

Gold Bond[®] BRAND Gypsum Sheathing & e²XP[™] Extended Exposure Sheathing



06 16 43

National 
Gypsum[®]

GOLD BOND® BRAND GYPSUM SHEATHING

DESCRIPTION

Gold Bond Brand Gypsum Sheathing is a water resistant board product designed for attachment to the outside of exterior wall framing as a water resistant underlayment for various exterior siding materials. The sheathing is manufactured with a treated water resistant core faced with water repellent paper on both face and back surfaces and on both long edges. Fire-Shield (type X) Jumbo Sheathing has special additives in the core to enhance its fire resistive properties.

USES

1. As a sheathing for wood framed residential construction to provide fire resistance, weather protection and to add to structural strength when used under exterior finishes such as vinyl siding, clapboard, paneling, masonry veneer, stucco and shingles.
2. As a sheathing for steel stud commercial construction

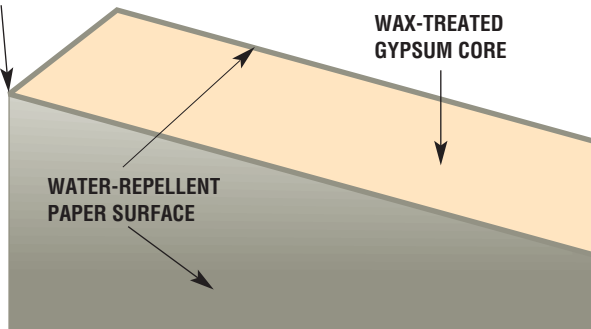
and as a component in curtainwall systems and exterior insulation systems and finishes.

3. As a sheathing for use in fire-rated exterior wall assemblies.

ADVANTAGES

1. **Economical:** Both material and application costs are low.
2. **Fire Resistance:** The non-combustible gypsum core of the sheathing helps protect framing elements even when the siding or finish material is combustible.
3. **Weather Protection:** Gypsum Sheathing's moisture resistant core and water repellent surfaces provide a barrier that resists passage of wind and water.**
4. **Little or No Sawing:** Gypsum Sheathing can be scored and snapped to exact size without cutting or sawing.

SQUARE EDGES FOR VERTICAL APPLICATION



JUMBO GYPSUM SHEATHING

Illustration colors for visualization purposes only.

TECHNICAL DATA

SIZES AND TYPES

- 1/2" x 4' x 8', 9', 10' (Jumbo) square edge.
- 5/8" x 4' x 8', 9', 10' (Fire-Shield Jumbo) square edge.

VAPOR PERMEABLE

Gypsum Sheathing typically has an average vapor permeance of 20 perms (dry cup method) which allows the escape of normal interior created water vapor.

SURFACE BURNING CHARACTERISTICS: (FIRE HAZARD CLASSIFICATION)

Gypsum Sheathing has a flame spread of 20 when tested under ASTM E 84. Source: Factory Mutual Report No. 16738.102.

FIRE-RESISTANCE RATINGS

A one-hour fire rating can be achieved for a wood framed wall when constructed per UL Design U305 consisting of nominal 2 x 4 wood studs 16" o.c. faced on the outside with 5/8" Fire-Shield Gypsum Sheathing and on the inside with 5/8" Fire-Shield Gypsum Board.

A two-hour fire rating may be obtained per UL Design U371 with 2 x 4 wood studs 16" o.c. with two layers of 5/8" Fire-Shield Gypsum Board applied to the interior side and 5/8" Fire-Shield Gypsum Sheathing, faced with brick veneer on the exterior side.

One and two hour fire ratings may be obtained for a steel framed wall when constructed per UL Designs U 418 and U 425.

STRUCTURAL

Racking tests have been conducted for the Gypsum Association by an independent laboratory according to ASTM E 72. Average ultimate racking load values were as follows:

SHEAR LOAD IN LBS. PER LINEAR FT. (KILOGRAMS PER METER)

	Dry	Wet*
1/2" x 4' (12.7 mm x 1219 mm) wide sheathing	540 (803)	332 (494)
5/8" x 4' (15.9 mm x 1219 mm) wide type X	654 (973)	522 (777)

*Treated core only

Studs spaced 16" o.c., fasteners galvanized 11 gauge nails 7/16" head, 1 1/2" long for 1/2" sheathing and 1 3/4" long for 5/8", 7" o.c. in the field and 4" o.c. on edges and ends for 5/8" Gypsum Sheathing; 8" o.c. in field and 4" o.c. on edges and ends for 1/2" Gypsum Sheathing.

Corner Bracing – Where continuous diagonal bracing is required, many building codes allow the use of 4' wide boards of 1/2" Gypsum Sheathing applied vertically to be used in place of 1" by 4" wood let-in bracing.

Shear Walls – Where wind or seismic forces require shear walls to resist these lateral forces, most building codes provide allowable shear values for walls having gypsum sheathing applied vertically to wood framing. Specific values with construction requirements and limitations are contained in the major model building codes (International Building Code, National Building Code, Standard Building Code and Uniform Building Code).

Shear values for all gypsum board, including Gypsum Sheathing, are defined in GA-229 at www.gypsum.org/GA-229-08.pdf.

SPECIFICATION COMPLIANCE

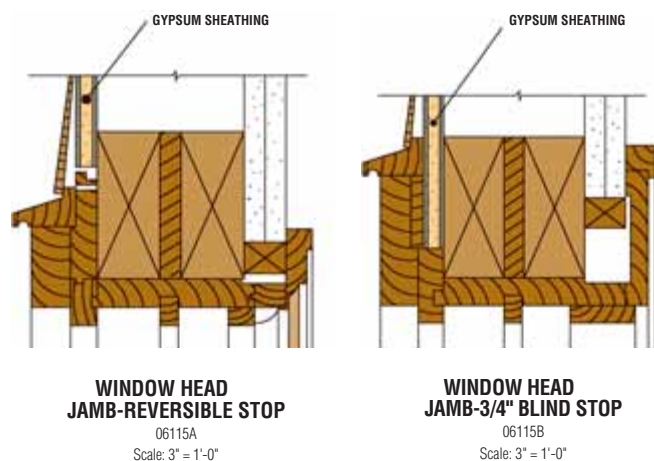
Gold Bond Gypsum Sheathing is manufactured to comply with ASTM Specification C 1396.

** Refer to Limitations, page 29, number 10.

LIMITATIONS

1. Gypsum Sheathing is not a finished surface nor is it a substrate for the direct application of stucco, paint or textures. Placement of vapor retarders is the responsibility of the design professional.
2. The sheathing shall not be used as a nailing base.
3. Exterior Insulation Finish Systems (EIFS): Exterior Insulation Finish Systems incorporating Gypsum Sheathing should be used with mechanical fasteners. The performance of these systems and recommendation of the proper method of attachment are the sole responsibility of the EIFS manufacturer.
4. Application of Gypsum Sheathing to framing by adhesive only is not recommended.
5. Stud spacing must not exceed 24" o.c.
6. Gypsum Sheathing is not recommended for application to exterior ceilings, soffits or sills.

DETAILS



**WINDOW HEAD
JAMB-REVERSIBLE STOP**
06115A
Scale: 3" = 1'-0"

**WINDOW HEAD
JAMB-3/4" BLIND STOP**
06115B
Scale: 3" = 1'-0"

7. Gypsum Sheathing should be spaced not less than 1/4" from abutting masonry to minimize wicking.
8. Neatly stack Gypsum Sheathing flat, taking care to prevent sagging or damage to the ends, edges and surfaces.
9. Gypsum Sheathing may be stored outside for up to one month if stacked off the ground under protective covering.
10. Gypsum Sheathing is designed for use as a substrate that is covered by an exterior cladding or other weather resistive barrier and is not intended for long term exposure. After it has been installed, it shall not be exposed to the elements for more than 30 days. The gypsum sheathing shall be covered with building felt or equivalent within 30 days after installation if exposure time will be more than 30 days.
11. Gypsum Sheathing applied perpendicular to framing shall be covered with building felt or equivalent or the horizontal joints shall be sealed at time of application.

SPECIFICATIONS

SECTION 06 16 43 GYPSUM SHEATHING

THE FOLLOWING PARAGRAPHS ARE FOR INSERTION INTO SECTIONS OF GENERIC SPECIFICATIONS OR GENERIC/PROPRIETARY SPECIFICATIONS COVERING GYPSUM BOARD PRODUCTS. THE GOLD BOND PRODUCT NAME FOLLOWS THE GENERIC DESCRIPTION IN PARENTHESES.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Gypsum Sheathing Board: A gypsum core sheathing boards with additives to enhance the water resistance of the core; surfaced with water repellent paper on front, back, and long edges; and complying with ASTM C 1396.
1. **Regular Board**, 1/2" x 4' x 8', 9', 10' with square edge (Gold Bond BRAND Jumbo Gypsum Sheathing).
 2. **Fire-Resistant Board** (type X), 5/8" x 4' x 8', 9', 10' with additives in the core to enhance fire resistance (Gold Bond BRAND Fire-Shield Jumbo Gypsum Sheathing).

PART 3 EXECUTION

3.01 INSTALLATION

- A. Gypsum Sheathing: In accordance with ASTM C 1280 and the manufacturer's recommendations, National Gypsum Company "Gypsum Construction Guide."

RECOMMENDATIONS

Fasteners (nail or screw heads or the crown of staples) shall bear tightly against the face of the sheathing but should not cut into the face paper. Staples shall be driven with the crown parallel to the framing. Fasteners shall be no less than 3/8" from the edges and ends of the sheathing. When shear values are not required, fasteners shall be spaced not more than 8" o.c. along the vertical ends or edges and intermediate supports.

JUMBO GYPSUM SHEATHING – 4' WIDE

Apply Jumbo Gypsum Sheathing vertically with vertical edges butting over the center of framing members. Fit sheathing snugly around all openings. Vertically attach sheathing with nails or screws spaced not over 4" o.c. around perimeter and 8" o.c. to intermediate studs (space staples not over 3" and 6" o.c. respectively). Jumbo Gypsum Sheathing is permitted to be applied horizontally. Secure horizontally applied sheathing to studs with nails or screws spaced not over 4" o.c. along ends and 8" o.c. to intermediate framing. Square edge gypsum sheathing applied perpendicular to framing shall be covered with building felt or equivalent or horizontal joints shall be sealed at time of application. Horizontal gypsum sheathing joints do not require back blocking.

TOTAL WALL THICKNESS

Door and window frames for outside wall openings should be ordered according to total wall thickness. For ease of installation it is recommended that window frames be selected with blind stops the same thickness as the sheathing.

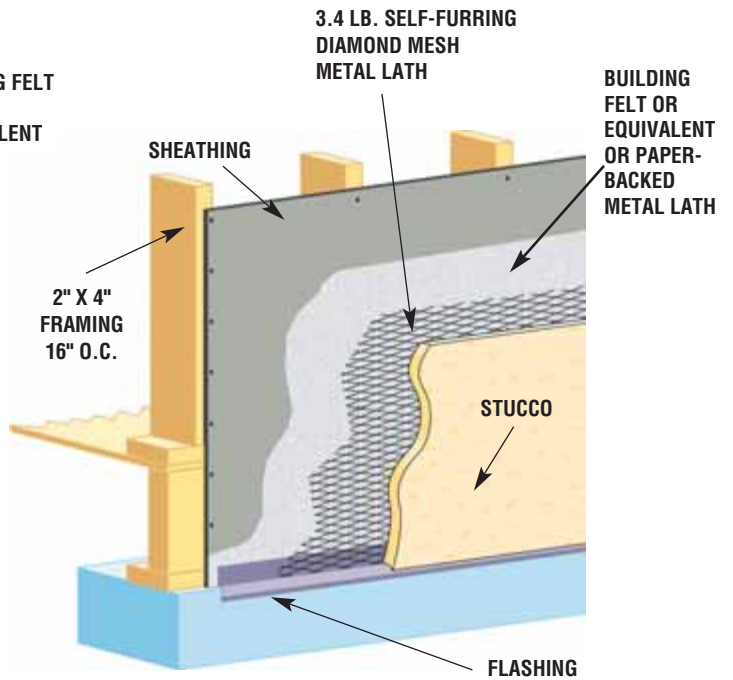
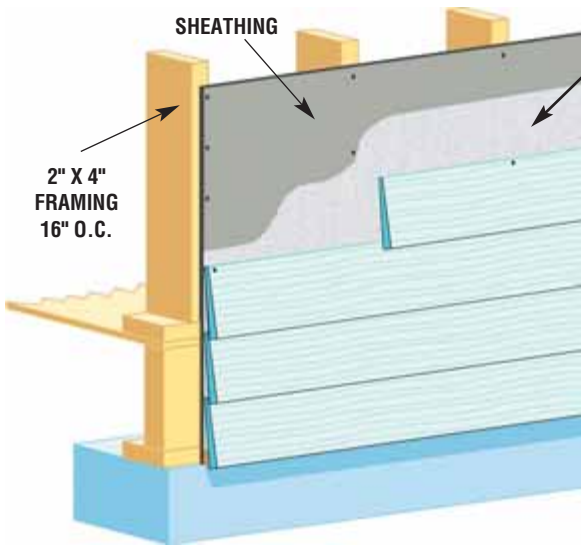
REVERSIBLE STOPS

Window frames with reversible stops can accommodate 1/2" sheathing. Detail 06115 A.

3/4" BLIND STOPS

For use of fixed 3/4" blind stops with 1/2" sheathing, insert 1/4" shim between sheathing and trim. Detail 06115 B.

INSTALLATION

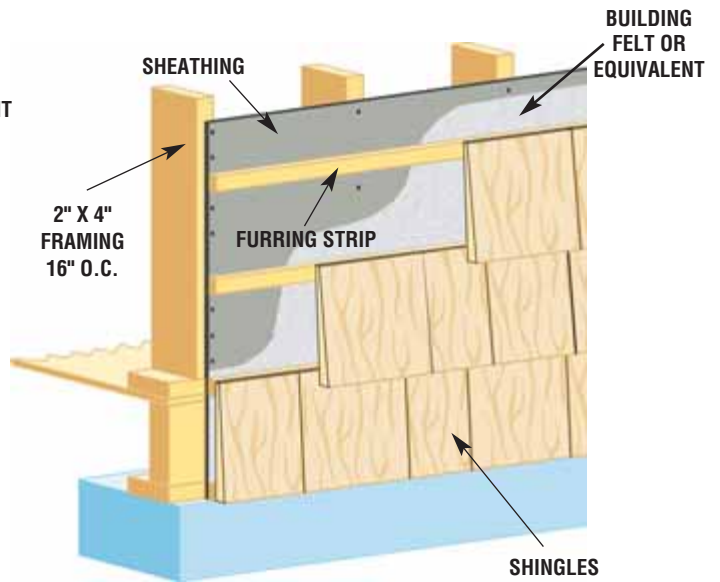
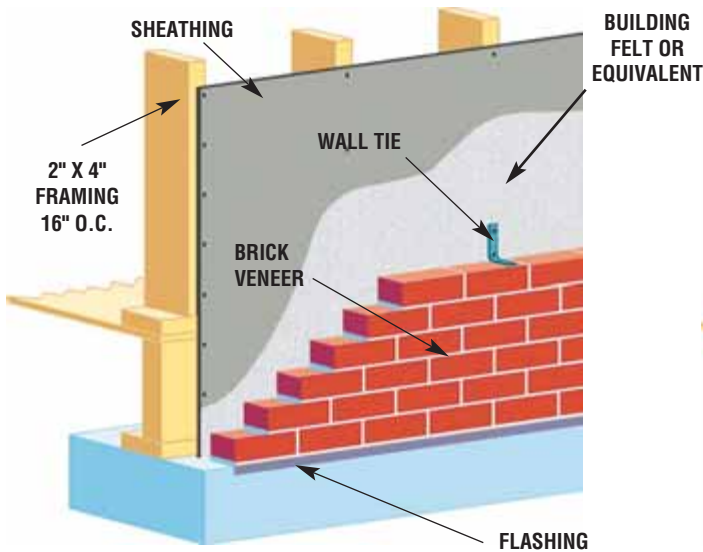


VINYL, WOOD, CLAPBOARD SIDING

Apply horizontal siding directly over the sheathing. Fasteners should have a 1" penetration into each framing member. Butt siding joints over framing members.

STUCCO

Nail 3.4 lb. Self-furring Galvanized Diamond Mesh metal lath through the sheathing into the framing.



BRICK VENEER

Wall ties for masonry veneer should be nailed through the sheathing with nails that penetrate a minimum of 1" into the framing. Leave an air space of 2" between sheathing and veneer.*

SHINGLES OR SHAKES

Apply 1 x 2 wood furring strips horizontally over the Gypsum Sheathing, spaced to correspond to the shingle exposure, using nails of sufficient length to provide at least 1" penetration into the studs. Nail furring through the sheathing into the framing with a minimum of one nail at each intersection of stud and furring.

*Brick Institute of America

Note: Refer to exterior cladding manufacturer and local codes to determine if a weather resistive barrier is required over gypsum sheathing.

e²XP™ EXTENDED EXPOSURE SHEATHING

DESCRIPTION

e²XP Sheathing is a moisture and mold resistant sheathing panel designed for attachment to the outside of sidewall and soffit framing as a water resistant underlayment for various exterior materials. e²XP Sheathing is manufactured with an enhanced moisture and mold resistant core and facer. The facer is composed of a coated fiberglass mat which provides superior weather resistance capabilities. It is produced in 1/2" and 5/8" thicknesses, 4' wide in 8', 9' and 10' lengths. e²XP Sheathing is lightweight, scores and cuts easily and is specially coated on the front, back and sides for easy handling.

BASIC USES

e²XP Sheathing can be used in both wood and metal stud construction to provide fire resistance, weather protection and to add to structural strength. e²XP Sheathing can be used as a substrate for various air and water resistive barriers including building wraps, self-adhesive membranes and liquid applied coatings. It can be used as a component in curtainwall or Exterior Insulated Finish Systems (EIFS), and under various exterior finishes such as metal, vinyl, wood or fiber-cement siding; brick/stone veneer, or conventional stucco. The 5/8" e²XP Fire-Shield® Type X gypsum panel can be utilized for exterior fire-rated wall and soffit assemblies.

ADVANTAGES

- Manufactured to meet ASTM C 1177 (*“Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing”*).
- Will withstand up to 12 months of exposure to typical weather conditions, subject to terms, conditions and exclusions of National Gypsum’s Limited Warranties.
- Treated fiberglass face, back and gypsum core provides extra protection against mold growth per ASTM D3273.
- Superior water resistance which does not impede vapor transmission.
- Dimensionally stable under changes in temperature and relative humidity and resists warping, rippling, buckling and sagging for a flat and even substrate.
- Noncombustible material.
- Approved for inclusion in specific UL fire-rated designs.
- Can be scored and snapped to exact size without cutting or sawing.
- Coated face and back for easy handling.
- Ideally suited for soffit applications.
- Suitable for radius applications.

MOLD AND MILDEW RESISTANCE

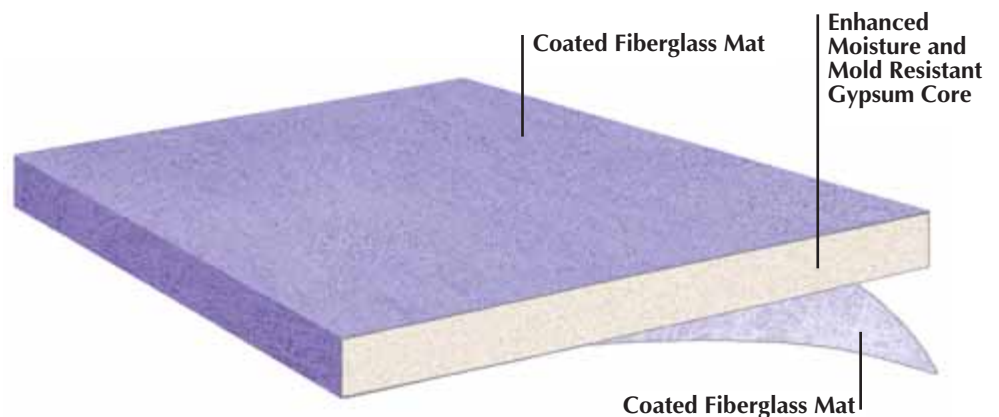
e²XP Sheathing was designed to provide extra protection against mold and mildew compared to standard gypsum board products. When tested by an independent lab per ASTM D 3273 (*“Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber”*), e²XP Sheathing achieved a score of 10, the best possible score for this test. No material can be considered “mold proof,” nor is it certain that any material will resist mold or mildew indefinitely. When used in conjunction with good design, handling and construction practices, e²XP Sheathing can provide increased mold resistance versus standard gypsum board products. As with any building material, avoiding water exposure during handling, storage and installation, and after installation is complete, is the best way to avoid the formation of mold or mildew.

LIMITATIONS

- e²XP Sheathing is not a finished surface nor is it a substrate for the direct application of joint

compound, stucco, paint or textures in wall applications.

- All materials in conjunction with e²XP Sheathing should be installed per the manufacturer’s recommendations.
- e²XP Sheathing should never be used as a nailing base. Mechanical fasteners should pass through the sheathing and engage the framing member behind the panel.
- e²XP Sheathing is resistant to weather, but it is not intended for immersion in water and should not be subjected to cascading water conditions.
- Do not apply e²XP Sheathing below grade. Always follow building code grade clearance requirements.
- e²XP Sheathing should be protected from the elements and maintained in reasonable condition prior to installation. Boards should be stacked flat with care taken to prevent sagging or damage to edges, ends or surfaces. Following installation, the structure must be



adequately maintained by the contractor and/or building owner.

- Do not laminate e²XP Sheathing to masonry surfaces, fasten to furring strips or framing.
- e²XP Sheathing is not intended for tile applications. For tile applications, PermaBase Cement Board is recommended.
- e²XP Sheathing is not a replacement for structurally engineered sheathings required for racking qualities, and should not be used in lieu of plywood when required.
- e²XP Sheathing application to framing by adhesive only is not recommended.
- Stud spacing must not exceed 24" o.c.
- All design details such as fasteners, sealants and control joints, per system specifications, must be properly installed. Openings and penetrations must be properly flashed and sealed according to code, building design and weather resistive barrier manufacturer's instructions. Failure to do so will void the warranty. (See e²XP Sheathing Warranty for terms, conditions and limitations.)

COMPOSITION & MATERIALS

e²XP Sheathing is manufactured with a moisture and mold resistant core and facer. The facer is composed of a coated fiberglass mat which provides superior weather resistant capabilities. e²XP Fire-Shield® Exterior Sheathing (Type X) has special additives in the core to enhance its fire-resistive properties.

e²XP Sheathing contains no asbestos.

SIZES AND TYPES

Fire-Shield:

1. Width: 4' (1219 mm)
2. Lengths: 8', 9' and 10' (2438 mm, 2743 mm, and 3048 mm)
3. Thickness: 1/2" Regular (12.7 mm)
5/8" Fire-Shield (15.9 mm)
4. Edges: Square

TECHNICAL DATA

PHYSICAL PROPERTIES	1/2" e ² XP	5/8" e ² XP
Nominal Width	4'	4'
Standard Lengths	8', 9', 10' ± 1/4"	8', 9', 10' ± 1/4"
Nominal Weight, lbs./msf	1,900	1,900
Bending Radius	6" ¹¹	6" ¹¹
Composition	Coated fiberglass mat/gypsum core	
Racking strength, ² lbs./f. (dry) (Ultimate - not design value)	>540	>654
Flexural Strength, ³ parallel, lbs. (4' weak direction)	80 ⁴	100 ⁴
Compressive Strength	Min. 500 psi	Min. 500 psi.
Humidified Deflection, ³ inches	1/8"	1/8" ¹⁵
Permeance ⁶ (perms) [ng/Pa•s•m ²]	22 [1260]	19 [1090]
"R" Value ⁷	.043	.050
Combustibility	Noncombustible	Noncombustible
Flame Spread, E84	5	5
Coefficient of Thermal Expansion ⁹ in/in/°F	9.26 x 10 ⁻⁶	9.26 x 10 ⁻⁶
Resists Growth of Mold ¹⁰	Yes	Yes
Handling Characteristic	Yes	Yes
Fasteners	Standard	Standard

1. Double fasteners on ends as needed.
2. Tested in accordance with ASTM E 72
3. Tested in accordance with ASTM C 473
4. Minimum requirements for ASTM C 1177
5. Maximum requirements for ASTM C 1396 and ASTM C 1177
6. Tested in accordance with ASTM E 96 (dry cup method)
7. Tested in accordance with ASTM C 518 (heat flow meter)
8. As defined and tested in accordance with ASTM E 136
9. Tested in accordance with ASTM E 228
10. Tested in accordance with ASTM D 3273

APPLICABLE STANDARDS

ASTM Specification C 1177 and application sections of C 1396.

FIRE RESISTANCE RATINGS

The 5/8" e²XP Fire-Shield Sheathing is tested in accordance with ASTM Standard E 119 and is classified as Type X for use in UL Listings.

INSTALLATION

APPLICABLE STANDARDS AND REFERENCES

ASTM C 1280
GYPSUM Association GA-253

RECOMMENDATIONS

- e²XP Sheathing must be installed in accordance with Gypsum Association with document GA-253, ASTM C 1280 or National Gypsum Co. *Gypsum Construction Guide*.
- e²XP Sheathing can be attached parallel or perpendicular to wood or metal framing. Use appropriate board orientation for specific fire assemblies and shear wall applications as required by the design.
- Framing members shall not vary more than 1/8" from the plane of the faces of adjacent framing.
- Fasteners should be driven flush with the panel surface (not countersunk) and into the framing. Locate fasteners at least 3/8" from the ends and edges of the sheathing. For wood studs: Nails should be galvanized, 11 gauge, 7/16" head, 1-3/4" long. Screws should be 1-1/4" bugle head, corrosion resistant Type W for wood and Type S for steel. Use appropriate fasteners for attaching e²XP Sheathing to framing.
- Install e²XP Sheathing with end joints staggered on horizontal applications. Ends and edges of the sheathing should fit snugly.
- The location of control joints shall be as required by either the building design or the manufacture of the specified exterior material.

JOINT TREATMENT

e²XP Sheathing is compatible with a variety of exterior systems. For applications requiring joint treatment, joint finishes must be compatible with the exterior system specified. Consult your weather/water resistant barrier manufacturer, cladding manufacturer or local building code authority to determine the appropriate joint treatments.

DECORATION

Soffit and Ceiling applications only

Embed 2" wide fiberglass mesh tape in ProForm® BRAND Sta-Smooth® Setting Compound or equivalent, over all joints. Once dry, apply a skim coat of Sta-Smooth Setting Compound or equivalent, over the panels to achieve a uniform, smooth finish over the entire area. Prime with exterior grade primer and finish with two coats of exterior grade paint.



e²XP Sheathing was introduced in March 2008 on a regional basis beginning in the Southeastern United States. For additional product and availability information go to:

WWW.PURPLECHOICE.INFO

National
Gypsum®

For additional information
Phone **1-800-NATIONAL**
(1-800-628-4662)