



ICC-ES Evaluation Report

ESR-2064

Reissued November 2021

This report is subject to renewal November 2022.

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:

OMEGA PRODUCTS INTERNATIONAL, INC.

EVALUATION SUBJECT:

AKROFLEX BARRIER, AKROFLEX WATER MANAGED (WM), AND AKROFLEX WATER MANAGED PLUS (WM+) EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)

Properties evaluated:

PROPERTY	IBC CHAPTER	IRC CHAPTER
Exterior insulation and finish systems (EIFS)	14	R7
Weather resistance	14	R7
Special inspections	17	N/A
Structural—transverse wind load resistance	16	R6
Types I–IV construction	26	N/A
Surface-burning characteristics (foam plastic)	26	R3
Ignition resistance	26	N/A

2.0 USES

The AkroFlex Barrier system is an EIFS complying with 2018 IBC Section 1407 (2015, 2012 and 2009 IBC Section 1408). Under the IBC, the AkroFlex EIFS may be used in

construction Types I through V with the exception of framed walls of Type V construction, Group R-1, R-2, R-3 and R-4 occupancies. Also under the IBC, the AkroFlex EIFS may be used on masonry and concrete construction. Under the IRC, the AkroFlex EIFS may be used only on masonry and concrete construction.

The AkroFlex WM and WM+ systems are EIFS with drainage complying with Section 1407.4.1 of the 2018 IBC (Section 1408.4.1 of the 2015, 2012 and 2009 IBC) and Section R703.9 of the IRC. Under the IBC, the AkroFlex WM and WM+ EIFS may be used in Types I through V construction. Under the IRC, the AkroFlex WM and WM+ EIFS may be used on any construction.

3.0 DESCRIPTION

3.1 System Components:

3.1.1 AkroFlex Barrier (EIFS): The AkroFlex Barrier system consists of a water-resistive coating (optional), adhesively-applied expanded polystyrene (EPS) insulation board, reinforcing mesh, base coat, and finish coat. See Table 1 for system components.

3.1.2 AkroFlex WM (EIFS with Drainage): The AkroFlex WM system consists of a water-resistive barrier or coating, mechanically attached EPS insulation board, reinforcing mesh, base coat, weep screed starter track, and finish coat. See Table 1 for system components.

3.1.3 AkroFlex WM+ (EIFS with Drainage): The AkroFlex WM+ system consists of a water-resistive coating, adhesively applied EPS insulation board, reinforcing mesh, weep screed starter track, base coat, and finish coat. See Table 1 for system components.

3.2 EPS Insulation Board:

EPS insulation board 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.

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 UL723.

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3.3 Substrates

The substrates must be one of the following:

- Gypsum sheathing board complying with ASTM C1177 or ASTM C1396.
- Fiber cement panels complying with ASTM C1325.
- Exterior or Exposure 1 wood structural panels complying with US DOC PS-1 or US DOC PS-2.
- Concrete, masonry, and exterior plaster complying with the applicable code.

3.4 Sealants:

Sealant 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 AkroFlex Barrier, WM, and WM+ EIFS must be installed in accordance with the manufacturer's installation instructions, specifications and details. The system components are noted in Table 1.

4.2 Drainage Options:

4.2.1 AkroFlex WM: The AkroFlex WM EIFS provides drainage through a minimum 1¹/₂-inch-thick (38 mm) EPS insulation board with corrugations on the back side of the board. The corrugations must be ³/₈ inch deep (9.5 mm) and spaced 1 inch (25.4 mm) on center.

4.2.2 AkroFlex WM+: The AkroFlex WM+ EIFS provides drainage through the application of vertical ribbons of adhesive between the water-resistive coating and the back surface of flat EPS insulation board. The vertical ribbons of adhesive are created with a ³/₈-by-³/₈-by-1¹/₂-inch (9.5 by 9.5 by 38 mm) notched trowel.

4.3 Wind Design:

The allowable wind pressures for AkroFlex Barrier and WM+ EIFS are noted in Table 2. The allowable wind pressures for AkroFlex WM EIFS are noted in Table 3. Other assemblies may be considered for approval by local officials based on testing and/or calculation of a qualified design professional.

4.4 Weather Protection:

AkroFlex Barrier, WM, and WM+ systems comply with 2018 IBC Section 1402.2 (2015, 2012 and 2009 IBC Section 1403.2) and IRC Section R703.1.1.

4.5 Use in Types I through IV Construction:

The assemblies qualified for use in Types I through IV construction under the IBC are described in Table 4.

4.6 Special Inspection:

For recognition under the IBC, special inspections are required in accordance with 2018 and 2015 IBC Sections 1704.2 and 1705.16, 2012 IBC Sections 1704.2 and 1705.15 (Sections 1704.1 and 1704.14 of the 2009 IBC). The special inspector must furnish inspection reports to the code official, and to the registered design professional in charge, in accordance with 2018 and 2015 IBC Section 1705.16, 2012 IBC Section 1705.15 (Section 1704.14 of the 2009 IBC). The Omega Products third-party inspection guidelines for verifying field preparation of materials are available in the Technical Bulletins section at www.omega-products.com.

5.0 CONDITIONS OF USE

The AkroFlex Barrier, WM, and WM+ EIFS described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.
- The insulation board must be separated from the building interior by a thermal barrier complying with the applicable code.
- The AkroFlex Barrier EIFS must not be used in Type V framed construction in Occupancy Groups R-1, R-2, R-3, and R-4 under the IBC or framed walls under the IRC.
- Installation must be by applicators approved by Omega Products International, Inc.
- Termination of the systems must not be less than 6 inches (152 mm) above finished grade in accordance with 2018 and 2015 IBC Section 2603.8 (2012 IBC Section 2603.9 and Section 2603.8 of the 2009 IBC) and IRC Section R318.4.

6.0 EVIDENCE SUBMITTED

- For the AkroFlex Barrier EIFS: data in accordance with the ICC-ES Acceptance Criteria for Exterior Insulation and Finish Systems (AC219), dated October 2009 (editorially revised April 2018).
- For the AkroFlex WM and WM+ EIFS with drainage: data in accordance with the ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235), dated January 2015 (editorially revised April 2018).

7.0 IDENTIFICATION

- Each container or package of the components in the AkroFlex EIFS systems must be labeled with the manufacturer's name (Omega Products International, Inc.) and address; the product name; lot or batch number; quantity of material; storage instructions; pot life; expiration date; and the evaluation report number (ESR-2064).

Foam plastic insulation must be labeled in accordance with the current ICC-ES evaluation report in which it is recognized, or in accordance with IBC Section 2603.2 or IRC Section R316.2, as applicable.

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

OMEGA PRODUCTS INTERNATIONAL, INC.
1681 CALIFORNIA AVENUE
CORONA, CALIFORNIA 92881
(800) 600-6634
www.omega-products.com

TABLE 1—SYSTEM COMPONENTS

SYSTEM	WATER-RESISTIVE BARRIER OR COATING	EPS INSULATION BOARD		BASE COAT	REINFORCING MESH	FINISH
		Fastening Method	Type			
AkroFlex Barrier (EIFS)	Optional-AkroGuard water-resistant coating system (See ESR-3391)	Adhesively applied StyroGlue, or StyroGlue DryBond, or StyroBond	Flat (see Section 3.2)	StyroGlue, or StyroGlue DryBond, or StyroGlue TF	AkroFlex Mesh	AkroFlex
AkroFlex WM (EIFS with drainage)	AkroGuard water-resistant coating system (See ESR-3391) or code-complying water-resistant barrier	Mechanically fastened in accordance with Table 3.	Corrugated (see Section 3.2)			
AkroFlex WM+ (EIFS with drainage)	AkroGuard water-resistant coating system (See ESR-3391)	Adhesively applied StyroGlue, or StyroGlue DryBond	Flat (see Section 3.2)			

¹For installation instructions, specifications and details, see the www.omega-products.com Walls Systems tab for the AkroFlex Barrier, WM, and WM+ EIFS, and the Products tab for the base coat, reinforcing mesh, and finish products.

TABLE 2—WIND LOAD DESIGN FOR THE AKROFLEX BARRIER AND WM+ SYSTEMS^{1,2,3,4}

FRAMING MEMBERS		SHEATHING				EPS INSULATION BOARD MIN. THICKNESS (inch)	ALLOWABLE PRESSURE (psf)
Min.	Max. Spacing (inches)	Min. Thick. (inch)	Sheathing Type	Max. Fastener Spacing (inches)	Fastener Type		
No. 20 gage [0.0359] steel	16	1/2	Gypsum, cement board, or wood structural panels	8	No. 8 by 1 1/4-inch-long, self-drilling flat, wafer, pancake, or modified truss head screws	1	+/- 36
			Glass mat faced gypsum	6			
No. 20 gage [0.0359] steel	24	5/8	Gypsum, glass mat faced gypsum, cement board, or wood structural panels	6	No. 6 by 1 1/4-inch-long, self-drilling bugle head, type S, minimum head diameter of 0.31 inch	1	+/- 31
			Gypsum, cement board, or wood structural panels	8			
No. 18 gage [0.0486] steel	16	1/2	Gypsum, glass mat faced gypsum, cement board, or wood structural panels	6	No. 6 self-drilling bugle head, Type W screws, 1 1/2 inches long	1	+/- 36
			Gypsum, cement board, or wood structural panels	8			
No. 18 gage [0.0486] steel	24	5/8	Gypsum, glass mat faced gypsum, cement board, or wood structural panels	6	No. 6 self-drilling bugle head, Type W screws, 1 1/2 inches long	1	+/- 31
			Gypsum, cement board, or wood structural panels	8			
Wood, 2x4 (S.G.≥0.42)	16	1/2	Gypsum, cement board, or wood structural panels	8	6d common nails, 1 1/2 inches long	1	+/- 26
			Glass mat faced gypsum	6			
			Gypsum, cement board, or wood structural panels	8	No. 6 self-drilling bugle head, Type W screws, 1 1/2 inches long	1	+/- 36
			Glass mat faced gypsum	6			
Wood, 2x4 (S.G.≥0.42)	16	5/8	Gypsum, cement board, or wood structural panels	8	6d common nails, 1 5/8 inches long	1	+/- 26
			Glass mat faced gypsum	6			
			Gypsum, cement board, or wood structural panels	8	No. 6 self-drilling bugle head, Type W screws, 1 5/8 inches long	1	+/- 36
			Glass mat faced gypsum	6			
Concrete or Masonry	N/A	N/A	N/A	N/A	N/A	1	- 32

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

¹Installation of AkroFlex Barrier and WM+ Systems must be in accordance with Section 4.1 and Table 1. Sheathing must comply with Section 3.3.

²Framing members must be designed in accordance with the applicable code. Deflection for framing members must not exceed 1/240 of the span.

³Vertical edges of the sheathing must butt over studs.

⁴Fasteners must be sufficient length to penetrate a minimum of 3/8 inch into steel studs.

TABLE 3—WIND LOAD DESIGN FOR THE AKROFLEX WM SYSTEM^{1,2,3}

FASTENING SYSTEM	SHEATHING	FRAMING MEMBERS		WASHER	MIN. EPS INSULATION THICKNESS (inches)	ALLOWABLE PRESSURE (psf)
		Min.	Max. Spacing (inches)			
Pattern A (fasten to wood based sheathing) See Figure 1	Wood structural panels	Wood, 2x4 (S.G.≥0.5) or No. 20 gage [0.0359] steel	16	Wind Devil, Plasti-Grip III, or Plasti-Grip IV	1	+/- 21
					1½	+/- 31
Pattern B (fasten to wood based sheathing) See Figure 1	Wood structural panels	Wood, 2x4 (S.G.≥0.5) or No. 20 gage [0.0359] steel	16	Wind Devil II	1	+/- 40
					1½	+/- 43
Pattern C (fasten to studs) See Figure 1	Wood structural panels, gypsum, glass mat faced gypsum, or cement board	Wood, 2x4 (S.G.≥0.5) or No. 20 gage [0.0359] steel	16	Wind Devil II	1	+/- 29
					1½	+/- 38

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

¹Installation of AkroFlex WM Systems must be in accordance with Section 4.1 and Table 1. Sheathing must comply with Section 3.3.

²Framing members and sheathing attachment to framing members must be designed in accordance with the applicable code. Deflection for framing members must not exceed 1/240 of the span.

³Use appropriate fastener type for sheathing and/or stud type. Fastener must be sufficient to penetrate a minimum of 3/4 inch into wood studs, 1/4 inch through metal studs, and 1/4 inch through wood sheathing. Refer to fastener manufacturer for additional requirements.

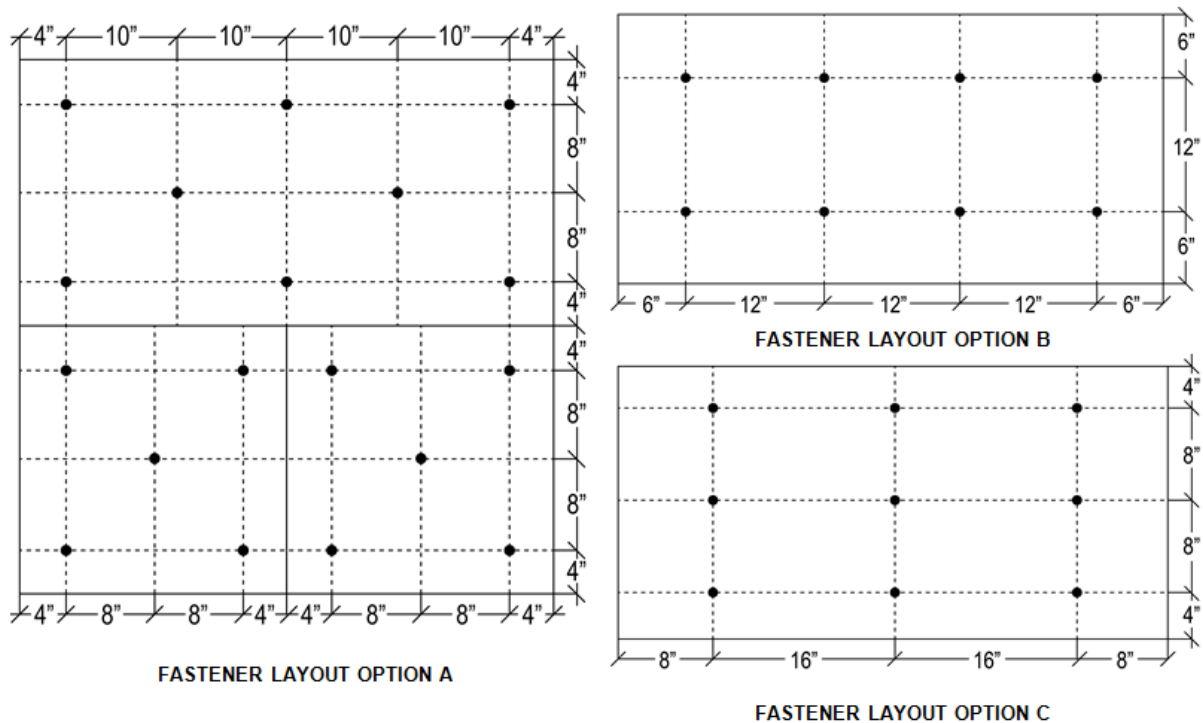


FIGURE 1—AKROFLEX WM INSULATION BOARD FASTENER PATTERN

TABLE 4—ASSEMBLIES FOR USE IN TYPES I THROUGH IV CONSTRUCTION UNDER THE IBC^{1,2,3,4,5,6}

METAL FRAMING MEMBERS			INTERIOR SHEATHING TYPE X GYPSUM ASTM C1177 OR ASTM C1396			EXTERIOR SHEATHING TYPE X GYPSUM ASTM C1177 OR ASTM C1396			EPS INSULATION BOARD
Min. Depth (inches)	Min.	Max. Stud Spacing (inches)	Min. Thickness (inch)	Fastener Type	Max. Fastener Spacing (inches)	Min. Thickness (inch)	Fastener Type	Max. Fastener Spacing (inches)	Max. Thickness (inches)
3 ⁵ / ₈	Studs No. 20 gage [0.0359] steel Tracks No. 18 gage [0.0486] steel Openings No. 20 gage [0.0359] steel	24	5 ⁵ / ₈	Min. No. 6 by 1 ³ / ₈ -inch-long, buglehead self- drilling screws, Type S-12	Spacing per applicable code	5 ⁵ / ₈	Min. No. 6 by 1 ³ / ₈ -inch-long, buglehead self-drilling screws, Type S-12	6	4
3 ⁵ / ₈	Studs, tracks, and openings No. 20 gage [0.0359] steel	16	1 ¹ / ₂	Min. No. 6 by 1 ¹ / ₄ -inch-long, buglehead self- drilling screws, Type S	8 at the perimeter, 12 in the field	1 ¹ / ₂	Min. No. 6 by 1 ¹ / ₄ -inch-long, buglehead self-drilling screws, Type S	8	4

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

¹Installation of AkroFlex Barrier, WM, and WM+ systems must be in accordance with Section 4.1 and Table 1.

²Installation of the AkroGuard water-resistive barrier must be installed in accordance with [ESR-3391](#).

³When use occurs at a height more than 40 feet above the grade plane, the water-resistive barrier/coating is limited to use of the AkroGuard water-resistive coating.

⁴Self-drilling screw fasteners must penetrate a minimum of 3⁵/₈ inch into metal framing.

⁵USG Thermafiber Safing Insulation, 4 pcf, having a thickness of 4 inches, must be used to firestop the stud cavities at floor lines.

⁶All joints must be taped and treated with joint compound. Intermediate fastener heads are treated with joint compound in accordance with ASTM C840 or GA216.

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:

OMEGA PRODUCTS INTERNATIONAL, INC.

EVALUATION SUBJECT:

AKROFLEX BARRIER, AKROFLEX WATER MANAGED (WM) AND AKROFLEX WATER MANAGED PLUS (WM+) EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Akroflex Exterior Insulation and Finish Systems, described in ICC-ES evaluation report ESR-2064, have also been evaluated for compliance with the codes noted below.

Applicable code edition(s):

- 2019 and 2016 *California Building Code*® (CBC)

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

- 2019 and 2016 *California Residential Code*® (CBC)

2.0 CONCLUSIONS

2.1 CBC:

The Akroflex Exterior Insulation and Finish Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-2064, comply with CBC Chapters 14 and 26, provided the design and installation are in accordance with the 2018 and 2015 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 14, 16, 17 and 26, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Akroflex Exterior Insulation and Finish Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-2064, comply with CRC Chapters 3 and 7, provided the design and installation are in accordance with the 2018 and 2015 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued November 2021.