



ICC-ES Evaluation Report ESR-1821

Reissued August 2023

Revised November 2023

This report is subject to renewal August 2024.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 24 00—Exterior Insulation and Finish Systems
Section: 07 24 19—Water-Drainage Exterior Insulation and Finish System

REPORT HOLDER:

TREMCO CPG, INC.

EVALUATION SUBJECT:

DRYVIT OUTSULATION® MD SYSTEM® EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

PROPERTY	IBC CHAPTER	IRC CHAPTER
Exterior insulation and finish systems (EIFS)	14	R7
Weather resistance	14	R7
Fire-resistance-rated construction	7	R3
Special inspections	17	NA
Structural – transverse wind load resistance	16	R6
Types I-IV (noncombustible) construction	26	NA
Surface burning characteristics	26	R3
Ignition resistance	26	NA

2.0 USES

The Dryvit Outsulation® MD System is an adhesively attached exterior insulation and finish system (EIFS) complying with 2021 and 2018 IBC Section 1407 (2015,

2012 and 2009 IBC Section 1408) and IRC Section R703.9. The system complies as an EIFS with drainage in accordance with 2021 and 2018 IBC Section 1407.4.1 (2015, 2012 and 2009 IBC Section 1408.4.1) and IRC Section R703.9.

The system may be used in fire-resistance-rated Type V construction when installed in accordance with Section 4.6 of this report, and in Types I, II, III and IV construction when installed in accordance with Section 4.5 of this report.

3.0 DESCRIPTION

3.1 System Components:

See Table 1. The system consists of water-resistive barrier coatings, adhesive, expanded polystyrene (EPS) insulation board with vertical grooves for drainage, basecoat, reinforcing mesh and finish.

3.2 Insulation Board:

Insulation boards must be one of the following:

- a. EPS insulation board complying with ASTM C578, Type I, and ASTM E2430, produced by a molder with a current ICC-ES evaluation report. The board must be labeled in accordance with the applicable report.
- b. EPS insulation board complying with ASTM C578, Type I, and ASTM E2430, produced by a molder who participates in an approved third-party quality assurance program. The board must be labeled in accordance with the applicable code.
- c. ThermalStar EIFS by Atlas Molded Products, A Division of Atlas Roofing Corporation, as described in ICC-ES evaluation report [ESR-1962](#).

EPS insulation board must have a flame-spread index of 25 or less and a smoke developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.

3.3 Substrates:

Substrates must be one of the following:

- Gypsum sheathing board complying with ASTM C1396 or ASTM C1177. When used as part of a fire-resistance-rated assembly, the gypsum wallboard must be Type X with a minimum thickness of 5/8 inch (15.9 mm).
- Brick or concrete masonry complying with the code
- Concrete complying with the code
- Exterior plaster complying with the code

- Exposure 1 wood structural panels complying with DOC PS-1 or PS-2

3.4 Sealants:

Sealants must comply with ASTM C920, Type S or M, minimum Grade NS, minimum Class 25 and Use O.

4.0 DESIGN AND INSTALLATION

4.1 General:

The Dryvit Outsulation® MD System must be installed in accordance with 2021 and 2018 IBC Section 1407 (2015, 2012 and 2009 IBC Section 1408), IRC Section R703.9 and the manufacturer's application instructions, specifications and installation details. These are available at:

<http://www.dryvit.com/filesshare/doc/us/application/ds169.pdf>

<http://www.dryvit.com/filesshare/doc/us/specification/ds168.pdf>

<http://cms.dryvit.com/media/304119/outsulation-md-ds167-all-in-one-pdf.pdf>

4.2 Drainage:

Drainage is provided by vertically grooved EPS insulation boards, with 1/4-inch-deep-by-1-inch-wide (6.4 mm by 25.4 mm) grooves spaced 12 inches (305 mm) on center.

4.3 Wind Design:

Table 2 lists specific assemblies for which test data has been submitted. Other assemblies may be considered for approval by local code officials based on testing and/or the calculations of a qualified design professional.

4.4 Weather Protection:

The Dryvit Outsulation® MD system complies with 2021 and 2018 IBC Section 1402.2 (2015, 2012 and 2009 IBC Section 1403.2) and IRC Section R703.1.1.

4.5 Types I, II, III and IV Construction:

Table 3 lists assemblies using the Dryvit Outsulation® MD system that is qualified for use in Types I through IV construction.

4.6 Fire-resistance-rated Construction Assemblies:

Table 4 lists assemblies using the Dryvit Outsulation® MD system that are qualified for use in nonload-bearing fire-resistance-rated construction. In Type V construction, the Dryvit Outsulation® MD system may be attached to the surface of combustible exterior fire-resistance-rated assemblies described in 2021, 2018, 2015 and 2012 IBC Table 721.1(2) (2009 IBC Table 720.1(2)) without changing the assigned hourly rating of the assembly. The exterior wall must have a minimum 10-foot (3048 mm) separation distance from adjacent construction.

4.7 Special Inspection:

For recognition under the IBC, special inspection of the Dryvit Backstop NT-Texture, Dryvit Backstop NT-Smooth, Dryvit Backstop NTX-Texture or Dryvit Backstop NTX-Smooth water-resistive barrier coatings must be conducted in accordance with 2021, 2018 and 2015 IBC Sections 1704.2 and 1705.16.1 [2012 IBC Sections 1704.2 and 1705.15.1 (2009 IBC Sections 1704.1 and 1704.14.1)]. See the Dryvit Third Party Inspection Guidelines for Owners and General Contractors/Construction Managers:

<http://www.dryvit.com/filesshare/doc/us/description/ds150.pdf>.

5.0 CONDITIONS OF USE

The Dryvit Outsulation® MD System described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with this report, the manufacturer's published application instructions, installation details and the applicable code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.

5.2 The insulation board must be separated from the building interior by a thermal barrier complying with the applicable code.

5.3 Installation must be by applicators listed by Tremco CPG, Inc.

5.4 Termination of the system must not be less than 6 inches (152 mm) above finished grade, in accordance with 2021, 2018, 2015 and 2009 IBC Section 2603.8 (2012 IBC Section 2603.9) and IRC Section R318.4 and 2018 and 2015 IRC Section R703.9.2 (2012 and 2009 IRC Section R703.9.4.1).

6.0 EVIDENCE SUBMITTED

6.1 Reports of tests in accordance with ASTM E2568 and ASTM E2570.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235), dated January 2015 (editorially revised July 2020).

6.3 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Coatings Used as Water-resistive Barriers over Exterior Sheathing (AC212), dated February 2015 (editorially revised July 2020).

6.4 Reports of tests in accordance with NFPA 285 and NFPA 268.

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-1821) along with the name, registered trademark, or registered logo of the report holder (Tremco CPG, Inc.) must be included in the product label.

7.2 In addition, each container or package of the coating or reinforcing mesh used as part of the Dryvit Outsulation® MD System must be labeled with the Tremco CPG, Inc., name and address; the product name; lot or batch number; amount of material; storage instructions; pot life and expiration date.

EPS insulation boards must be labeled with the manufacturer's name; manufacturing address or plant identification; and the current ICC-ES evaluation report number.

7.3 The report holder's contact information is the following:

TREMCO CPG, INC.
3735 GREEN ROAD
BEACHWOOD, OHIO 44122
(800) 556-7752
www.dryvit.com

TABLE 1—COATING SYSTEM COMPONENTS¹

SYSTEM	WATER-RESISTIVE BARRIER	BASE COAT	REINFORCING MESH	FINISH
Dryvit Outsulation® MD System	Backstop NT Texture, Backstop NT Smooth, Backstop NTX-Texture or Backstop NTX-Smooth	Primus, Genesis, Genesis DM or NCB	Standard Reinforcing Mesh, Nominally 4.3 oz/yd ² minimum ²	DPR or PMR

¹Refer to Section 3.2 for insulation boards.

²Higher weight meshes are permitted.

TABLE 2—WIND LOAD DESIGN

FRAMING MEMBERS		SUBSTRATE			WIND LOAD CAPACITY (ALLOWABLE) ^{2,3}	
Type, Min. Depth (inches)	Max. Spacing (inches o.c.)	Type	Fastener Type	Max. Fastener Spacing (inches o.c.)	Negative	Positive
2x4 Wood ¹	16	Any sheathing noted in Section 3.3, min. 1/2-inch-thick	No. 6 self-drilling screws, 1 5/8-inch-long	6	40	50
2x6 Wood ¹	16	Glass mat-faced gypsum per ASTM C1177, min. 5/8-inch-thick	No. 6 self-drilling screws, 1 3/8-inch-long	8	35	See note 2
2x6 Wood ¹	24	Glass mat-faced gypsum per ASTM C1177, min. 5/8-inch-thick	No. 6 self-drilling screws, 1 3/8-inch-long	8	26	See note 2
3 5/8-inch-by No. 18 gage-steel	16	Glass mat-faced gypsum per ASTM C1177, min. 1/2-inch-thick	No. 6 self-drilling screws, 1 1/4-inch-long	8	37	See note 2
3 5/8-inch-by No. 18 gage-steel	16	Glass mat-faced gypsum per ASTM C1177, min. 1/2-inch-thick	No. 6 self-drilling screws, 1 1/4-inch-long	6	43	See note 2
3 5/8-inch-by No. 18 gage-steel	16	Glass mat-faced gypsum per ASTM C1177, min. 1/2-inch-thick	No. 6 self-drilling screws, 1 1/4-inch-long	4	54	See note 2
3 5/8-inch-by No. 18 gage-steel	16	Any sheathing noted in Section 3.3, min. 1/2-inch-thick	No. 6 self-drilling screws, 1 5/8-inch-long	6	40	60
N/A	N/A	Concrete/ Unglazed Brick/ Cement Plaster/ Concrete Masonry	N/A	N/A	70	See note 2

For SI: 1 inch = 25.4 mm; 1 psf = 0.0479 kPa.

¹Minimum specific gravity 0.43.

²Maximum positive pressure is limited to the capacity of the framing and structural sheathing, or concrete, brick, concrete masonry or portland cement plaster substrate, determined in accordance with the applicable code.

³Framing members must be designed to resist all positive and negative transverse design loads with a maximum allowable deflection of 1/240 of the span.

TABLE 3—ASSEMBLIES FOR USE WITH TYPES I, II, III AND IV CONSTRUCTION²

FRAMING MEMBERS			INTERIOR SHEATHING			EXTERIOR SHEATHING			INSULATION BOARD
Min. Depth (inch)	Min. Gage	Max. spacing (inch)	Type and Min. Thickness (inch)	Fastener Type	Max. Fastener Spacing (inches o.c.)	Type and Min. Thickness (inch)	Fastener Type	Max. Fastener Spacing (inches o.c.)	Thickness Maximum ¹ (inch)
3 5/8	20 (0.033 inch)	16 inch o.c.	Min. 5/8 inch Type X gypsum wallboard complying with ASTM C36 or ASTM C1396	Minimum No. 6, 1 1/4-inch-long, buglehead, self-drilling Type S screws	8 inch at board joints, 12 inch at intermediate framing	Min. 1/2 inch Water-resistant core gypsum sheathing complying with ASTM C1396	Minimum No. 8, 1 1/4-inch-long, self-drilling Type S screws	8 inch o.c. along all studs	12 3/4

For SI: 1 inch = 25.4 mm.

¹Combustible content of the foam plastic must not exceed an average potential heat content of 6,000 Btu/ft² (68.2 MJ/m²) in every 20-square-foot wall area.

²Floor levels must be blocked with 4-inch-thick (102 mm), 4 pcf (64.1 kg/m³) Thermafiber insulation.

³Wall openings must be framed with minimum 0.0428-inch-thick (1.09 mm) aluminum or steel framing.

TABLE 4—ONE-HOUR FIRE-RESISTANCE RATED ASSEMBLIES (NONLOADBEARING)

FRAMING MEMBERS		INTERIOR SHEATHING			EXTERIOR SHEATHING			INSULATION BOARD
Type	Max. spacing (inches o.c.)	Type and Min. Thickness (inch)	Fastener Type	Max. Fastener Spacing (inches o.c.)	Type and Min. Thickness (inch)	Fastener Type	Max. Fastener Spacing (inches o.c.)	Max. Thickness (inches)
Min. 3 ⁵ / ₈ -inch by No. 25 gage-steel	24	Min. 5/ ₈ inch Type X gypsum wallboard complying with ASTM C36 or ASTM C1396	Minimum No. 6, 1 ¹ / ₄ -inch-long, buglehead, self-drilling Type S screws	8 inch at board joints, 12" at intermediate framing	Min. 5/ ₈ inch Type X gypsum wallboard complying with ASTM C36 or ASTM C1396	Minimum No. 8, 1 ¹ / ₄ -inch-long, self-drilling Type S screws	8 inch at board joints, 12 inch at intermediate framing	4

For SI: 1 inch = 25.4 mm.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**Section: 07 24 00—Exterior Insulation and Finish Systems****Section: 07 24 19—Water-Drainage Exterior Insulation and Finish System****REPORT HOLDER:**

TREMCO CPG, INC.

EVALUATION SUBJECT:

DRYVIT OUTSULATION® MD SYSTEM® EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Dryvit Outsulation® MD System® Exterior Insulation and Finish Systems (EIFS), described in ICC-ES evaluation report ESR-1821, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 California Building Code® (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA; California Department of Health Care and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 California Residential Code® (CRC)

2.0 CONCLUSIONS**2.1 CBC:**

The Dryvit Outsulation® MD System® Exterior Insulation and Finish Systems (EIFS), described in Sections 2.0 through 7.0 of the evaluation report ESR-1821, comply with CBC Chapter 14, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of 14 and 17, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this.

2.2 CRC:

The Dryvit Outsulation® MD System® Exterior Insulation and Finish Systems (EIFS), described in Sections 2.0 through 7.0 of the evaluation report ESR-1821, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued August 2023 and revised November 2023.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**Section: 07 24 00—Exterior Insulation and Finish Systems****Section: 07 24 19—Water-Drainage Exterior Insulation and Finish System****REPORT HOLDER:**

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Applicable code editions:

- 2023 Florida Building Code—Building
- 2023 Florida Building Code—Residential

2.0 CONCLUSIONS

The Dryvit Outsulation® MD System, described in Sections 2.0 through 7.0 of the evaluation report ESR-1821, complies with the *Florida Building Code—Building* and *Florida Building Code—Residential*, as applicable. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-1821 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, with the following condition:

Installation must meet the requirements of Section 1403.8 of the *Florida Building Code—Building* or Section R318.7 of the *Florida Building Code—Residential*, as applicable.

Use of the Dryvit Outsulation® MD System for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* has not been evaluated and is outside the scope of this evaluation report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

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