

<p style="text-align: center;">DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Housing - Federal Housing Commissioner</p> <p>TO: DIRECTORS, SINGLE FAMILY HOCs DIRECTORS, MULTIFAMILY HUBs</p>	<p>Series and Series Number: MATERIALS RELEASE NO: 286n (Supersedes issue dated January 18, 2017)</p>
	<p>ISSUE DATE March 17, 2023</p>
	<p>REVIEW DATE March 17, 2026</p>
<p>SUBJECT: 1. Product Thermo-Ply® Red Structural Sheathing</p> <p>2. Name and address of Manufacturer Ox Engineered Products, LLC 700 Centreville Road Constantine, MI 49042</p>	

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Wall sheathing

DESCRIPTION:

Thermo-Ply® Red Structural Sheathing is composed of pressure-laminated plies consisting of high strength cellulosic fibers. These fibers are specially treated to be water resistant and are bonded with a proprietary water-resistive adhesive. A protective polymer layer is applied on both sides of the panel, and foil facings may be additionally applied on one or both faces.

Thermo-Ply® Red Structural Sheathing panels have a nominal thickness of 0.113" and nominal weight of 0.414 lbs. per square foot.

REQUIREMENTS:

The Thermo-Ply® Red Structural Sheathing shall be in compliance with the requirements below.

APPLICABLE CODES AND STANDARDS

Codes

IBC—12, 15, 18: International Building Code®
IRC—12, 15, 18: International Residential Code®
IECC—12, 15, 18: International Energy Conservation Code®
FBC-B—17, 20: Florida Building Code – Building (FL 16391)
FBC-R—17, 20: Florida Building Code – Residential (FL 16391)
CBC—16, 19: California Building Code
CRC—16, 19: California Residential Code

Standards and Referenced Documents

ANSI/AWC SDPWS:	Special Design Provisions for Wind and Seismic
ASCE/SEI 7:	Minimum Design Loads and Associated Criteria for Buildings and Other Structures
ASTM E2126:	Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings
ASTM E283:	Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E330:	Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E331:	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E564:	Standard Practice for Static Load Test for Shear Resistance of Framed Walls for Buildings
ASTM E72:	Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
ASTM E84:	Standard Test Method for Surface Burning Characteristics of Building Materials

UL 723:

Test for Surface Burning Characteristics of Building Materials

Table 2 Allowable Shear Resistance

Product Name	Thickness min. inches	Allowable shear resistance, plf ^{1,2}	Stud Spacing	Minimum Fasteners ³	Fastener Spacing ⁴
Thermo-Ply Red	0.113	DrJ TER#1004-01	16" o.c./ 24" o.c.	11 ga 1-1/4" roofing nail Minimum 3/8" head or 16 gauge 15/16" crown staples with 1-1/4" legs. 1" minimum penetration into the stud.	3" o.c. edge 3" o.c. at intermediate supports.

1. Shear resistance allowances. Refer to DrJ TER #1004-01, Sections 5.2.11 – 5.2.11.5 including Tables 3, 4 5, and 6.
2. Lapped joints must be overlapped by 3/4" minimum and fastened with a single row of fasteners. Butt joints must be placed over framing members and fastened with a single row of fasteners at each panel edge.
3. All fasteners shall be galvanized.
4. Fasteners edge distance shall be a minimum of 3/8". Crowns shall be installed parallel with framing members.

INSTALLATION:

1. Panels shall be installed according to the manufacturer's instructions. Refer to Section 6 of DrJ TER #1004-01.
2. Panels may be installed in either the vertical or horizontal orientation.
3. All nails and staples shall be driven flush with the surface. Nail heads and staple crowns shall not cut the surface of the panel. Staple crowns shall be parallel to the long dimension of the supporting members.
4. Joints shall be butted or lapped, and shall occur over studs, plates, or solid blocking. Cut or trim with saw, knife, or router.
5. Thermo-Ply® Red Structural Sheathing shall not be used as a nail base. Nail siding to the studs or to furring strips and studs.
6. Panels may be used in fire rated exterior wall assemblies provided that they comply with the fire protection requirements of the local building code. Refer to DrJ TER #1510-04 for approved fire-rated assemblies.
7. Minimum fastening for panels in nonstructural applications, shall be 11 gauge by 1-1/4" long galvanized roofing nails Minimum 3/8 head or 16 gauge staples with a 1.0" minimum crown length and a 1-1/4" long leg, placed 6" o.c. at the panel edges and 12" o.c. at the intermediate supports. Corner bracing shall be provided with nonstructural applications of wall sheathing for stud spacing up to 24" o.c. maximum.

CERTIFICATION:

Ox Engineered Products, LLC certifies that Thermo-Ply® Red Structural Sheathing panels are produced in conformance to this Materials Release (MR), is in compliance with a validation program at PFS-TECO, Inc., and in accordance with the Code of Federal Regulations, 24 CFR 200.935. PFS-TECO, Inc. shall inspect the manufacturer's facility every year to assure that the initially accepted quality control procedures are being followed. Sufficient samples of this product shall be selected and tested each year to validate the manufacturer's conformance to the requirements of this MR. Each piece of sheathing certified as conforming to this MR shall be labeled with the following information:

1. Manufacturer's name and/or trademark
2. Plant identification
3. Product designation
4. Evaluation report numbers (HUD MR 286n)
5. Quality Control/Control Validation Agency name and/or trademark

MANUFACTURING LOCATIONS:

The product covered under this MR will be produced at the following plants:

Ox Engineered Products, LLC
700 Centreville Road
Constantine, MI 49042
Turner Slaughter
Quality Assurance Manger
269-435-2425

WARRANTY:

Ox Engineered Products, LLC warrants Thermo-Ply® Red Structural Sheathing for 30 years, under normal use, against defects or poor performance. Should any defect or poor performance occur, Ox Engineered Products, LLC will make a pro rata allowance for the replacement of the defective product.

This warranty does not relieve the builder, in any way, of responsibility under the Builder's Warranty required by the National Housing Act or under any provisions applicable to any other housing program.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.

3. When requested, provide the Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties, in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership, or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for a renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing and Urban Development
Office of Manufactured Housing Programs
451 7th Street, SW, Room 9170
Washington, DC 20410-8000

Appropriate User Fee(s) for the TSP program can be submitted through the Pay.gov website at <https://pay.gov/public/form/start/73881741>

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

This Materials Release is issued solely for the captioned firm and is not transferable to any person or successor entity.
