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ESR-2880

Reissued 11/2016
This report is subject to renewal 11/2017.

DIVISION: 09 00 00—FINISHES
SECTION: 09 28 15—MAGNESIUM OXIDE BACKING PANELS

REPORT HOLDER:

MBP-IP, LLC

**405 NORTH REO STREET, SUITE 300
TAMPA, FLORIDA 33609**

EVALUATION SUBJECT:

MAGNUM BOARD



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DIVISION: 09 00 00—FINISHES

Section: 09 28 15—Magnesium Oxide Backing Panels

REPORT HOLDER:

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EVALUATION SUBJECT:

MAGNUM BOARD

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)

Properties evaluated:

- Structural
- Durability
- Construction Types I-IV
- Surface-burning characteristics

2.0 USES

Magnum Board is used on interior surfaces as defined in IBC Section 2502, as substrate sheets suitable for decoration with paint, wallpaper, ceramic tile, natural stone or dimension stone on walls in interior dry areas and on walls and ceilings as permitted in IBC Section 2509.2 and IRC Section 702.4.2. Magnum Board can be used as structural sheathing applied to interior and exterior wood-framed walls, to resist uniform transverse loads and racking shear loads. The boards are suitable for use in all construction types under the IBC and in buildings constructed under the IRC.

3.0 DESCRIPTION

Magnum Boards are 1/2-inch thick (12 mm) magnesium-oxide sheets, reinforced with fiberglass mesh on both faces, available with a 4-foot (1219 mm) width and lengths of either 8 or 10 feet (2.4 or 3.0 m). The boards exhibit a maximum deflection of 1/16 inch (1.6 mm) in humidified deflection testing in accordance with ASTM C1396. Magnum Boards have a flame spread Index of 10 or less

and a smoke-developed index of 5 or less when tested in accordance with ASTM E84. The boards are classified as noncombustible building materials in accordance with ASTM E136.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 Transverse Load Resistance: When installed in accordance with Section 4.2 of this report, Magnum Board sheathed walls resist a maximum transverse load of 40 psf (1915 Pa).

4.1.2 Racking Shear Resistance: When installed in accordance with Section 4.2 of this report, Magnum Board sheathed walls have a maximum racking shear resistance of 140 plf (2043 N/m), a maximum wall height of 8 feet (2.4 m) and a shearwall height-to-length aspect ratio of 1-to-1. Use of the boards as shearwall sheathing is limited to resisting wind loads and seismic loads in Seismic Design Categories A, B and C.

4.2 Installation:

Magnum Boards must be installed on wood framing members spaced not more than 16 inches (406 mm) on center on minimum 2-by-4 studs. The framing members must have a minimum specific gravity of 0.42 for racking shear resistance and 0.50 for racking shear resistance. The panel joints must occur over framing. The boards must be installed using corrosion-resistant, 1 1/2-inch, No. 8, self-drilling screws at a maximum spacing of 6 inches (152 mm) on center around the perimeter and 12 inches (305 mm) on center in the field.

5.0 CONDITIONS OF USE

The Magnum Board 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** The panels must be installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.2** When used as a component of shear walls (racking shear), the panels are recognized for use in Seismic Design Categories A, B and C under the IBC and IRC.
- 5.3** The support framing must be designed for a maximum allowable deflection of L/360 under seismic or wind loads for exterior or interior areas.

- 5.4 Use of Magnum Board in fire-resistance-rated construction is outside the scope of this report.
- 5.5 Use of Magnum Board as floor sheathing or floor underlayment is outside of the scope of this report.
- 5.6 Installation of a vapor retarder in exterior walls must be in accordance with code requirements.
- 5.7 Magnum Board must not be exposed to the weather and must not be used in wet areas as defined in IBC Section 2509. Under the IRC, the substrate sheets must not be used in showers.
- 5.8 Use of the panels in horizontal diaphragms is outside of the scope of this report.
- 5.9 The boards are manufactured in Qingyuan City, China, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Fiber-reinforced Magnesium-oxide-based Sheets (AC386), dated October 2007.

- 6.2 Data in accordance with the ICC-ES Acceptance Criteria for Reinforced Cementitious Sheets Used as Wall and Ceiling Sheathing and Floor Underlayment (AC376), dated February 2009.
- 6.3 Data in accordance with the ICC-ES Acceptance Criteria for Racking Shear Evaluation of Proprietary Sheathing Materials Attached to Light-framed Walls with Proprietary Fasteners (AC269), dated October 2009.
- 6.4 Data in accordance with the ICC-ES Acceptance Criteria for Fiber-cement Interior Substrate Sheets Used in Wet and Dry Areas (AC378), dated August 2012.

7.0 IDENTIFICATION

Each panel bears the MBP-IP name, the product name, and the evaluation report number (ESR-2880).