

ICC-ES Evaluation Report

ESR-1614

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**DIVISION: 07 00 00—THERMAL AND MOISTURE
PROTECTION**
**Section: 07 25 00—Water-Resistive Barriers/Weather
Barriers**
REPORT HOLDER:

3A COMPOSITES USA, INC.
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EVALUATION SUBJECT:
FOME-COR® BOARD
1.0 EVALUATION SCOPE
Compliance with the following codes:

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

Properties evaluated:

- Water resistance
- Vapor permeability
- Surface-burning characteristics

2.0 USES

Fome-Cor® Board is used as a water vapor-permeable, water-resistive barrier in exterior walls of Type V construction and construction permitted under the IRC. The product is an alternative to the water-resistive barrier specified in Section 1404.2 of the IBC or Section R703.2 of the IRC.

3.0 DESCRIPTION

Fome-Cor® Board is a composite material comprised of a 1/4-inch-thick (6.4 mm) extruded polystyrene foam plastic core, having a 2.0-pound-per-cubic-foot (32.0 kg/m³) nominal density, sandwiched between two layers of paper linerboard. Fome-Cor® Board is equivalent to a Grade C or Grade D building paper as described in UBC Standard 14-1. The 1/4-inch-thick (6.4 mm) bare extruded polystyrene foam plastic has a flame-spread index of less than 25 and a smoke-developed index of less than 450 when tested in accordance with ASTM E 84 (UBC Standard 8-1). The Fome-Cor® Board is available in widths

up to 8 feet (2438 mm). The 8-foot (2438 mm) board is scored and folded at either 22-inch, 24-inch, 32-inch or 48-inch (559 mm, 610 mm, 813 mm or 1219 mm) intervals, and is available in lengths up to 420 feet (128 m).

4.0 INSTALLATION
4.1 General:

The Fome-Cor® Board must be applied horizontally and lapped with minimum horizontal laps of 2 inches (51 mm) and vertical laps of 6 inches (152 mm). The 8-foot-wide (2438 mm) Fome-Cor® Board must be applied horizontally with minimum vertical laps of 6 inches (152 mm). Fome-Cor® Board is attached to wood or steel framing using nails, screws or staples spaced a maximum of 24 inches (610 mm) on center. Fasteners must be long enough to penetrate the framing a minimum of 3/4 inch (19.1 mm).

4.2 One-hour Fire-resistance-rated Wall Assembly:

4.2.1 Interior Face: One layer of 5/8-inch-thick (15.9 mm), Type X gypsum wallboard, water-resistant backerboard or veneer base, complying with the applicable code, must be applied parallel or at right angles to the interior face of nominally 2-by-4, No. 2, Douglas fir-larch wood studs spaced a maximum of 24 inches (610 mm) on center with the wall cavities filled with R-11 glass fiber insulation. The gypsum wallboard must be attached using 6d, 1 7/8-inch-long (48 mm) coated nails, having 1/4-inch-diameter (6.4 mm) heads, at 7 inches (178 mm) on center to studs, plates and blocking. All wallboard joints must be backed with minimum 2-by-4 wood framing, taped and treated with joint compound in accordance with ASTM C 840 or GA-216. Fastener heads must be treated with joint compound in accordance with ASTM C 840 or GA-216.

4.2.2 Exterior Face: One layer of minimum 5/8-inch-thick (15.9 mm), Type X, water-resistant-treated-core gypsum sheathing complying with ASTM C 79 or C 1369, 48 inches (1219 mm) wide, must be applied parallel to studs and fastened using No. 11 gage, 1 3/4-inch-long (45 mm), galvanized roofing nails having 7/16-inch- or 1/2-inch-diameter (11.1 mm or 12.7 mm) heads, at 4 inches (102 mm) on center at board edges and 7 inches (178 mm) on center at intermediate studs. The gypsum sheathing must be nailed to top and bottom plates at 7 inches (178 mm) on center. The Fome-Cor® Board must be applied in accordance with Section 4.1 of this report. Woven-wire lath with 1 1/2-inch (38 mm) openings, complying with ASTM C 1032, must be installed over the Fome-Cor® Board and fastened to all framing members at 6 inches (152 mm) on center using No. 16 gage corrosion-resistant staples having minimum 3/4-inch-wide (19 mm) crowns. The staple

legs must be long enough to penetrate the framing at least 1 inch (25.4 mm). The lath must be overlapped a minimum of 2 inches (51 mm). Lath overlaps must be offset from Fome-Cor® Board overlaps. A cementitious exterior wall coating recognized in a current ICC-ES evaluation report must be applied in accordance with the applicable evaluation report, with a minimum base-coat thickness of $\frac{1}{2}$ inch (12.7 mm) and a minimum finish coat thickness of $\frac{1}{8}$ inch (3.2 mm). The evaluation report on the cementitious exterior wall coating must also reference the fire-resistance-rated assembly evaluated in this report.

4.2.3 Axial Design: The wood stud axial design stress for the wall assembly, calculated in accordance with Sections 3.6 and 3.7 of ANSI AF&PA NDS-05 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC), is limited to $0.78 F'_c$, and the maximum stress shall not exceed $0.78 F'_c$ at a maximum l_e/d of 33.

5.0 CONDITIONS OF USE

The Fome-Cor® 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 Fome-Cor® Board must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. In

the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.

- 5.2 The interior of the building must be separated from the Fome-Cor® Board using an approved thermal barrier in accordance with IBC Section 2603.4, IRC Section R314.4 or UBC Section 2602.4.
- 5.3 Fome-Cor® Board is manufactured in Glasgow, Kentucky, with inspections by Underwriters Laboratories Inc. (AA-668).

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38), dated October 2009.
- 6.2 Reports of testing in accordance with ASTM E 119 and ASTM E 84 (UBC Standard 8-1).

7.0 IDENTIFICATION

The Fome-Cor® Board is identified, at 48-inch (1219 mm) intervals, by the imprint "Fome-Cor® Board by 3A Composites, Inc.," and the evaluation report number (ESR-1614). Additionally, labeling includes a statement noting the flame-spread index of 25 or less and the smoke-developed index of 450 or less, and the name of the inspection agency (Underwriters Laboratories Inc.).