

**MAGNUM BOARD PRODUCTS LLC****P.O. Box 90****Seffner, Florida 33583****(585) 820-7625****www.magnumbp.com****MAGNUM FIBER REINFORCED MgO BUILDING MATERIALS****CSI Sections:**

- 05 40 00 Cold-Formed Metal Framing**
- 05 41 00 Structural Metal Stud Framing**
- 06 00 00 Wood, Plastics, and Composites**
- 06 11 00 Wood Framing**
- 06 16 00 Sheathing**
- 06 16 63 Cementitious Sheathing**
- 07 44 53 Glass-Fiber-Reinforced Cementitious Panels**
- 09 28 13 Cementitious Backing Boards**
- 09 28 15 Magnesium Oxide Backing Panels**

1.0 RECOGNITION

Magnum Fiber Reinforced MgO Building Materials, recognized in this report, has been evaluated for use as wall, ceiling, roofing, and flooring substrates, backer board, and underlayment. The structural performance, physical characteristics, and fire resistance properties of the Magnum Fiber Reinforced MgO Building Materials comply with the intent of the provisions of the following codes and regulations:

- 2024, 2021, and 2018 International Building Code® (IBC)
- 2024, 2021, and 2018 International Residential Code® (IRC)
- 2024, 2021, and 2018 International Wildland-Urban Interface Code® (IWUIC)
- 2025 California Building Code (CBC) – attached Supplement
- 2025 California Residential Code (CRC) – attached Supplement
- 2025 California Wildland Urban Interface Code (CWUIC) – attached Supplement
- 2023 Florida Building Code, Building (FBC-B) – attached Supplement
- 2023 Florida Building Code, Residential (FRC-R) – attached Supplement
- 2026 Los Angeles Building Code (LABC) – attached Supplement
- 2026 Los Angeles Residential Code (LARC) – attached Supplement
- 2026 Los Angeles Wildland Urban Interface Code (LAWUIC) – attached Supplement

2.0 LIMITATIONS

Use of the Magnum Fiber Reinforced MgO Building Materials, recognized in this report, is subject to the following limitations:

2.1 Panels are manufactured, identified, and installed in accordance with this report.

2.2 The Magnum Fiber Reinforced MgO Building Materials shall be installed in accordance with the applicable code, the manufacturer's published installation instructions, and this report. Where there is a conflict, the most restrictive requirements shall govern.

2.3 Complete construction documents, including plans and calculations verifying compliance with this report, shall be submitted to the building official with the permit application for approval. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

2.4 Applied loads shall be adjusted in accordance with Section 1605 of the IBC. Calculations shall demonstrate, in addition to other requirements as stipulated by the building official, that the applied loads are less than the design loads described in the IBC or IRC, and this report.

2.5 All nominal and allowable load capacities provided in this report do not include a 1.33 stress increase. The 1.33 increase for transient loads shall not be applied to allowable shear loads for these products.

2.6 Use of the Magnum Fiber Reinforced MgO Building Materials, where a sound transmission classification is required, is outside the scope of this report.

2.7 Support framing, including type and spacing for Magnum Fiber Reinforced MgO Building Materials, shall comply with Sections 4.3 or 4.4 of this report, as applicable.

2.8 Metals and metal fasteners in direct contact with Magnum Fiber Reinforced MgO Building Materials shall be non-corrosive or corrosion-resistant. Direct contact between the Magnum Fiber Reinforced MgO Building Materials and cold-formed steel framing should be avoided, by applying a separation barrier should be the steel framing before installation in accordance with the manufacturer's instructions.

2.9 Use as a nail or screw base is beyond the scope of this report. Fasteners shall pass through the Magnum Fiber Reinforced MgO Building Materials and into the supports.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with Section 104.2.3 of the 2024 IBC and Section 104.11 of previous editions. This document shall only be reproduced in its entirety.

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**UNIFORM EVALUATION SERVICES****ACCREDITED**

PRODUCT CERTIFICATION BODY



2.10 Magnum Fiber Reinforced MgO Building Materials are limited to locations protected from weathering conditions within a weather-resistant exterior wall envelope or roof covering assembly. The exterior walls shall be protected with a code-complying exterior wall covering. The exterior wall coverings shall be approved by the building official and installed in accordance with the applicable code or the manufacturer's instructions.

2.11 Use is generally limited to dry interior locations. For wet areas described in IBC Sections 1210 and 2509 and 2024 IRC Sections R327 and R702 (2021 and 2018 IRC Sections R307 and R702), and damp environments, Section 3.3.5 provides additional installation details.

2.12 Use of the Magnum Fiber Reinforced MgO Building Materials as a thermal barrier is beyond the scope of this report. Where foam plastic insulation is used, a thermal barrier complying with IBC Section 2603.4, 2024 IRC Section R303, or 2021 and 2018 IRC Section R316, as applicable, is required.

2.13 The evaluation of volatile organic compound (VOC) emissions from the Magnum Fiber Reinforced MgO Building Materials is outside the scope of the report.

2.14 Use where flood damage-resistant materials are required by IBC Sections 802 and 1403 and IRC Section R306, is beyond the scope of this report.

2.15 The Magnum Fiber Reinforced MgO Building Materials recognized in this report are produced in Jiangsu, PRC.

3.0 PRODUCT USE

3.1 General: Magnum Fiber Reinforced MgO Building Materials are alternatives to sheathing products permitted under IBC Chapter 8, Chapter 14, Chapter 15, Chapter 23, and Chapter 25 of the IBC, and Chapter 3, Chapter 5, Chapter 7, and Chapter 9 of the IRC. When installed over code-complying steel or wood framing, uses include wall, ceiling, roofing, and flooring substrates, backer board, and underlayment.

3.2 Design:

3.2.1 General: Magnum Fiber Reinforced MgO Building Materials may be installed as specified by the registered design professional on assemblies as permitted by the IBC or IRC in all Seismic Design Categories for floors, roofs, and non-shear walls, and in accordance with Section 3.2.4 of this report for shear walls. The Magnum Fiber Reinforced MgO structural board supports out-of-plane loads and wall in-plane (wind and seismic) loads in buildings made of cold-formed steel (CFS) or wood light-frame construction. Usage to resist horizontal in-plane loads as diaphragms in floors and roofs is outside the scope of this report.

3.2.2 Transverse (Out-of-Plane) Load Design: The Magnum Fiber Reinforced MgO Building Materials shall be designed to resist all applicable load combinations in Section 1605 of the IBC. Allowable Stress Design (ASD) out-of-plane values for Magnum Fiber Reinforced MgO Building Materials are shown in Table 1 of this report.

3.2.3 Load Bearing and Non-Load Bearing Wall Design: Cold-formed steel or wood framing design for out-of-plane and axial loads shall comply with the IBC or IRC, as applicable. The framing shall be designed to resist all applicable load combinations in Section 1605 of the IBC. Structural design shall be performed by the design professional in accordance with Section 2206.1 of the 2024 IBC, Section 2211.1 of the 2021 and 2018 IBC, IBC Chapter 23, Section R301.1.3 of the IRC, IRC Chapter 6, AISI S100, AISI S240, AISI S400, ANSI/AWC NDS, ANSI/AWC SDPWS, and ASCE/SEI 7, as applicable.

3.2.4 Shear Wall Design: Seismic loadings shall be determined in accordance with IBC Section 1613 and ASCE/SEI 7, subject to limitations set forth for Seismic Force-Resisting Light-Frame Shear Wall Bearing Wall Systems conforming to item A.18 in Table 12.2-1 of ASCE/SEI 7-22; or item A.17 in Table 12.2-1 of ASCE/SEI 7-16, as appropriate. The shear walls shall conform to height limits and seismic design categories listed in ASCE/SEI 7, Table 12.2-1, for the respective light-frame shear wall bearing wall system.

Wind loadings shall be determined in accordance with IBC Section 1609 and ASCE/SEI 7.

Wood-framed shear walls shall be designed as Individual Full-Height Wall Segments in accordance with IBC Section 2305. Design of shear wall chords, collectors, anchorage, hold-downs, and connections, such as uplift hold-downs, shear to base anchorage, and shear transfer from horizontal elements, is beyond the scope of this report, and the design professional shall provide appropriate design and detailing information to the building official for approval. The collector shall be designed in accordance with the IBC or the IRC and be sized to exceed the loads resisted by the shear wall.

The shear walls shall be designed to resist all applicable load combinations in Section 1605 of the IBC. Orthogonal combinations shall be considered in accordance with the applicable provisions in IBC Chapter 16 and ASCE/SEI 7.

The Allowable Stress Design (ASD) values for wind and earthquake forces are shown in Table 2 of this report.

Fastener Design: Where required, the connection of the Magnum Fiber Reinforced MgO Building Materials to wood or steel supports shall be designed in accordance with the applicable provisions of the IBC or IRC. The allowable pull-through strength of a metal fastener having a 0.375-inch (9.5 mm) diameter head and a 0.125-inch (3.2 mm) diameter



shank driven into 12 mm (0.47 mm) thick Magnum Fiber Reinforced MgO Building Materials is 35 pounds (155.7 N).

3.3 Installation:

3.3.1 General: Magnum Fiber Reinforced MgO Building Materials installation shall be in accordance with the IBC or IRC, this report, and the manufacturer's published instructions. Where conflicts occur, the more restrictive shall govern. Cutting shall be in accordance with the manufacturer's instructions. The panels shall be directly applied to steel or wood framing, except when used as an underlayment, where the panels are placed over structural sheathing, and are limited to applications where there is no continuous direct exposure to the weather or damp environments. In areas that may be exposed to possible moisture intrusion, water-resistant sheathing is required.

All penetrations shall be protected to protect against air and water infiltration. The IBC or IRC, door or window manufacturer recommendations, or design professional specifications for flashing around openings, abutments to dissimilar materials, and wall terminations shall be observed as applicable.

3.3.2 Ceilings: Magnum Board Products LLC recommends installing the ceiling first. Board orientation, fasteners, and connections in accordance with specific fire-resistance-rated assemblies or as required by the design professional. In the absence of either, Magnum Fiber Reinforced MgO Building Materials shall be installed with the long dimension perpendicular to joists or trusses. Board joints shall be staggered, and all edges shall be supported by framing. Fasteners shall be straight, perpendicular to the board surface, and penetrate wood framing members at least 1.5 inches (38 mm). Fasteners shall be located at least $\frac{9}{16}$ inch (14 mm) from the ends and edges of sheathing and a minimum of 4 inches (100 mm) from corners. When fastening to steel with screws, the heads need to have nibs underneath instead of pins, to allow for proper countersinking. Overdriving shall be avoided. Fastening shall be as required by the design professional or specific fire-resistance-rated assemblies and commence at the center of each board and progress away towards the perimeter. Each board edge shall be connected to the common framing member. Fastener spacing shall conform to project specifications but shall not exceed 6 inches (152 mm) on center along supported panel ends and edges and 12 inches (304 mm) on center at intermediate supports.

3.3.3 Walls: For walls, weather protection complying with IBC Section 1402 or IRC Section R703 shall be provided. Walls shall be protected with waterproof membranes or weather-resistive barriers during construction as soon as possible to prevent extended exposure to the weather.

Sheathing may be installed vertically or horizontally. Board orientation, fasteners, and connections in accordance with specific fire-resistance-rated assemblies or as required by the

design professional. If placed horizontally, installation shall commence at the top of the wall and progress downward. If placed vertically, installation shall commence at one end of the wall and proceed across.

Fasteners shall be straight, perpendicular to the board surface, and penetrate wood framing members at least 1.0 inch (25.4 mm). Fasteners shall be located at least $\frac{9}{16}$ inch (14 mm) from the ends and edges of sheathing and a minimum of 4 inches (100 mm) from corners. When fastening to steel with screws, the heads need to have nibs underneath instead of pins, to allow for proper countersinking. Overdriving shall be avoided. Fastening shall commence at the center of each board and progress away towards the perimeter. Both board edges shall be connected to the common framing member.

The first sheet of Magnum Fiber Reinforced MgO Building Materials shall be placed flush with the framing to which it is being fastened. The specified sealant or adhesive shall be applied to the exposed edge of the installed sheet. The next sheet of Magnum Fiber Reinforced MgO Building Materials shall be placed butting joints together tightly. Any excess sealant or adhesive along the entire joint is removed, leaving a smooth appearance surface between the two installed sheets.

Fastening shall commence at the center of each board and progress away towards the perimeter. Both board edges shall be connected to the common framing member. Fastener spacing shall conform to project specifications but shall not exceed 6 inches (152 mm) on center along supported panel ends and edges and 12 inches (304 mm) on center at intermediate supports.

Magnum Fiber Reinforced MgO Building Materials shall be properly flashed at openings and preferably located so that no joint will align with an edge of the opening.

To join boards at an inside corner, the second board is butted against the first, and the edge of the second board is fastened to the first stud. To join boards at an outside corner, the end of the second board is lapped over the end of the first.

3.3.4 Floors and Roofs: For floors and roofs, Magnum Fiber Reinforced MgO Building Materials is available in a $\frac{3}{4}$ inch (18 mm) thickness and with square, tongue and groove, or ship lap edges. The Magnum Fiber Reinforced MgO 18 mm ($\frac{3}{4}$ inch) is an alternative material to floor sheathing complying with IBC Section 2304.8.1 and IRC Section R503 and may be used where an engineered design is submitted in accordance with Section 301.1.3 of the IRC. The Magnum Fiber Reinforced MgO Building Materials are permitted as either subfloor only or as an underlayment based on compliance with IRC Tables R503.2.1.1(1), R503.2.1.1(2), and R602.3(2). Use as a combination subfloor-underlayment (single floor) is permitted under this report where all edges are tongue-and-groove or blocked in accordance with IBC Tables 2304.8(3) or 2304.8(4), or IRC Tables R503.2.1.1(1)



or R503.2.1.1(2). Board orientation, fasteners, and connections in accordance with specific fire-resistance-rated assemblies or as required by the design professional. In the absence of either, Magnum Fiber Reinforced MgO Building Materials shall be installed with the long dimension perpendicular to joists or trusses. Framing spacing is 24 inches (610 mm) maximum. Board joints shall be staggered, and all edges shall be supported by framing. Fasteners shall be straight, perpendicular to the board surface, and penetrate wood framing members at least 1.0 inch (25.4 mm). Fasteners shall be located at least 9/16 inch (14 mm) from the ends and edges of sheathing and a minimum of 4 inches (100 mm) from corners.

When fastening to steel framing with screws, the heads need to have nibs underneath instead of pins, to allow for proper countersinking. Overdriving shall be avoided. Fastening shall commence at the center of each board and progress away towards the perimeter. Both board edges shall be connected to the common framing member.

Fastener spacing shall conform to project specifications but shall not exceed 6 inches (152 mm) on center along supported panel ends and edges and 12 inches (304 mm) on center at intermediate supports.

The first sheet of Magnum Fiber Reinforced MgO Building Materials shall be placed flush with the framing to which it is being fastened. The specified sealant or adhesive shall be applied to the exposed edge of the installed sheet. The next sheet of Magnum Fiber Reinforced MgO Building Materials shall be installed, butting joints together tightly. Any excess sealant or adhesive along the entire joint is removed, leaving a smooth appearance surface between the two installed sheets.

Once installed, Magnum Fiber Reinforced MgO Building Materials shall be weather protected with suitable roofing material or approved waterproofing system complying with Chapter 15 of the IBC or Chapter 9 of the IRC.

3.3.5 Wet Areas and Damp Environments: Where Magnum Fiber Reinforced MgO Building Materials are used in wet areas and damp environments, ceramic tiles are required. MAPEI Mapelastic 315 Cement-Based Waterproofing Membrane is mixed in accordance with the manufacturer's instructions and applied to clean panel surfaces in two coats to a minimum 80 mils (2 mm) thickness. Ceramic tiles, mortar, and grout are then installed in accordance with IBC Section 2103 or IRC Section R702.4.

3.4 Fire-Resistance Ratings

3.4.1 One-Hour Wall: The non-load-bearing wall assembly achieves a one-hour fire-resistance rating based on testing in accordance with IBC Sections 703.2 and 703.4 and IRC Section R302. Minimum No. 20 gauge [0.0359 inches (0.912 mm)], minimum 3 $\frac{3}{8}$ -inch (92 mm) deep, galvanized steel framing members are spaced at a maximum of 24 inches

on center. Horizontal board joints shall be backed by No. 20 gauge [0.0359 inches (0.912 mm)], 3 $\frac{3}{8}$ -inch (92 mm) deep galvanized steel framing sections, fit between the vertical framing. Mineral fiber insulation, 2 pcf (32 kg/m³) nominal density, the same depth as the framing, is placed to fill the framing cavities. The interior and exterior face have one layer of 12 mm thick Magnum Fiber Reinforced MgO Building Materials applied parallel with all joints backed by framing and attached with No. 8 $\times$ 1 $\frac{1}{8}$ -inch (41 mm) long, drill point, high/low thread, 0.421 inch (10.7 mm) diameter wafer head steel screws, spaced 6 inches (152 mm) on center along the perimeter and joints, and 12 inches (304 mm) on center in the field of the board. The fastener heads and joints of the wallboard shall be taped and treated with joint compounds in accordance with IBC Section 2508.4, and either ASTM C840 or GA-216.

3.4.2 Two-Hour Wall: The non-load-bearing wall assembly achieves a one-hour fire-resistance rating based on testing and engineering analysis in accordance with IBC Sections 703.2 and 703.4 and IRC Section R302. Minimum No. 20 gauge [0.0359 inches (0.912 mm)], minimum 3 $\frac{3}{8}$ -inch (92 mm) deep, galvanized steel framing members are spaced at a maximum of 16 inches on center. Horizontal board joints shall be backed by No. 20 gauge [0.0359 inches (0.912 mm)], 3 $\frac{3}{8}$ -inch (92 mm) deep galvanized steel framing sections, fit between the vertical framing. Mineral fiber insulation, 2.5 pcf (40 kg/m³) nominal density, the same depth as the framing, is placed to fill the framing cavities. The interior and exterior face have one layer of 16 mm thick Magnum Fiber Reinforced MgO Building Materials applied parallel with all joints backed by framing and attached with No. 8 $\times$ 1 $\frac{1}{8}$ -inch (41 mm) long, drill point, high/low thread, 0.421 inch (10.7 mm) diameter wafer head, corrosion-resistant steel screws, spaced 6 inches (152 mm) on center along the perimeter and joints, and 8 inches (203 mm) on center in the field of the board. The fastener heads and joints of the wallboard shall be taped and treated with joint compound in accordance with IBC Section 2508.4, and either ASTM C840 or GA-216.

3.4.3 Additional Fire-Resistance-Rated Assemblies: The panels are permitted to be used as a component of a fire-resistance-rated assembly in accordance with IBC Section 703.2, when testing in accordance with ASTM E119 or UL 263 is submitted to and approved by the building official. Fire resistance may also be determined through alternative methods as defined in 2024 or 2021 IBC Section 703.2.2 or 2018 IBC Section 703.3. Fire resistance based on testing in accordance with ASTM E119 or UL 263 may be established when the registered design professional specifies, and then the building official approves a fire-resistance-rated assembly with the Magnum Fiber Reinforced MgO Building Materials in a documented design from approved sources.

3.5 Interior Finish: Magnum Fiber Reinforced MgO Building Materials exhibit a flame-spread index of 0 and a smoke-developed index of 450 or less based on results of ASTM E84 testing and are classified as Class A for surface-



burning characteristics in accordance with IBC Section 803.1.2. The Magnum Fiber Reinforced MgO Building Materials comply with IRC Section R302.9 for interior wall coverings.

3.6 Types of Construction:

3.6.1 2021 and 2018 IBC and 2021 and 2018 IRC: Magnum Fiber Reinforced MgO Building Materials comply with 2021 IBC Section 703.3 and 2018 IBC Section 703.5.1 as noncombustible based on testing in accordance with ASTM E136 and are permitted to be used in Types I through V Construction as set forth in Chapter 6 of the 2021 and 2018 IBC and where required in the IRC. The panels also comply with IBC Sections 603.1.20 and 703.2.1.2 for use in Types I through V Construction based on fire-resistance testing as described in Section 3.4.1 or 3.4.2 of this report. Walls with a combustible water-resistive barrier are subject to the requirements in IBC Section 1402.5.

3.6.2 2024 IBC and 2024 IRC: Magnum Fiber Reinforced MgO Building Materials at 12 mm thickness comply with 2024 IBC Section 703.3 as noncombustible based on testing in accordance with ASTM E136-24 and are permitted to be used in Types I through V Construction as set forth in Chapter 6 of the 2024 IBC and where required under the IRC. The panels also comply with IBC Sections 603.1.20 and 703.2.1.2 for use in Types I through V Construction based on fire-resistance testing as described in Section 3.4.1 or 3.4.2 of this report. Walls with a combustible water-resistive barrier are subject to the requirements in IBC Section 1402.5.

3.7 Mold Resistance: When tested in accordance with ASTM D3273, Magnum Fiber Reinforced MgO Building Materials exhibit a mold growth rating of 10 = 0 percent defacement.

3.8 Special Inspections

Periodic special inspections for seismic or wind resistance shall be in accordance with the requirements of IBC Chapter 17 corresponding to the applicable type (wood) of light-framed construction.

3.9 Wildland Urban Interface Areas:

3.9.1 2021 and 2018 IWUIC: Magnum Fiber Reinforced MgO Building Materials comply as noncombustible materials in accordance with IWUIC Section 503.2.1 and Section 3.6.1 of this report. Use in wildland urban interface areas is permitted, subject to the applicable provisions of the IWUIC.

3.9.2 2024 IWUIC: Magnum Fiber Reinforced MgO Building Materials at 12 mm thickness comply as noncombustible materials in accordance with IWUIC Section 503.2.1 and Section 3.6.2 of this report. Use in wildland urban interface areas is permitted, subject to the applicable provisions of the IWUIC.

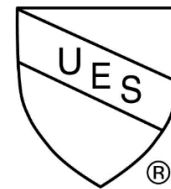
4.0 PRODUCT DESCRIPTION

4.1 Magnum Fiber Reinforced MgO Building Materials: Magnum Fiber Reinforced MgO Building Materials consist of 12, 16, or 18 mm (0.47, 0.63, or 0.71 inch) thick, fiberglass-reinforced, magnesium oxide cement-based boards complying with the Type B Grade I provisions of ASTM C1186. Square Edge, Tapered Edge, Tongue and Groove, and Ship Lap styles are available. These panels are available in widths of 48 inches (1219 mm) and standard lengths of 8 feet (2438 mm) to 12 feet (3658 mm). Magnum Fiber Reinforced MgO Building Materials have a density of 78 pcf (1250 kg/m³) and weigh approximately 2.75 psf to 4.13 psf (13.4 to 20.2 kg/m²). When stored, panels shall be supported to prevent bowing in clean, dry areas, off the ground, protected from weather, debris, and physical damage.

4.2 Fasteners: Fasteners shall be driven through the panels and into the framing. For cold-formed steel framing systems, the fasteners shall be corrosion-resistant, self-countersinking-wafer head, a minimum of 1½-inch (41 mm) long, stainless steel or titanium screws with a self-drilling tip and high/low threads, conforming to AISI S240 Section B. The screw size shall match the steel thickness or be as specifically described in this report. For wood framing systems, the fasteners shall be corrosion-resistant, self-countersinking-wafer head, No. 8 by a minimum of 1½-inch (41 mm) long, stainless steel or titanium screws, with high/low threads and a sharp tip, conforming to IBC Section 2303.6 and ASTM F1667.

5.0 IDENTIFICATION

Magnum Fiber Reinforced MgO Building Materials are identified by the Magnum Board Products LLC name and trademark, product name, and evaluation report number (IAPMO UES ER-986). The IAPMO Uniform Evaluation Service Mark of Conformity may also be used as shown below:



IAPMO UES ER-986

6.0 SUBSTANTIATING DATA

6.1 Test reports are from laboratories in compliance with ISO/IEC 17025.

6.2 Data in accordance with ASTM C1186: Flexural Strength, Density, Moisture Movement, Water Absorption, Moisture Content, Surface Burning Characteristics, Frost Resistance (IBC Sections 1403, 1404, IRC Section R703).



6.3 Data in accordance with ASTM C325: Modulus of Elasticity, Moisture Movement, Surface Burning Characteristics, Shear Bond Strength (Dry-Set Portland Cement Mortar), Shear Bond Strength (Latex-Portland Cement Mortar), Nail-Head Pull-Through, Mold Resistance, Compression Indentation, Falling Ball Impact, Freeze Thaw Resistance (IBC Section 2509, IRC Section R702).

6.4 Data in accordance with ASTM G155: 2,000 hours (IBC Section 1504.6).

6.5 Data in accordance with ASTM C1396: humidified deflection (IBC Section 2506, IRC Sections R602, R702).

6.6 Data in accordance with ASTM E119: one-hour non-load-bearing wall, two-hour non-load-bearing wall (IBC Sections 703, 704, 705, 707, 712, 714, 715, 716, 717, 721; IRC Sections R302, R606).

6.7 Data in accordance with ASTM E136.

6.8 Data in accordance with US DOC PS2: Uniform Transverse Load (IBC Section 2303, IRC Sections R404, R503, R602, R604, R803).

6.9 Data in accordance with IAPMO UES EC 052-2026, Evaluation Criteria for MgO Panel Products Used to Resist Lateral In-Plane Wind and Seismic Forces in Wood Frame Construction, adopted March 2026 (IBC Section 2306, IRC Section R602).

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Magnum Board Products LLC, Magnum Fiber Reinforced MgO Building Materials, to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.15 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

TABLE 1—ALLOWABLE UNIFORM LOADS FOR MAGNUM FIBER REINFORCED MgO BUILDING MATERIALS

MAGNUM FIBER REINFORCED MgO BUILDING MATERIALS SPAN ⁴ (inches)	Thickness (mm)	ALLOWABLE POSITIVE UNIFORM LOAD ^{1,2} (psf)	ALLOWABLE NEGATIVE UNIFORM LOAD ^{3,5} (psf)
16@L/60 Deflection	12 mm	88	23
24@ L/60 Deflection	12 mm	88	N/A
24@ L/360 Deflection	18 mm	65	N/A
24@ L/240 Deflection	18 mm	95	N/A
24@ L/60 Deflection	18 mm	104	N/A

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 psi = 6.89475 kPa.

¹ These loads represent the load-carrying capacity of the panels spanning between framing, with a minimum 1.5-inch-wide bearing surface.

² Application to occupancies requiring concentrated live load is beyond the scope of this report. Additional requirements in IBC Section 1607.4 shall apply.

³ These loads represent the negative load-carrying capacity of panels connected to 2x wood framing with SG = 0.42 minimum, using No. 8 by 1½ inch long screws spaced 6 inches on center at edges, and 12 inches on center in the field.

⁴ The deflection limit of L/60 is limited to wall sheathing installations.

⁵ N/A = Not available.



TABLE 2 — ASD SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES (POUNDS PER FOOT) AND DISPLACEMENTS (INCHES) FOR BLOCKED SHEAR WALLS WITH MAGNUM FIBER REINFORCED MGO BUILDING MATERIALS WITH WOOD SCREWS TO WOOD FRAMING SPACED AT 16 INCHES O.C. MAXIMUM^{1,2,3}

BOARD THICKNESS (mm) AND EDGE TYPE	FRAMING ⁴	Wet or Dry Use ¹⁰	NO. 8 (0.165 INCH) DIAMETER BY 1.625-INCH-LONG SCREW SPACING AT PANEL EDGES/INTERMEDIATE FRAMING, INCHES ON CENTER ^{5,6}		
12 Square Edge	Species Group: Spruce-Pine-Fir Stud: 2 by 4 End post: Double 2 by 4 Sill and top plate: 2 by 4	Wet	6/12		
			$V_{0.2}$ ⁷ (plf)	V_{asd} ⁸ (plf)	ΔV_{asd} ⁹ (inch)
			235	158	0.18
16 Square Edge	Species Group: Southern Pine ¹¹ Stud: 2 by 4 End post: Double 2 by 4 Sill and top plate: 2 by 4	Dry	6/12		
			$V_{0.2}$ ⁷ (plf)	V_{asd} ⁸ (plf)	ΔV_{asd} ⁹ (inch)
			150	251	0.38
18 Square Edge	Species Group: Southern Pine ¹¹ Stud: 2 by 4 End post: Double 2 by 4 Sill and top plate: 2 by 4	Dry	6/6		
			$V_{0.2}$ ⁷ (plf)	V_{asd} ⁸ (plf)	ΔV_{asd} ⁹ (inch)
			74	161	0.50

For SI: 1 inch = 25.4 mm, 1 plf = 0.0146 N/mm

¹ These values are for short-term loads due to wind or earthquake.

² The aspect ratio shall be 2:1 maximum with vertical board joints.

³ Tabulated values listed are for boards applied to one side or two sides of a wall.

⁴ The moisture content of the framing shall be no greater than 19 percent in service. For species and grades of framing other than Douglas-Fir-Larch or Southern Pine, reduced nominal unit shear capacities shall be determined by multiplying the tabulated nominal unit shear capacity by the Specific Gravity Adjustment Factor = $[1 - (0.5 - G)]$, where G = Specific Gravity of the framing lumber from the ANSI/AWC NDS (Table 12.3.3A). The Specific Gravity Adjustment Factor shall not be greater than 1.

⁵ The screws are installed with a 0.55 inch edge distance at perimeters and joints.

⁶ All board edges shall be blocked and fastened. Boards shall be installed vertically with the long dimension parallel to the framing.

⁷ $V_{0.2}$ = The strength at a horizontal deformation of 0.2 inch (5.1 mm)

⁸ V_{asd} = Allowable Stress Design (ASD) Strength.

⁹ ΔV_{asd} = Deflection at V_{asd} design load.

¹⁰ The tabulated dry use values apply to locations where the Magnum Fiber Reinforced MgO Building Materials will not be subjected to wetting during construction.

¹¹ For species and grades of framing other than Southern Pine, reduced nominal unit shear capacities shall be determined by multiplying the tabulated nominal unit shear capacity by the Specific Gravity Adjustment Factor = $[1 - (0.55 - G)]$, where G = Specific Gravity of the framing lumber from the ANSI/AWC NDS (Table 12.3.3A). The Specific Gravity Adjustment Factor shall not be greater than 1.



CALIFORNIA SUPPLEMENT

MAGNUM BOARD PRODUCTS LLC

P.O. Box 90

Seffner, Florida 33583

(585) 820-7625

www.magnumbp.com

MAGNUM FIBER REINFORCED MGO BUILDING MATERIALS

CSI Section:

- 05 40 00 Cold-Formed Metal Framing
- 05 41 00 Structural Metal Stud Framing
- 06 00 00 Wood, Plastics, and Composites
- 06 11 00 Wood Framing
- 06 16 00 Sheathing
- 06 16 63 Cementitious Sheathing
- 07 44 53 Glass-Fiber-Reinforced Cementitious Panels
- 09 28 13 Cementitious Backing Boards
- 09 28 15 Magnesium Oxide Backing Panels

1.0 RECOGNITION

The Magnum Fiber Reinforced MgO Building Materials, as evaluated and represented in IAPMO UES Evaluation Report ER-986, and with changes as noted in this supplement, are a satisfactory alternative for use in buildings built under the following codes:

- 2025 California Building Code (CBC)
- 2025 California Residential Code (CRC)
- 2025 California Wildland Urban Interface Code (CWUIC)

2.0 LIMITATIONS

Use of the Magnum Fiber Reinforced MgO Building Materials, recognized in this report, is subject to the following limitations:

2.1 CBC: All provisions of IAPMO UES ER-986 referencing the 2024 IBC shall apply under the 2025 CBC, except as specifically noted in this supplement.

2.2 CRC: All provisions of IAPMO UES ER-986 referencing the 2024 IRC shall apply to use under the 2025 CRC, except as specifically noted in this supplement.

2.3 CWUIC: All provisions of IAPMO UES ER-986 referencing the 2024 IWUIC shall apply to use under the 2025 CWUIC, except as specifically noted in this supplement.

2.4 Wind and Seismic Load Design:

2.4.1 The design for horizontal loads shall be as set forth in Section 3.2 of IAPMO UES ER-986.

2.4.2 For applications involving community colleges, the provisions in CBC Sections 1617 and 2215 shall apply.

2.4.3 For applications regulated by DSA or HCAi (OSHPD):

- a. Provisions in ASCE/SEI 7 shall be modified as set forth in CBC Section 1617A.
- b. Use of Magnum Fiber Reinforced MgO Building Materials as shear walls is not permitted in accordance with CBC Sections 1617A.1.4A and 1617A.1.4B.

2.5 Installation: Installation requirements shall be as set forth in Section 3.3 of IAPMO UES ER-986.

2.6 Special Inspection: Special inspections shall be provided as set forth in Section 3.8 of IAPMO UES ER-986.

2.7 For applications regulated by DSA or HCAi (OSHPD), structural calculations shall comply with CBC Section 1603A.3.

2.8 Magnum Fiber Reinforced MgO Building Materials at 12 mm thickness comply as noncombustible materials in accordance with CWUIC Sections 501.4 and 503.2.1 and Section 3.6.2 of IAPMO UES ER-986. Use in wildland urban interface areas and fire hazard severity zones is permitted, subject to the applicable provisions of the CWUIC.

2.9 This supplement expires concurrently with IAPMO UES ER-986.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



FLORIDA SUPPLEMENT

MAGNUM BOARD PRODUCTS LLC

P.O. Box 90

Seffner, Florida 33583

(585) 820-7625

www.magnumbp.com

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- 06 16 63 Cementitious Sheathing
- 07 44 53 Glass-Fiber-Reinforced Cementitious Panels
- 09 28 13 Cementitious Backing Boards
- 09 28 15 Magnesium Oxide Backing Panels

1.0 RECOGNITION

The Magnum Fiber Reinforced MgO Building Materials, as evaluated and represented in IAPMO UES Evaluation Report ER-986, and with changes as noted in this supplement, are a satisfactory alternative for use in buildings built under the following codes:

- 2023 Florida Building Code, Building, Eighth Edition (FBC-Building)
- 2023 Florida Building Code, Residential, Eighth Edition (FBC-Residential)

2.0 LIMITATIONS

Use of the Magnum Fiber Reinforced MgO Building Materials, recognized in this report, is subject to the following limitations:

2.1 FBC, Building: All provisions of IAPMO UES ER-986 referencing the 2021 IBC shall apply under the 2023 FBC, Building, except as specifically noted in this supplement.

2.2 FBC, Residential: All provisions of IAPMO UES ER-986 referencing the 2021 IRC shall apply to use under the 2023 FBC, Residential; along with Section R302 of the FBC, Residential, as applicable, except as specifically noted in this supplement.

2.3 Complete construction documents, including plans and calculations verifying compliance with this report, shall be submitted to the building official with the permit application for approval. The construction documents shall be prepared by a registered design professional where required by Chapter 471, Florida Statutes, or Chapter 481, Florida Statutes.

2.4 Evaluation for use in high-velocity hurricane zones (HVHZ), consisting of Broward and Dade counties as defined in Section 202 of the FBC, Building, and Section R202 of the FBC, Residential, is beyond the scope of this report.

2.5 Verification shall be provided that a quality assurance agency audits the manufacturer's quality assurance program and audits the production quality of products, in accordance with Section (5)(d) of Florida Rule 61G20-3.008. The quality assurance agency shall be approved by the Commission (or by the building official when the report holder does not possess an approval from the Commission).

2.6 This supplement expires concurrently with IAPMO UES ER-986.

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LOS ANGELES SUPPLEMENT

MAGNUM BOARD PRODUCTS LLC

P.O. Box 90

Seffner, Florida 33583

(585) 820-7625

www.magnumbp.com

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- 09 28 13 Cementitious Backing Boards
- 09 28 15 Magnesium Oxide Backing Panels

1.0 RECOGNITION

The Magnum Fiber Reinforced MgO Building Materials, as evaluated and represented in IAPMO UES Evaluation Report ER-986, the California Supplement, and with changes as noted in this supplement, are a satisfactory alternative for use in buildings built under the following codes:

- 2026 Los Angeles Building Code (LABC)
- 2026 Los Angeles Residential Code (LARC)
- 2026 Los Angeles Wildland Urban Interface Code (LAWUIC)

2.0 LIMITATIONS

Use of the Magnum Fiber Reinforced MgO Building Materials, recognized in this report, is subject to the following limitations:

2.1 LABC: All provisions of the California Supplement to IAPMO UES ER-986 referencing the CBC shall apply under the 2025 CBC, except as specifically noted in this supplement.

2.2 LARC: All provisions of California Supplement to IAPMO UES ER-986 referencing the CRC shall apply to use under the LARC, except as specifically noted in this supplement.

2.3 LAWUIC: All provisions of California Supplement to IAPMO UES ER 986 referencing the CWUIC shall apply to

use under the LWUIC, except as specifically noted in this supplement.

2.4 Prior to installation, calculations and details demonstrating compliance with this approval report and the LABC or LARC shall be submitted to the structural plan check section for review and approval. The calculations and details shall be prepared, stamped, and signed by a California registered design professional.

2.5 The design, installation, and inspection of the Magnum Fiber Reinforced MgO Building Materials adhesive anchors shall be in accordance with LABC Chapters 16 and 17, as applicable, due to local amendments to these chapters.

2.6 Under the LARC, a design in accordance with Section R301.1.3 shall be submitted.

2.7 Wind and Seismic Load Design:

2.7.1 The design for horizontal loads shall be as set forth in Section 3.2 of IAPMO UES ER-986.

2.8 Installation: Installation requirements shall be as set forth in Section 3.3 of IAPMO UES ER-986.

2.9 Special Inspection: Special inspections shall be provided as set forth in Section 3.8 of IAPMO UES ER-986.

2.10 This supplement expires concurrently with IAPMO UES ER-986.

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