DIVISION: 09 00 00—FINISHES
SECTION: 09 29 00—GYPSUM BOARD

REPORT HOLDER:

NATIONAL GYPSUM COMPANY

EVALUATION SUBJECT:

GOLD BOND BRAND® E²XP®, 1/2-INCH AND 5/8-INCH TYPE X,
EXTENDED EXPOSURE GYPSUM SHEATHING
EVALUATION SUBJECT:

to any finding or other matter in this report, or as to any product covered by the report.

as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as

CC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2019 ICC Evaluation Service, LLC. All rights reserved.
ASTM C1002, spaced at 4 inches (102 mm) on center along the edges and at 8 inches (203 mm) on center along intermediate supports. The screws must be installed at a minimum edge distance of \( \frac{3}{8} \) inch (9.5 mm).

### 4.2.2 Shear Resistance:

#### 4.2.2.1 Prescriptive Wall Bracing: e²XP Extended Exposure glass mat substrate is equivalent to gypsum sheathing for use as bracing to resist lateral loads due to wind and seismic forces. When installed as prescribed by IBC or IRC for gypsum sheathing, the glass mat gypsum substrate may be used as wall bracing in accordance with IBC Section 2308.9.3, Method 5, subject to the limitations in Section 2308.2, or in accordance with Section R602.10.2, Method GB of the 2009 IRC or Section R602.10.3, Method 5 of the 2006 IRC, as applicable.

#### 4.2.2.2 Engineered Shear Walls: e²XP Extended Exposure glass mat substrate may be used as a component of engineered shearwalls when designed in accordance with IBC Section 2305 for wood framed walls or IBC Section 2210.6 for light steel framed walls. The allowable design wind and seismic values must not exceed the allowable racking shear capacity for gypsum sheathing shown in Table 2306.7 of the 2009 IBC or Table 2306.4.5 of the 2006 IBC. Design wind loads must be determined in accordance with Section 1609 of the IBC. Design seismic loads must be determined in accordance with Section 1613 of the IBC.

For seismic design, the substrate may be used as a component of wood-framed engineered shear walls for resisting seismic loads in Seismic Design Categories A, B, C, and D. The response modification factor, R, must be equal to 2; the system overstrength factor, \( \Omega_o \), must be equal to \( 2^{1/2} \); and the deflection amplification factor, \( \Omega_d \), must be equal to 2. The maximum building height is 35 feet (10.6 m) for buildings located in Seismic Design Category D areas.

Structural members, systems and components, including boundary studs and plates, must be anchored to resist design forces and to provide continuous load paths for these forces to the foundation.

#### 4.3 Thermal Barrier:

The sheathing may be used as a thermal barrier for foam plastic insulation when installed in accordance with Section 4.1.

#### 4.4 One-hour Fire-resistance-rated, Limited-load-bearing Wall Assembly:

For use in a one-hour fire-resistance-rated wall assembly, \( \frac{5}{8} \) inch-thick (16 mm) e²XP Type X Extended Exposure Sheathing must be applied horizontally to the outside face of the wall, of minimum nominally 2-by-4 wood studs spaced at a maximum of 16 inches (406 mm) on center. A layer of \( \frac{5}{8} \) inch-thick (16 mm) Type X gypsum board conforming to ASTM C1396 (or \( \frac{5}{8} \) inch-thick Type X e²XP sheathing) must be installed on the interior side of the wall. The boards must be attached using minimum 1½-inch-long (47.6 mm) galvanized 6d nails, spaced at 8 inches on center (203 mm) at the edges and 16 inches on center (406 mm) at intermediate studs. The wall framing used in the fire-resistance-rated wall assembly must be designed in accordance with the applicable code, and the design compressive stress of the studs must be further limited by the least of the following:

- 488 psi (3365 kPa)
- 100 percent of \( F_c' \)
- 100 percent of \( F_c \) at an assumed slenderness ratio, \( l_s/d \), of 33.

\( F_c' \) must be determined in accordance with the NDS.

#### 4.5 Other Fire-resistance-rated Wall Assemblies:

One layer of \( \frac{5}{8} \) inch-thick (15.9 mm) e²XP Type X Extended Exposure Sheathing may be substituted for each layer of the Type X gypsum sheathing specified in IBC Table 720.1(2), for the exterior faces of assemblies numbered 13-1.1, 13-1.3, 14-1.3, 14-1.5, 15-1.1, 15-1.5, and 15-1.6.

#### 5.0 CONDITIONS OF USE

The e²XP Extended Exposure Sheathing 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 e²XP sheathing must be installed in accordance with this report and the manufacturer’s published installation recommendations. A copy of the recommendations must be available at all times on the jobsite during installation. If there is a conflict between the manufacturer’s published installation recommendations and this report, this report governs.

#### 5.2 e²XP sheathing must not be used as a nailing base, and any mechanical attachments of exterior coverings must be made directly to the framing.

#### 5.3 An approved water-resistant barrier and exterior wall covering approved by the code official must be provided over the sheathing as weather protection.

#### 5.4 Use as a fire-resistance-rated assembly is limited to the axial loads described in Section 4.4.

#### 5.5 Shear walls using the e²XP sheathing must not be used to resist forces imposed by masonry and/or concrete walls.

#### 5.6 The sheathing is manufactured in Medicine Lodge, Kansas; Mt. Holly, North Carolina; Phoenix, Arizona; and Waukegan, Illinois; under a quality control program with inspections by ICC-ES.

#### 6.0 EVIDENCE SUBMITTED

- Reports of transverse load tests in accordance with ASTM E330.
- Reports of fire-resistance testing in accordance with ASTM E119.
- Reports of surface-burning tests in accordance with ASTM E136.
- Reports of noncombustibility tests in accordance with ASTM E119.
- Reports of transverse load tests in accordance with ASTM E330.
- Engineering calculations.
- Quality documentation.

#### 7.0 IDENTIFICATION

#### 7.1 Each e²XP Extended Exposure Sheathing and e²XP Extended Exposure Sheathing Type X board must bear a label that includes the report holder’s name (National Gypsum Company), a plant identifier and date code, the product name, the board thickness, and the evaluation report number (ESR-2743).

#### 7.2 The report holder’s contact information is the following:

**NATIONAL GYPSUM COMPANY**  
2001 REXFORD ROAD  
CHARLOTTE, NORTH CAROLINA 28211  
(704) 551-5807  
www.nationalgypsum.com