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ESR-4268

Reissued 03/2019
This report is subject to renewal 03/2020.

DIVISION: 09 00 00—FINISHES

SECTION: 09 28 15—MAGNESIUM OXIDE BACKING PANELS

REPORT HOLDER:

AMERIFORM, LLC

EVALUATION SUBJECT:

NOCOM™

"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"

A Subsidiary of ICC INTERNATIONAL CODE COUNCIL

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1.0 EVALUATION SCOPE

Compliance with the following codes:

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

Properties evaluated:

- Structural
- Durability
- Construction Types I-IV
- Surface-burning characteristics
- Fire-resistance-rated construction

2.0 USES

NOCOM™ 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. NOCOM™ can be used as structural sheathing applied to interior and exterior walls when constructed in accordance with Sections 4.1 of this report, to resist uniform transverse loads and racking shear loads. The NOCOM™ is suitable for use in all construction types under the IBC and in buildings constructed under the IRC.

3.0 DESCRIPTION

NOCOM™ are $^{3}/_{8}$-inch (9.5 mm), ½-inch (12.7 mm), and $^{5}/_{8}$-inch-thick (15.9 mm) magnesium-oxide sheets, reinforced with fiberglass mesh on both faces, available with a 4-foot (1219 mm) width and lengths of either 8, 10, or 12 feet (2.4, 3.0 or 3.6 m). The NOCOM™ exhibits a maximum deflection of $^{1}/_{16}$ inch (1.6 mm) in humidified deflection testing in accordance with ASTM C473. NOCOM™ has 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 NOCOM™ is classified as noncombustible building materials in accordance with ASTM E136.

4.0 DESIGN AND INSTALLATION

4.1 Installation:

4.1.1 Wood Framing: NOCOM™ must be installed on wood framing members spaced not more than 16 inches (406 mm) on center on nominal 2-by-4 studs. The framing members must have a minimum specific gravity of 0.42 for transverse load resistance and racking shear resistance. The joints between NOCOM™ must occur over framing. The NOCOM™ must be installed using staples (ESR-1539) having a minimum ½-inch (12.7 mm) crown width and 1½-inch (39 mm) length installed at 4 inches (100 mm) maximum on center spacing around the board perimeter, and 8 inches (200 mm) maximum on center spacing in the field. Staples are to be installed with a minimum of $^{3}/_{8}$-inch (6 mm) edge distance, and minimum 2 inches (51 mm) from corners of NOCOM™.

4.1.2 Steel Framing: NOCOM™ must be installed on minimum 18 gauge (43 mils, 1.09 mm) steel framing members spaced not more than 16 inches (406 mm) on center, of minimum size $1^{1}/_{2}$-inch (38 mm) width and $3^{5}/_{8}$-inch depth (92 mm) complying with ESR-3064P or equivalent. The joints between NOCOM™ must occur over framing members. The NOCOM™ must be installed using ITW 8-18 x 1¼" #2 PW S-12 Rock-On fasteners (PN:6310), installed at 4 inches (100 mm) maximum on center spacing around the perimeter of NOCOM™, and 8 inches (200 mm) maximum on center spacing in the field. Fasteners are to be installed a minimum of $^{3}/_{8}$-inch (6 mm) edge distance, and minimum 2 inches (51 mm) from corners of NOCOM™.

4.2 Design:

4.2.1 Transverse Load Resistance: When installed in accordance with Section 4.1.1 of this report, NOCOM™ sheathed walls resist a maximum transverse load of 25 psf (1197 Pa). When installed in accordance with Section 4.1.2 of this report, NOCOM™ sheathed walls resist a maximum transverse load of 35 psf (1675 Pa).

4.2.2 Racking Shear Resistance: When installed in accordance with Section 4.1.1 of this report, NOCOM™ sheathed walls have a maximum racking shear resistance of 186 plf (2714 N/m), a maximum wall height of 8 feet (2.4 m) and a shearwall height-to-length aspect ratio of 1 to 1. When installed in accordance with Section 4.1.2 of this report, NOCOM™ sheathed walls have a maximum racking shear resistance of 243 plf (3646 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 NOCOM™ as shearwall sheathing is limited to resisting wind loads and seismic loads in Seismic Design Categories A, B and C.

4.3 Fire-resistance-rated Wall Assemblies:

One-hour Fire-resistance-rated Load-bearing Wall: The ½-inch-thick (12.7 mm) NOCOM™ is installed horizontally to the exterior face of wood-frame wall having minimum nominal 2-by-4 studs spaced at 16 inches (406 mm) on center. The NOCOM™ must be installed with horizontal joints staggered from the Type X gypsum boards installed on the opposite side of the wall. The NOCOM™ must be installed with staples (ESR-1539) having a minimum ½-inch (12.7 mm) crown width and $1^1/_2$-inch (39 mm) length installed at 4 inches (100 mm) maximum on center spacing around the board perimeter, and 8 inches (200 mm) maximum on center spacing in the field. Staples must be installed with a minimum of $^3/_8$-inch (6 mm) edge distance, and minimum 2 inches (51 mm) from corners of NOCOM™. The $^5/_8$-inch-thick (15.9 mm) Type X gypsum wall board is installed on the interior face of wood-frame wall, attached with #6 $1^5/_8$-inch-long (41 mm) coarse thread drywall screws, spaced at 8 inches (203 mm) on center at edges and 12 inches (305 mm) along intermediate studs. The gypsum panel joints are mudded and taped. Mineral wool insulation complying with ASTM C612, having a thickness of $3^1/_2$ inches (89 mm) and a minimum nominal density of 2.8 pcf (44.8 kig/m^3), is installed friction-fit into the stud cavity. Allowable bearing loads must not exceed 100% allowable F'_C, or 100% of the calculated stress with studs having a slenderness ratio, or l_e/d, of 33, whichever is less.

5.0 CONDITIONS OF USE

NOCOM™ described in this report complies with, or is a suitable alternative to what is specified in those codes listed in Section 1.0 of his report, subject to the following conditions:

5.1 The NOCOM™ 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 NOCOM™ 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 NOCOM™ in fire-resistance-rated construction shall comply with Section 4.3 of this report.

5.5 Use of NOCOM™ as floor sheathing or floor underlayment is outside of the scope of this report.

5.6 Installation of a vapor retarder in NOCOM™ sheathed exterior walls must be in accordance with code requirements.

5.7 NOCOM™ 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 NOCOM™ in horizontal diaphragms is outside of the scope of this report.

5.9 Under the IBC Section 1403.5, use of the NOCOM™ in exterior walls of types I, II, III, or IV construction containing a combustible water-resistive barrier is limited to walls up to 40 feet in height above the grade plane.

5.10 The NOCOM™ is manufactured 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 (editorially revised February 2016).

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 August 2012 (editorially revised February 2016).

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 (AC269.2), dated October 2013 (editorially revised February 2016).

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 (editorially revised February 2016).

6.5 Reports of tests on a fire-resistance-rated wall assembly in accordance with ASTM E119.

7.0 IDENTIFICATION

7.1 Every NOCOM™ unit shall be identified by a stamp or label on it, bearing the name and address of the report holder (Ameriform, LLC), the product name (NOCOM™), and the evaluation report number (ESR-4268).

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

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41 POPE ROAD
HOLLISTON, MASSACHUSETTS 01746
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