom flange to permit drainage. Install and level window per manufacturer's instructions.
- Cut two pieces of approved OX Arctic Flash, Titan Butyl or Ox Butyl flashing tape and apply each to the window jamb flanges. Be sure the jamb flashings overlap the sill flashing.
- Cut a length of approved OX Arctic Flash tape, Titan Butyl or Ox Butyl flashing and apply to the head flange on the window. Be sure the head flashing overlaps the jamb flashing.
- Apply pressure to the tape to ensure a secure bond and smooth out any wrinkles to insure proper adhesion
- From the interior of the rough opening, apply low-pressure polyurethane foam for windows between the rough opening and the window frame.
- **DO NOT TAPE BOTTOM WINDOW FLANGE**

Detail H



Detail I - Completed installation

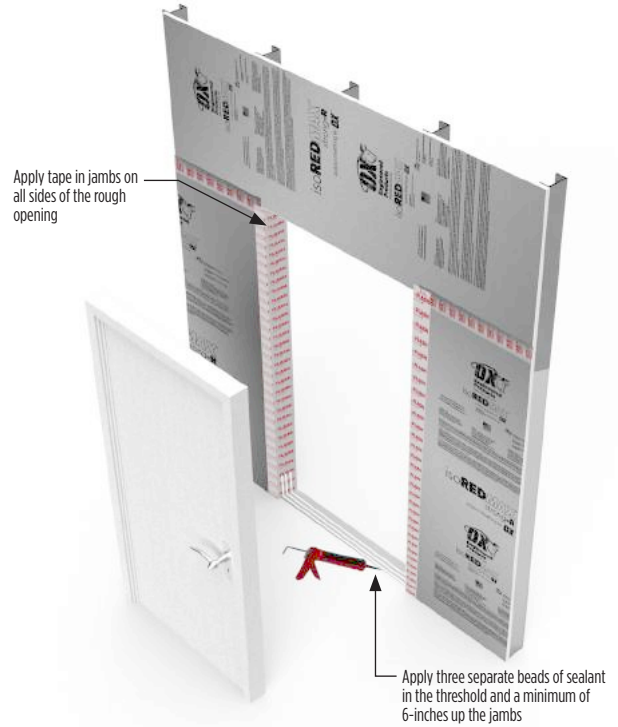


07 | Door Installation

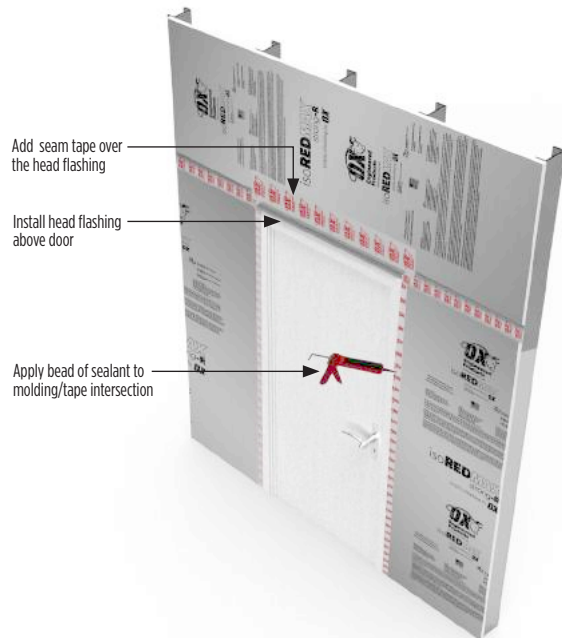
Brick Mould Door Installation

- Install approved OX tape in jambs of the rough opening as shown in Detail I on a clean/dry surface
- Apply three separate beads of sealant in the threshold and a minimum of 6-inches up the jambs
- Once the door has been installed into the rough opening in accordance with the manufacturer's installation instructions, apply a bead of sealant at the molding/tape intersection
- Install head flashing above door and then tape top of head flashing with OX approved tape

Detail J

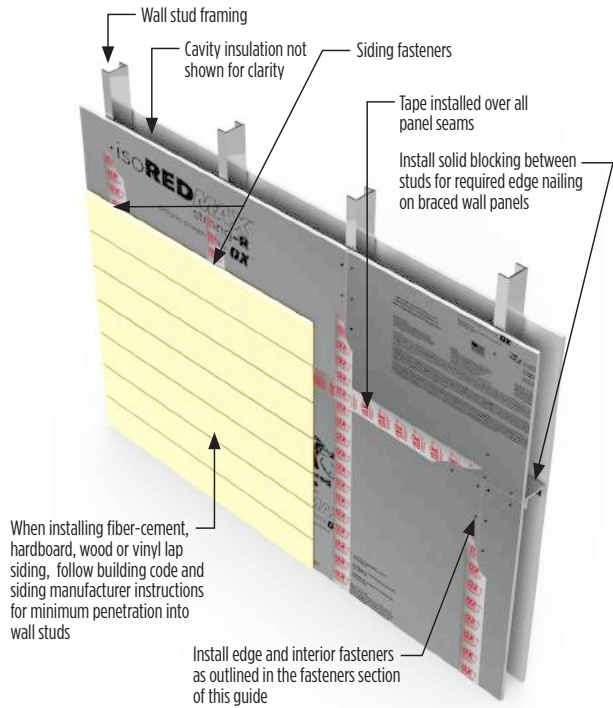


Detail K

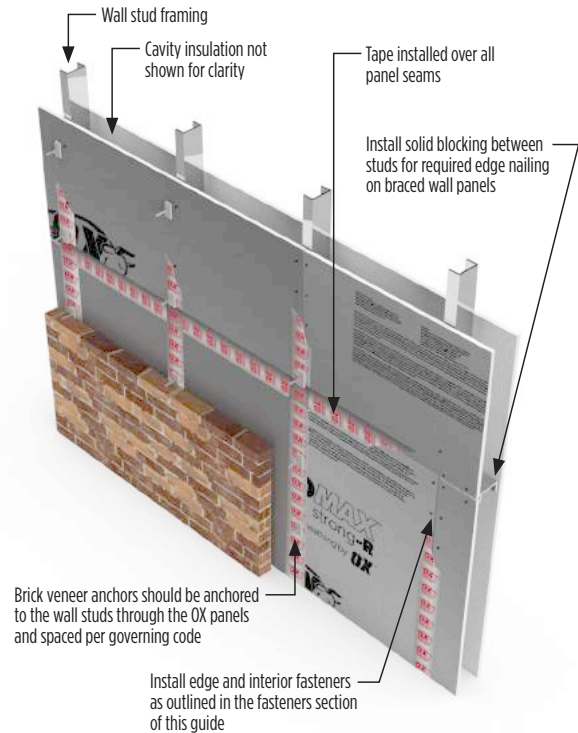


08 | Exterior Cladding Installation

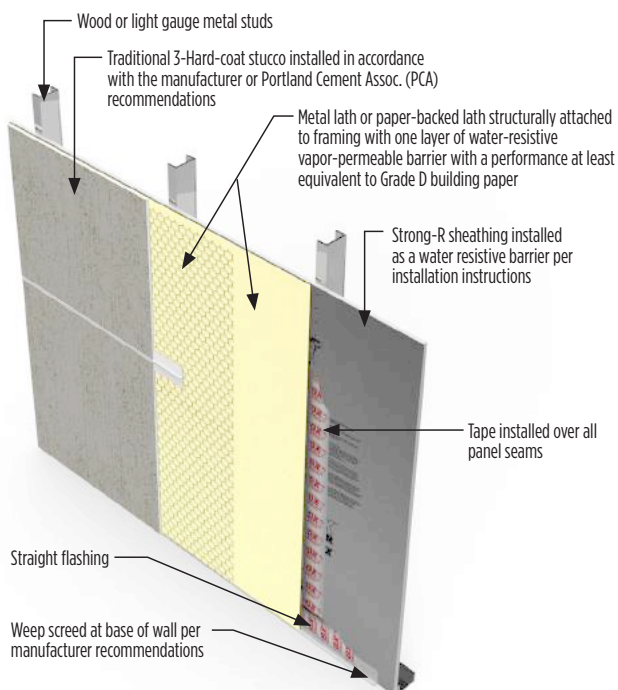
Lap Siding



Anchored Masonry Brick Veneer



Stucco



Disclaimer

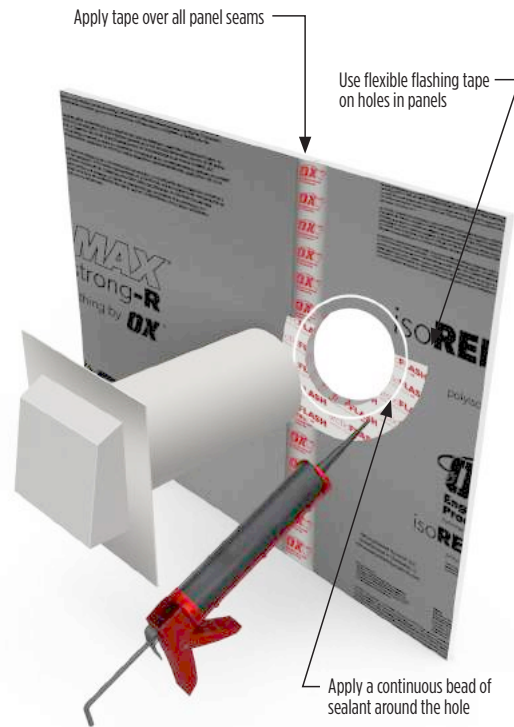
The diagrams in this guide represent a general overview for the proper exterior cladding installation. Please defer to the installation instructions of your cladding manufacturer and local code requirements to ensure best results.

09 | Vents and Openings Installation

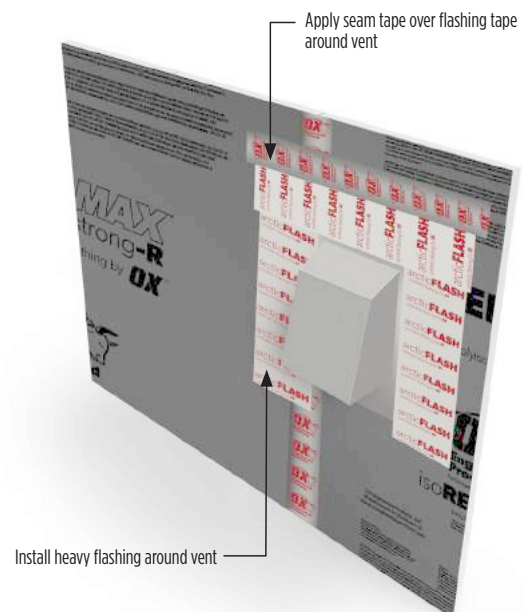
Typical Vent Installation

- Install approved OX tape in holes in Strong-R panels as shown in Detail K on a clean/dry surface
- Use flexible flashing tape on lower side of holes covering the foam panel interior
- Apply a continuous bead of sealant on top of flexible flashing tape
- Install heavy flashing on top and sides of vent and then tape top of heavy flashing with OX approved tape
- All vents and penetrations should be properly blocked per manufacturer recommendations

Detail L



Detail M - Completed installation



OX ENGINEERED PRODUCTS, LLC

Strong-R® Structural Insulation & "Strong-R System" Limited Warranty



This Limited Warranty (the "Limited Warranty") contains the sole warranties Ox Engineered Products, LLC, ("OX"), provides with respect to Strong-R® Structural Insulation product ("Strong-R® Product")¹, and, if applicable, the Strong-R® Structural Insulation System (the "Strong-R® System," as defined below). The Limited Warranty applies only to Strong-R® Product manufactured by OX on or after January 1, 2023.

Who Is Covered: This Limited Warranty is made to the original purchaser of the Strong-R® Product and/or Strong-R® System, if applicable, as well as the original owner of the structure onto which Strong-R® Product and/or the Strong-R® System is installed (the "Structure") (collectively referred to as "Original Purchaser"), and cannot be transferred, sold, or assigned to any other person, including any subsequent owner or claimant.

I. WHAT OX WARRANTS & LENGTH OF COVERAGE

Subject to the terms, limitations, and requirements set forth in this document, OX warrants:

- a. **FOR ALL Strong-R® Product:** for 15 years from the date of purchase, Strong-R® Product will be free from manufacturing defects (the "Manufacturing Warranty").
- b. **FOR ALL Strong-R® Product:** For 30 years from the date of purchase, Strong-R® Product's thermal resistance will not vary by more than ten percent (10%) from the R-value published in the Technical Evaluation Report ("TER") for such insulation component product. The TER may be found at www.oxep.com.
- c. **FOR A STRONG-R® SYSTEM:** If the Structure is sheathed using **exclusively** Strong-R® Product and OX Commercial Seam Tape, OX Butyl Flashing Tape, Ox Butyl Seam Tape and/or Arctic Flash Synthetic Flashing Tape, creating a Strong-R® System,² OX warrants that the Strong-R® System will, for a period of 30 years from the earliest date of purchase of a component product used in the Strong-R® System is installed, perform as (i) a water-resistive barrier (as defined in Section 202 of the 2018 International Building Code (IBC) and Section R202 of the 2018 International Residential Code (IRC), and (ii) an air barrier (as defined in Section R202 and N1101.6 of the 2018 IRC) (the "Strong-R® System Warranty"). Other than as expressly set forth in this document, OX Strong-R® Product and Strong-R® System components are sold "as is."

EXCEPT AS PROVIDED HEREIN, OX MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

II. WHAT OX WILL DO – SOLE & EXCLUSIVE REMEDY

The remedy for the limited warranties set forth above is that: if the Strong-R® Product or Strong-R® System components have not been installed, OX will replace the affected product. If the Strong-R® Product or Strong-R® System have been installed, OX will pay to Original Purchaser the reasonable cost of labor and materials to repair and replace the actual area of wall damage caused by the non-conforming Strong-R® Product or, if applicable, the Strong-R® System. No other costs will be reimbursed, including but not limited to alleged damage to interior spaces or items (including but not limited to any furniture or personal property). Notwithstanding the foregoing, in no event will OX's maximum liability exceed the lesser of (i) \$10 per square foot of damaged exterior wall area; or (ii) \$250,000.

This is the Original Purchaser's sole and exclusive remedy for any non-conformance of or alleged defect in Strong-R® Product and/or Strong-R® System, and for any damage caused by Strong-R® Product and/or Strong-R® System.

III. LIMITATION OF LIABILITY

THE PARTIES ACKNOWLEDGE AND AGREE THAT THE LIMITATION OF LIABILITY SET FORTH IN THIS SECTION III SURVIVES BETWEEN OX AND ORIGINAL PURCHASER EVEN IF THE SOLE AND EXCLUSIVE REMEDY SET FORTH HEREIN IS DEEMED TO FALL OF ITS ESSENTIAL PURPOSE. IN ADDITION TO THE DAMAGES CAP SET FORTH IN THE PRECEDING SECTION, IN NO EVENT WILL OX BE LIABLE FOR (i) ANY INDIRECT, SPECIAL, EXEMPLARY, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS OR REVENUE, ECONOMIC LOSS, LOSS OF USE, OR PROPERTY DAMAGE, EVEN IF INFORMED OF SUCH DAMAGES; OR (ii) ANY THIRD PARTY CLAIMS RELATED TO STRONG-R® PRODUCT OR STRONG-R® SYSTEM. THIS LIMITATION APPLIES REGARDLESS OF WHETHER ANY CLAIM OR CAUSE OF ACTION IS BASED IN CONTRACT, TORT, STRICT LIABILITY, WARRANTY, OR ANY OTHER LEGAL OR EQUITABLE THEORY.

IV. WHAT IS NOT COVERED: EXCLUSIONS

The Limited Warranty does not cover and/or provide a remedy for (and occurrence of any of the following will void all warranty coverage)

- a. failure to strictly follow OX's published installation instructions at the time of purchase, and/or failure to install in accordance with building codes and customary building standards. Information concerning OX's specific requirements may be found on the OX website at www.oxep.com. Information regarding applicable building codes and standards in your area may be obtained from your local building inspector;
- b. failure to use Strong-R® Product and/or the Strong-R® System components in strict accordance with all applicable OX specifications, recommendations, and guidelines in effect at the time of purchase. These may be found on the OX website at www.oxep.com;

1. "Strong-R® Product" is defined as Strong-R Structural Insulation (Fire Rating Class A)

2. The "Strong-R® System" includes the following components: Exclusively Strong-R® product installed with OX Seam Tape, Ox Butyl Seam Tape, OX Butyl Flashing Tape, and/or Arctic Flash Synthetic Flashing Tape

- c. failure to maintain the envelope of the Structure in which Strong-R® Product and/or Strong-R® System is installed to prevent infiltration of water;
- d. Strong-R® Product and/or Strong-R® System components exposed to the elements prior to installation for any length of time without protective packaging or not completely covered with a waterproof tarpaulin;
- e. Strong-R® Product and/or Strong-R® System components left on the ground rather than being raised off the ground on pallets or similar structures to prevent saturation from water from any source prior to installation;
- f. failure to protect Strong-R® Product and/or Strong-R® System components from excessive moisture;
- g. Strong-R® Product and/or Strong-R® System components left unprotected from UV exposure (without regard to cloud cover) for more than 90 days;
- h. Strong-R® Product punctured by nail holes not backed by framing or blocking;
- i. Strong-R® Product and/or Strong-R® System components used as siding or cladding, whether for exterior or interior applications. Strong-R® Product should always be covered by appropriate siding or cladding within recommended installed exposure duration limits;
- j. Strong-R® Product and/or Strong-R® System components installed in direct contact with the ground or used in any application which allows for the accumulation of condensation or other free water; and/or
- k. Strong-R® Product and/or Strong-R® System components exposed to a repetitive wetting condition at any time, other than normal exposure to weather during ordinary construction delays.

OX shall also not be liable for any damage caused by:

- a. Use of Strong-R® Product and/or Strong-R® System components for any purpose other than its intended use (side-wall applications), including but not limited to use in roof applications or as floor protection;
- b. Misuse, abuse, misapplication, improper storage, transportation, maintenance and handling in violation of OX recommendations or requirements; Structural failure or distortion caused by failure or distortion in the walls or foundation of the Structure onto which
- c. Strong-R® Product or Strong-R® System components are installed, including but not limited to settling of the building or movement of framing components;
- d. The removal, re-use, or alteration of Strong-R® Product and/or Strong-R® System components, or post-installation alterations to the Structure onto which Strong-R® Product and/or Strong-R® System components are installed;
- e. Physical forces beyond OX's control, including natural disasters, weather events, Acts of God, war, terrorism, civil unrest, or other similar causes;
- f. Termites or any other product-destroying organism;
- g. The negligence, gross negligence, or willful misconduct of Original Purchaser or any third party;
- h. Defective design and/or installation; and/or
- i. Inadequate design, detailing, or construction of the Structure onto which Strong-R® Product and/or Strong-R® System components are installed.

V. HOW TO MAKE A CLAIM

Compliance with the requirements set forth below is a condition precedent of OX's obligations under this Limited Warranty. The failure to comply with one or more of the requirements below shall void any rights Original Purchaser may have against OX

An Original Purchaser seeking coverage under this Limited Warranty must notify OX in writing via email to warrantyclaims@oxep.com within thirty (30) days of discovery of the issue with the Strong-R® Product or, if applicable, Strong-R® System. The notification must include (i) the identification of the Strong-R® Product(s) or Strong-R® System component(s) at issue; (ii) a description of the alleged condition; (iii) photographs of the alleged condition; and (iv) documentation of proof of purchase of the component(s) at issue, including the date of such purchase.

Following notification, OX must be provided a reasonable opportunity to inspect the warranted product(s) prior to any alteration, change, or repair, and reasonable time to evaluate the product(s).

VI. MISCELLANEOUS PROVISIONS

OX Contact & Location. OX can be contacted by mail at its offices currently located at 22260 Haggerty Road, Suite 365, Northville, Michigan 48167, and for warranty claims at the email address warrantyclaims@oxep.com.

Choice of Law & Jurisdiction. All matters covered by this Limited Warranty shall be governed by, and construed in accordance with, the laws of the State of Michigan, without regard to conflicts of law analysis. Original Purchaser agrees that jurisdiction and venue with regard to any suit brought which is related in any way to the Strong-R® Product or Strong-R® System, if applicable, shall reside solely in the state and federal courts serving the county in which OX's headquarters are then located. Accordingly, Original Purchaser consents to the exercise of personal and subject matter jurisdiction and venue over himself and his agents and employees by such courts for said purposes. To the extent that any portion of this provision may be deemed unenforceable by a court, Original Purchaser intends that this provision shall be construed as broadly as possible to limit the adjudication of disputes arising from his purchase and use of the products to the courts serving the locality in which OX's headquarters are then located.

Waiver of Right to Jury Trial. Original Purchaser hereby waives any right to trial by jury.

Entire Agreement. This Limited Warranty contains the complete and exclusive agreement between the Original Purchaser and OX, and supersedes any and all prior agreements or representations, oral or written, made by or between them, and may be altered only in a writing signed by both parties.

Enforceability & Severability. All of the clauses of this Limited Warranty are distinct and severable, and if any clause shall be deemed illegal, void, or otherwise unenforceable, it shall not affect the validity, legality, or enforceability of any other clause or portion of this Warranty. References to "or" shall be interpreted and deemed to be disjunctive but not exclusive (i.e., "or" shall be interpreted to mean "and/or" rather than "either/or").