





Product	Description	Specifications
Gold Bond® BRAND EXP® Tile Backer	 <p>Use Gold Bond® BRAND EXP® Tile Backer as a substrate for tile applications in high moisture areas, including showers, bathrooms, indoor swimming pools, laundry rooms and kitchens. It is also a code-compliant substrate for tile and other finishes in both wet and non-wet areas, areas of high humidity and fire-rated assemblies. It is ideally suited for a variety of interior applications. EXP® Tile Backer consists of a moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face, back and sides. The facer utilizes a gray acrylic coating for use with tile applications. It is available in either a Regular or Type X core. The glass mat is folded around the long edges to reinforce and protect the core.</p>	<p>Thickness: 1/2" (12.7 mm) / Regular 5/8" (15.9 mm) / Type X</p> <p>Width: 4' (1,219 mm)</p> <p>Length: 8' (2,438 mm)</p> <ul style="list-style-type: none"> • Square Edge • ASTM C1178 • Federal Specification Number: SS-L-30D Type II Grade X

Gold Bond® BRAND EXP® Interior Extreme® Gypsum Panels	 <p>Use Gold Bond® BRAND EXP® Interior Extreme® Gypsum Panels wherever gypsum board is specified in interior applications for the entire project, wood or metal framing, that require increased resistance to incidental moisture. These gypsum panels consist of a moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face, back and sides. EXP® Interior Extreme Gypsum Panels are available in a Regular, Type X or Type C core (often specified where the weight and number of gypsum board layers are a concern). The glass mat is folded around the long edges to reinforce and protect the core.</p>	<p>Thickness: 1/2" (12.7 mm) / Regular, Type C 5/8" (15.9 mm) / Type C, Type X</p> <p>Width: 4' (1,219 mm)</p> <p>Length: 8' – 12' (2,438 – 3,658 mm)</p> <ul style="list-style-type: none"> • Tapered Edge • ASTM C1658 • Federal Specification Number: SS-L-30D Type II Grade X
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Gold Bond® BRAND EXP® Interior Extreme® Abuse Resistant (AR) Gypsum Panels	 <p>Use Gold Bond® BRAND EXP® Interior Extreme® AR Gypsum Panels for interior applications in areas prone to surface abrasion and indentation, including corridors, entryways, lobby areas and warehouses. These gypsum panels consist of an abuse-, moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face and back sides. In addition to providing moisture and mold resistance, the AR panel has a denser core and an enhanced glass mat for increased resistance to indentation and abrasion. The glass mat is folded around the long edges to reinforce and protect the core.</p>	<p>Thickness: 5/8" (15.9 mm) / Type X</p> <p>Width: 4' (1,219 mm)</p> <p>Length: 8' – 12' (2,438 – 3,658 mm)</p> <ul style="list-style-type: none"> • Tapered Edge • Features GridMarX® guide marks • ASTM C1658 • Federal Specification Number: SS-L-30D Type II Grade X
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Gold Bond® BRAND EXP® Interior Extreme® Impact Resistant (IR) Gypsum Panels	 <p>Use Gold Bond® BRAND EXP® Interior Extreme® IR Gypsum Panels for interior applications requiring increased resistance to incidental moisture and wall penetrations. Use these gypsum panels in areas prone to cavity penetration. EXP® Interior Extreme® IR consist of an impact/moisture/mold-resistant gypsum core encased in a coated, fiberglass mat on the face and back sides. In addition to providing moisture and mold resistance, the IR Panel has a denser core and an enhanced glass mat for increased resistance to indentation and impact. The glass mat is folded around the long edges to reinforce and protect the core. Additionally, it has a fiberglass mesh embedded into the core, providing more impact and penetration resistance.</p>	<p>Thickness: 5/8" (15.9 mm) / Type X</p> <p>Width: 4' (1,219 mm)</p> <p>Length: 8' – 12' (2,438 – 3,658 mm)</p> <ul style="list-style-type: none"> • Tapered Edge • Features GridMarX® guide marks • ASTM C1658 • Federal Specification Number: SS-L-30D Type II Grade X
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Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.



National Gypsum
Gold Bond® BRAND
eXP Tile Backer

Substitution Request

Select One:

Project:

Substitution Request Number:

To:

From:

Date:

A/E Project Number:

Owner:

Specification Title:

Description:

Section:

Page:

Article/Paragraph:

Proposed Substitution:

EXP Tile Backer

Manufacturer: **National Gypsum Company**

Address: **2001 Rexford Rd., Charlotte, NC 28211** Phone: **1-800-628-4662**

Trade Name: **Gold Bond® BRAND EXP Tile Backer**

Model No:

Installer:

Address:

Phone:

History:

New Product

1-4 Years

5-10 Years

10+ Years

Differences between proposed substitution and specified product: **Equal product per ASTM C 1178 and applicable sections of ASTM C 1396.**

Reason for not providing specified item: **National Gypsum offering new product into industry/marketplace.**

Similar Installation:

Project:

Architect:

Address:

Owner:

Date Installed:

Proposed substitution affects other parts of Work: **No**

Supporting Data Attached: Drawings Product Data Samples Tests Reports Other

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by:

Signature:

Firm Name:

Address:

Phone:

Attachments:

A/E's Review and Action:

- Substitution approved – Make submittals in accordance with Division 1 Section: Substitutions.
- Substitution approved as noted – Make submittals in accordance with Division 1 Section: Substitutions.
- Substitution rejected – Use specified materials.
- Substitution Request received too late – Use specified materials.

Signed By: Date:

Additional Comments: Contractor Subcontractor Supplier Manufacturer A/E Other

Upon completion return to:

Name:

Address:

Phone:

Fax:

Email:



Description

Gold Bond® BRAND EXP® Tile Backer consists of a moisture- and mold-resistant gypsum core encased in an acrylic-coated, specially designed fiberglass mat on the face, back and sides. It is available in either a Regular or Type X core. The glass mat is folded around the long edges to reinforce and protect the core.

Use it as a substrate for tile applications in high-moisture areas, including showers, bathrooms, indoor swimming pools, laundry rooms and kitchens. It is also a code-compliant substrate for tile and other finishes in both wet and non-wet areas, areas of high humidity and fire-rated assemblies. It is ideally suited for a variety of interior applications.

Basic Uses

APPLICATIONS

- Use in both wood- and metal-framed construction for interior wall, ceiling and countertop assemblies as a substrate for tile and other finishes. It provides increased mold and moisture resistance in both wet and non-wet areas, areas of high humidity and in fire-rated assemblies.
- The specially formulated 5/8 in. (15.9 mm) Type X core has superior fire-resistive performance when used in specific fire-rated assemblies.

ADVANTAGES

- Acrylic-coated fiberglass front facer provides an integral water barrier, eliminating the need for a separate water barrier.
- Approved for use in high-moisture environments, such as baths, showers, indoor pools, kitchens and laundry rooms.
- 5/8 in. (15.9 mm) EXP Tile Backer is an approved component in specific UL fire-rated designs.
- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.
- Coated fiberglass facers for easy handling.
- Dimensionally stable under changes in temperature and relative humidity and resists warping, rippling, buckling and sagging.
- Achieves GREENGUARD Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg.

Installation Recommendations

GENERAL

- Install EXP Tile Backer in accordance with methods described in ASTM C840 and GA-216.
- Examine and inspect framing materials to which tile backer boards are to be applied. Remedy all defects prior to installation of the gypsum panel.
- Do not embed EXP Tile Backer into mortar bed in showers. Install with gray side facing away from the framing, apply tile/finishes to the gray side.
- Score/cut from the gray side using a standard utility knife. Cut outs are made easily with a utility knife or saw. Panel joints must be tight. Fill gaps and inside corners with flexible sealant.
- Drive fasteners flush with the panel surface; do not countersink.
- Hold tile backer boards in firm contact with the framing member while driving fasteners. Fastening should proceed from center portion of the panels toward the edges and ends. Take care to avoid breaking the facer of the tile backer board. Remove improperly driven nails or screws.
- Provide minimum 1/4 in. (6.4 mm) clearance between boards and adjacent concrete or masonry to minimize wicking of moisture.
- Embed alkali-resistant fiberglass tape with the tile setting material at tile backer board joints prior to tile installation.
- Maintain a room temperature of not less than 40°F (4°C) during application of tile backer boards.
- Maintain a room temperature of not less than 50°F (10°C) when using adhesive to attach the tile backer boards and during joint treatment, texturing and decoration, beginning 48 hours prior to application and continuously thereafter until completely dry. Maintain adequate ventilation in the working area during installation and curing period.
- Install fire-rated assemblies in accordance with the details found in the UL Fire Resistance Directory or the Gypsum Association, GA-600, Fire Resistance Design Manual.
- Avoid installing water-sensitive materials on EXP Tile Backer Panels in pre-rock applications until the building is enclosed.

(Continued on page 3)

JOB NAME: _____

CONTRACTOR: _____

DATE: _____

SUBMITTAL APPROVALS: (STAMPS OR SIGNATURES)

TECHNICAL DATA

PHYSICAL PROPERTIES		
	EXP Tile Backer	EXP Fire-Shield Tile Backer
Thickness¹, Nominal	1/2" (12.7 mm)	5/8" (15.9 mm)
Width¹, Nominal	4' (1,219 mm)	4' (1,219 mm)
Length^{1,4}, Standard	8' (2,438 mm)	8' (2,438 mm)
Weight, Nominal	2.0 lbs./sq. ft. (9.76 k/m ²)	2.5 lbs./sq. ft. (12.21 k/m ²)
Edges¹	Square	Square
Flexural Strength¹, Perpendicular	≥ 100 lbf. (445 N)	≥ 140 lbf. (623 N)
Flexural Strength¹, Parallel	≥ 80 lbf. (356 N)	≥ 100 lbf. (445 N)
Humidified Deflection¹	≤ 2/8" (6.4 mm)	≤ 1/8" (3.2 mm)
Nail Pull Resistance¹	≥ 70 lbf. (311 N)	≥ 90 lbf. (400 N)
Hardness¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)	≥ 15 lbf. (67 N)
Bending Radius	12' (3,658 mm)	16' (4,877 mm)
Thermal Resistance⁵	R = .43	R = .50
Permeance⁶	2 perms	2 perms
Water Absorption¹ (% of Weight)	≤ 5%	≤ 5%
Surface Water Absorption¹	≤ .5 grams	≤ .5 grams
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F	9.26 x 10 ⁻⁶ in./in./°F
Mold Resistance⁷, ASTM D3273	Score of 10	Score of 10
Mold Resistance⁸, ASTM D6329	Yes	Yes
Product Standard Compliance	ASTM C1178	ASTM C1178
Fire-Resistance Characteristics		
Core Type	Regular	Type X
UL Type Designation	N/A	FSW-6
Combustibility²	Non-Combustible Core	Non-Combustible Core
Surface Burning Characteristics³	Class A	Class A
Flame Spread³	0	0
Smoke Development³	0	0
Applicable Standards and References		
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products		
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus		
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board		
ASTM C1178 Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel		
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber		
ASTM D6329 Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers		
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials		
ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials		
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C		
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>		
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>		
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>		
National Gypsum Company, <i>NGC Construction Guide</i>		
1. Specified values per ASTM C1658, tested in accordance with ASTM C473.	5. Tested in accordance with ASTM C518.	
2. Tested in accordance with ASTM E136.	6. Tested in accordance with ASTM E96.	
3. Tested in accordance with ASTM E84.	7. Tested in accordance with ASTM D3273.	
4. Contact your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.	8. Tested in accordance with ASTM D6329.	

(Installation Recommendations continued from page 1)

CEILINGS

- Apply tile backer boards first to ceilings at right angles to framing members, then to walls. Use panels of maximum practical length so that the minimum number of end joints occur. Bring panel edges into contact with each other but do not force into place.
- Install batt or blanket ceiling insulation BEFORE the tile backer boards on ceilings. Install the insulation IMMEDIATELY after the panels when using loose fill insulation. Avoid installation practices that might allow condensation to form behind panels.
- When used as a tile substrate for ceilings, apply panels perpendicular to the supports spaced a maximum of 12 in. (305 mm) o.c. for 1/2 in. (12.7 mm) and 16 in. (406 mm) o.c. for 5/8 in. (15.9 mm). Space fasteners 8 in. (203 mm) o.c. along all support members.

WALLS

- Locate gypsum panel joints at openings so that no joint will occur within 12 in. (305 mm) of the edges of the opening unless installing control joints at these locations. Stagger vertical end joints. Joints on opposite sides of a partition should not occur on the same stud.
- Install tile backer boards either horizontally or vertically to framing using fasteners every 8 in. (203 mm) o.c. When applying tile, use minimum 20-gauge steel or wood framing spaced 16 in. (406 mm) o.c. without blocking, or 24 in. (610 mm) o.c. with blocking at all joints for 1/2 in. (12.7 mm), and spaced 24 in. (610 mm) o.c. for 5/8 in. (15.9 mm).

COUNTERTOPS

- Apply eXP Tile Backer over a minimum 23/32 in. (18.3 mm) exterior-grade plywood sub-base using a bed of thin-set mortar applied with a 1/4 in. (6.4 mm) x 1/4 in. (6.4 mm) notched trowel between the plywood and eXP Tile Backer. Fasten using 1-1/4 in. (31.8 mm) long corrosion-resistant roofing nails or coarse thread bugle-head screws spaced no more than 8 in. (203 mm) o.c. in both directions.

PENETRATIONS

- Caulk or seal fixture or plumbing penetrations and abutments to dissimilar materials.

SAFETY

Installers should wear long pants and a long-sleeved, loose fitting shirt. Use protective gloves and special eye protection (goggles or safety glasses with side shield). Wear a dust mask when sanding; you may need additional breathing protection in extremely dusty conditions. Do not use a power saw to cut this product.

Caution: Because this product contains fiberglass, dust and glass fibers may be released during normal handling, which could result in eye or skin irritation or cause difficulty in breathing. Whenever possible, avoid contact with the skin and eyes and avoid breathing dust or fibers that may be released during installation. Consult the SDS for this product, available at purplechoice.info before use.

Finishing

TILE APPLICATION OVER eXP TILE BACKER

Tile can be set using either thin-set mortar (ANSI A118.1 or A118.4) or organic adhesive (ANSI A136.1). Embed alkali-resistant fiberglass tape with the tile-setting material prior to tile installation. Install using manufacturer's instructions. Allow tile-setting material to cure for a day prior to grout application.

NON-TILE APPLICATION OVER eXP TILE BACKER

Dry Non-Tile Applications: Outside the wet areas of showers and baths, tape joints with gypsum board tape and embed with setting tape joint compound, such as ProForm® BRAND Quick Set™ Setting Compound. Skim the entire surface with a joint compound to create a smooth surface for finishing. Use setting compound or all-purpose ready mix joint compound for skim coat.

HIGH HUMID AREA APPLICATIONS

For areas of higher than normal humidity, such as swimming pools and process facilities, finish the walls with materials suitable for humid environments, such as direct-applied finish systems. Caulk all transitions and abutments to dissimilar materials with a flexible caulk. Seal all penetrations, including outlets and switches.

Limitations

- For interior use only.
- Always apply tile/finishes to the gray acrylic face.
- Treat joints under tile with alkali-resistant fiberglass mesh tape set in thin-set mortar or tile adhesive.
- Do not use conventional paper gypsum board tape, joint compound, gypsum board nails and gypsum board screws in wet areas.
- Do not use on floor installations.
- Do not use in shower pans or shower curbs.
- Do not use as a base for nailing and mechanical fastening.
- Do not expose to temperatures exceeding 125°F (52°C).
- Avoid continuous exposure to extreme conditions in applications such as saunas, steam rooms and radiant barriers at fireplaces; use PermaBase® BRAND Cement Board for these applications.
- Do not install a vapor barrier directly behind tiled eXP Tile Backer. Consult your local building code for vapor barrier requirements.
- Do not apply eXP Tile Backer directly to concrete or masonry block.

For More Information

ARCHITECTURAL SPECIFICATIONS

National Gypsum Company's CSI Master Format® 3-part guide specifications are downloadable as editable Microsoft® Word documents at: nationalgypsum.com.

LATEST INFORMATION AND UPDATES

For the latest technical information and updates, call NGC Construction Services: **1-800-NATIONAL (628-4662)** or visit our website: nationalgypsum.com.



National 
Gypsum®

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Charlotte, NC 28211
(704) 365-7300

NationalGypsum.com
AskForPurple.com

Gold Bond® BRAND

eXP® Family Of Glass Mat Products



National 
Gypsum®

Design And Build Better



With High-Quality Products And Resources

Founded in 1925, National Gypsum is one of the world's largest producers of quality building products. For nearly a century, customers like you have looked to us for the best products, service and technical support. With a focus on sustainability, we strive to bring you the finest in construction products, education and resources to meet and exceed your expectations.



With Technical Support You Can Count On

Great products are nothing without great customer service. For detailed technical information about product applications, special assemblies, or installation and code requirements, call 1-800-NATIONAL®. Talk directly to a technical expert with up-to-date knowledge of products, specifications, building codes and more. Our technical experts can even review your plans and drawings and get back to you with answers to your questions.



***With* Design That Considers The Environment**

Together, we can attain the highest level of ecological responsibility and resource-efficient technology. National Gypsum is committed to supporting sustainable green building policies, standards and practices. Beyond offering products that can help contribute to healthier environments and have achieved GREENGUARD Certification for indoor air quality, we can help you meet the criteria for green programs and LEED credits.

Look Closer At The Best Mold- And Moisture-Resistant Glass Mat Products

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Product Selector

Gold Bond® BRAND EXP® Sheathing



Use Gold Bond® BRAND EXP® Sheathing on the outside of a wall and soffit framing as a substrate for exterior cladding. It is available with either a Regular or Type X gypsum core. EXP® Sheathing consists of a moisture- and mold-resistant gypsum core encased in a coated, specially designed PURPLE® fiberglass mat on the face, back and sides. The glass mat is folded around the long edges to reinforce and protect the core, and it provides superior weather resistance.

- 1/2" (12.7 mm) / Regular
- 5/8" (15.9 mm) / Type X
- Width: 4' (1,219 mm)
- Length: 8' – 10' (2,438 – 3,048 mm)
- Square Edge
- Features GridMarX® guide marks

ASTM C1177, Federal Specification Number: SS-L-30D Type II Grade X

Gold Bond® BRAND EXP® Shaftliner



Use Gold Bond® BRAND EXP® Shaftliner to construct lightweight fire barriers for cavity shaftwalls (1-4 hr.) and area separation fire walls (2 hr.). EXP® Shaftliner consists of a moisture- and mold-resistant gypsum core encased in a coated, specially designed PURPLE® fiberglass mat on the face, back and sides. It is available in a Type X core. The glass mat is folded around the long edges to reinforce and protect the core.

- 1" (25.4 mm) / Type X
- Width: 2' (610 mm)
- Length: 8' – 12' (2,438 – 3,658 mm)
- Double Beveled Edge

ASTM C1658, Federal Specification Number: SS-L-30D Type II Grade X

Gold Bond® BRAND EXP® Tile Backer



Use Gold Bond® BRAND EXP® Tile Backer as a substrate for tile applications in high moisture areas, including showers, bathrooms, indoor swimming pools, laundry rooms and kitchens. It is also a code-compliant substrate for tile and other finishes in both wet and non-wet areas, areas of high humidity and fire-rated assemblies (5/8" Type X). It is ideally suited for a variety of interior applications. EXP® Tile Backer consists of a moisture- and mold-resistant gypsum core encased in an acrylic-coated, specially designed fiberglass mat on the face, back and sides. It is available in either a Regular or Type X core. The glass mat is folded around the long edges to reinforce and protect the core.

- 1/2" (12.7 mm) / Regular
- 5/8" (15.9 mm) / Type X
- Width: 4' (1,219 mm)
- Length: 8' (2,438 mm)
- Square Edge

ASTM C1178, Federal Specification Number: SS-L-30D Type II Grade X

Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.

Gold Bond® BRAND EXP® Interior Extreme® Gypsum Panels



Use Gold Bond® BRAND EXP® Interior Extreme® Gypsum Panels wherever gypsum board is specified in interior applications for the entire project, wood or metal framing, that require increased resistance to incidental moisture. These gypsum panels consist of a moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face, back and sides. EXP® Interior Extreme Gypsum Panels are available in a Regular, Type X or Type C core. The glass mat is folded around the long edges to reinforce and protect the core.

- 1/2" (12.7 mm) / Regular
- 1/2" (12.7) / Type C
- 5/8" (15.9 mm) / Type X
- 5/8" (15.9 mm) / Type C
- Width: 4' (1,219 mm)
- Length: 8' – 12' (2,438 – 3,658 mm)
- Tapered Edge
- Features GridMarX® guide marks

ASTM C1658, Federal Specification Number: SS-L-30D Type II Grade X

Gold Bond® BRAND EXP® Interior Extreme® Abuse Resistant (AR) Gypsum Panels



Use Gold Bond® BRAND EXP® Interior Extreme® AR Gypsum Panels for interior applications in areas prone to surface abrasion and indentation, including corridors, entryways, lobby areas and warehouses. These gypsum panels consist of an abuse-, moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face and back sides. In addition to providing moisture and mold resistance, the AR panel has a denser core and an enhanced glass mat for increased resistance to indentation and abrasion. The glass mat is folded around the long edges to reinforce and protect the core.

- 5/8" (15.9 mm) / Type X
- Width: 4' (1,219 mm)
- Length: 8' – 12' (2,438 – 3,658 mm)
- Tapered Edge
- Features GridMarX® guide marks

ASTM C1658, Federal Specification Number: SS-L-30D Type II Grade X

Gold Bond® BRAND EXP® Interior Extreme® Impact Resistant (IR) Gypsum Panels



Use Gold Bond® BRAND EXP® Interior Extreme® IR Gypsum Panels for interior applications requiring increased resistance to incidental moisture and wall penetrations. Ideally, use these gypsum panels in areas prone to cavity penetration, including gymnasiums, correctional facilities, schools and workshops. EXP® Interior Extreme® IR consist of an impact-, moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face, back and sides. In addition to providing moisture and mold resistance, the IR Panel has a denser core and an specially formulated fiberglass mesh embedded into the core for increased resistance to indentation and impact. The glass mat is folded around the long edges to reinforce and protect the core.

- 5/8" (15.9 mm) / Type X
- Width: 4' (1,219 mm)
- Length: 8' – 12' (2,438 – 3,658 mm)
- Tapered Edge
- Features GridMarX® guide marks

ASTM C1658, Federal Specification Number: SS-L-30D Type II Grade X

Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.



Defend Against Mold And More With Advanced Glass Mat Technology

Gold Bond® BRAND EXP® is a technologically advanced glass mat gypsum product line utilizing Sealed Surface Technology. Part of our PURPLE® family, EXP® offers a solution for most every design or building challenge you face. With more moisture and mold resistance, EXP will help you construct the finest quality walls. Our EXP® PURPLE® coated glass mat provides excellent weather and water resistance.



EXP® Glass Mat Product Line

- 1 EXP® Interior Extreme® Gypsum Panel**
 - For use in all rooms
 - Anywhere mold and moisture is a concern
 - 12-month exposure warranty
- 2 EXP® Interior Extreme® AR Gypsum Panel**
 - Walls subject to added abuse/abrasion
 - Scratch and scuff resistant
 - 12-month exposure warranty
- 3 EXP® Interior Extreme® IR Gypsum Panel**
 - Walls subject to impact from hard objects
 - Resists penetrations through the gypsum board
 - 12-month exposure warranty
- 4 EXP® Shaftliner**
 - For use in shafts and stairwells
 - Resists mold and moisture
 - 12-month exposure warranty
- 5 EXP® Tile Backer**
 - Gypsum backer board for wet areas
 - Acrylic-coated facer
 - Eliminates need for water barrier
- 6 EXP® Sheathing**
 - Accepts a variety of exterior finishes
 - Finishing of joints not required
 - 12-month exposure warranty

Extraordinarily sturdy, glass mat will stand up to the elements. Dimensionally stable under changes in temperature, EXP® resists warping, rippling and buckling. When you build with our PURPLE® EXP products, you will have a single-source solution that provides the performance, support and resources to get the job done right.

eXP® Sheathing

Specify The Latest Technology

Consider National Gypsum's Gold Bond® BRAND eXP® Sheathing an invaluable partner in helping to protect your vision throughout its evolution, from start to finish and beyond.

The outer exterior walls and soffits of the building envelope are critical elements that deserve particular attention. Most of these assemblies require sheathing to be attached to the outside of framing as a water-resistant underlayment for various materials. Depending upon where your project is being erected, these assemblies could be exposed to wind, rain, snow and extreme temperatures for extended periods during the construction process and afterward.

With eXP Sheathing Sealed Surface Technology, your project can withstand the elements. For both wood and metal construction, eXP Sheathing provides a solid substrate for various air and water resistive barriers and is a component in Exterior Insulation and Finish Systems (EIFS). With our eXP Sheathing, you'll have built-in weather and fire protection.

eXP Sheathing offers a moisture- and mold-resistant panel with superior extended-exposure capabilities. It is lightweight, handles easily, and is used for a variety of finishes. You'll be hard pressed to find a better sheathing to give your project exactly what it needs – the assurance of a long and productive existence.

Build And Design Better With The Latest Technology

Add structural strength to wood and metal stud construction with Gold Bond BRAND eXP Sheathing. Attach eXP Sheathing, a moisture- and mold-resistant gypsum panel, to the outside of sidewall and soffit framing as a water-resistant underlayment for various exterior materials. Apply as a sheathing on wood or steel framing to provide fire resistance and weather protection when used under exterior claddings, including, but not limited to: wood, vinyl, fiber cement siding, masonry veneer, EIFS and stucco. Use eXP Sheathing to achieve fire-resistance-rated exterior wall assemblies.



Applications Of EXP® Sheathing

- Use it as sheathing on wood or steel framing to provide fire resistance and weather protection when used under exterior claddings, such as wood, vinyl and fiber cement siding, masonry veneer, EIFS and stucco.
- Use it as a sheathing in fire-resistance-rated exterior wall assemblies.

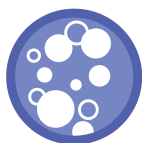
Sizes: 1/2 in. (12.7 mm) Regular and 5/8 in. (15.9 mm) Gold Bond® BRAND EXP® Fire-Shield® Type X Panels are available in 4 ft. (1,219 mm) widths and in standard lengths of 8 ft. (2,438 mm) to 10 ft. (3,048 mm).

Advantages



PROVIDES FIRE RESISTANCE

- Fire-resistant material with a non-combustible gypsum core helps protect framing elements, even when cladding is combustible.
- Manufactured to meet ASTM C1177 ("Standard Specification for Glass Mat Gypsum Substrate for use as Sheathing").



RESISTS MOISTURE AND MOLD BETTER

- Provides superior water resistance without impeding vapor transmission.
- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.



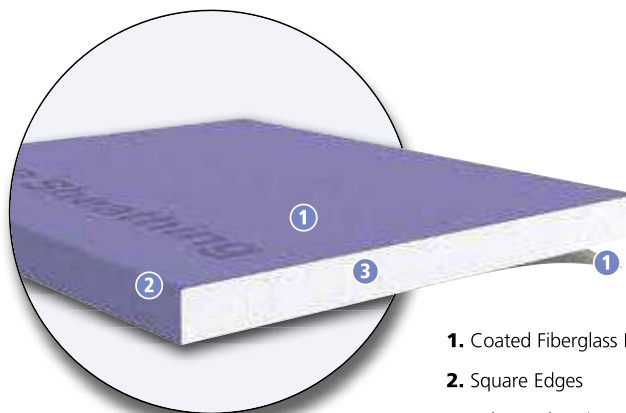
INSTALLS FAST AND EASY

- Features the GridMarX® guide marks on the panel to allow for faster and more accurate installation.
- Coated glass mat facers for easy handling.



OFFERS SUPERIOR DURABILITY

- Offers a 12-month extended exposure warranty for typical weather conditions.
- Dimensionally stable under changes in temperature and relative humidity.



1. Coated Fiberglass Mat
2. Square Edges
3. Enhanced Moisture- and Mold-Resistant Gypsum Core

* Please refer to National Gypsum's "Limited Warranty And Remedy" (back cover) for details. For details about fire resistance, technical data and installation recommendations, refer to pages 33-35, nationalgypsum.com and the **NGC Construction Guide**.

TECHNICAL DATA

PHYSICAL PROPERTIES		
	EXP Sheathing	EXP Sheathing Fire-Shield
Thickness¹, Nominal	1/2" (12.7 mm)	5/8" (15.9 mm)
Width¹, Nominal	4' (1,219 mm)	4' (1,219 mm)
Length^{1,4}, Standard	8' – 10' (2,438 mm – 3,048 mm)	8' – 10' (2,438 mm – 3,048 mm)
Weight, Nominal	1.9 lbs. / sq. ft. (9.28 k/m ²)	2.5 lbs. / sq. ft. (12.21 k/m ²)
Edges¹	Square	Square
Flexural Strength¹, Perpendicular	≥ 100 lbf. (445 N)	≥ 140 lbf. (623 N)
Flexural Strength¹, Parallel	≥ 80 lbf. (356 N)	≥ 100 lbf. (445 N)
Humidified Deflection¹	≤ 2/8" (6 mm)	≤ 1/8" (3 mm)
Nail Pull Resistance¹	≥ 80 lbf. (356 N)	≥ 90 lbf. (400 N)
Hardness¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)	≥ 15 lbf. (67 N)
Bending Radius	6' (1,829 mm)	8' (2,438 mm)
Thermal Resistance⁵	R = .43	R = .50
Permeance⁶	22 perms	19 perms
Water Absorption¹ (% of Weight)	≤ 10%	≤ 10%
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F	9.26 x 10 ⁻⁶ in./in./°F
Racking Strength⁷ (Ultimate – not design value)	> 540 lbs./ft. (732 N/m)	> 654 lbs./ft. (887 N/m)
Mold Resistance⁸, ASTM D3273	Score of 10	Score of 10
Compressive Strength⁹	≥ 500 psi	≥ 500 psi
Product Standard Compliance	ASTM C1177	ASTM C1177
Fire-Resistance Characteristics		
Core Type	Regular	Type X
UL Type Designation	N/A	FSW-6
Combustibility²	Non-combustible Core	Non-combustible Core
Surface Burning Characteristics³	Class A	Class A
Flame Spread³	0	0
Smoke Development³	0	0
Applicable Standards and References		
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products		
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus		
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board		
ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing		
ASTM C1280 Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing		
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber		
ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction		
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials		
ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials		
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C		
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>		
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>		
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>		
Gypsum Association, GA-253, <i>Application of Gypsum Sheathing</i>		
National Gypsum Company, <i>NGC Construction Guide</i>		

1. Specified minimum values per ASTM C1177, tested in accordance with ASTM C473.

2. Tested in accordance with ASTM E136.

3. Tested in accordance with ASTM E84.

4. Special lengths may be available. Contact your local sales representative for more information.

5. Tested in accordance with ASTM C518.

6. Tested in accordance with ASTM E96.

7. Tested in accordance with ASTM E72.

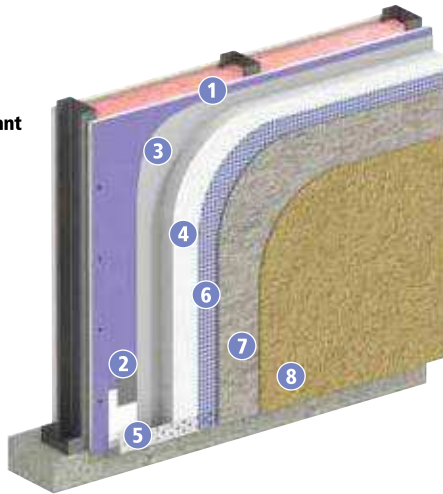
8. Tested in accordance with ASTM D3273.

9. Tested in accordance with ASTM C473, annex X3.

Common EXP® Sheathing Exterior Applications

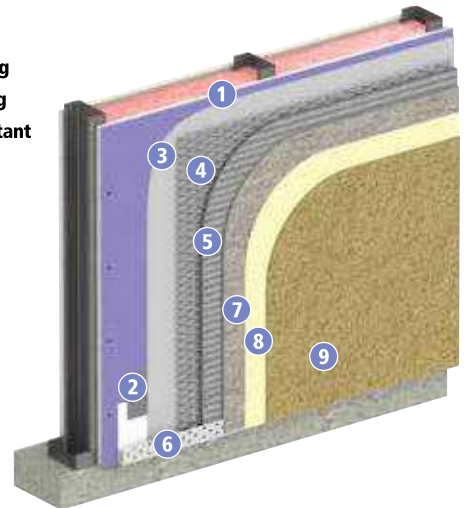
EIFS

1. EXP® Sheathing
2. Screed Flashing
3. Weather-Resistant Barrier
4. Rigid Insulation
5. Weep Screed
6. Mesh
7. Basecoat
8. Stucco Finish Coat



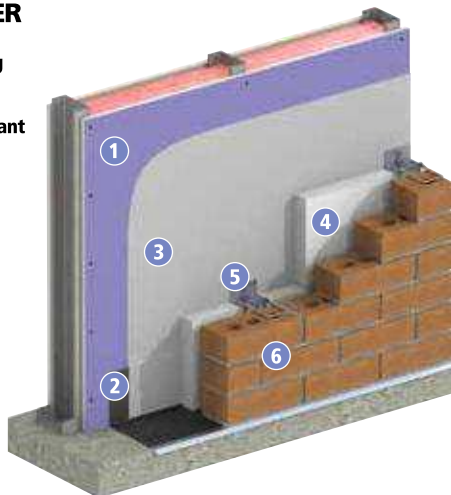
STUCCO

1. EXP® Sheathing
2. Screed Flashing
3. Weather-Resistant Barrier
4. Metal Lath
5. Scratch Coat
6. Weep Screed
7. Brown Coat
8. Primer
9. Stucco Finish Coat



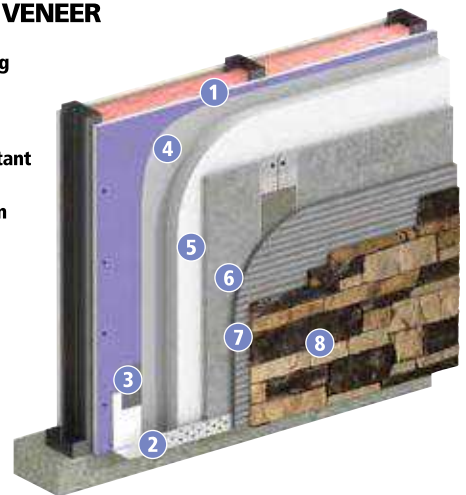
BRICK VENEER

1. EXP® Sheathing
2. Base Flashing
3. Weather-Resistant Barrier
4. Rigid Insulation
5. Veneer Tie
6. Brick Veneer



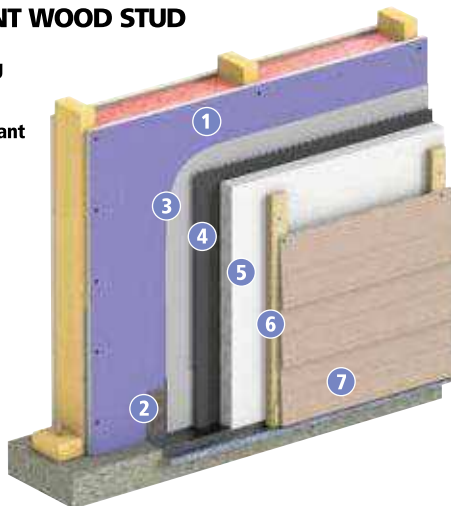
THIN STONE VENEER

1. EXP® Sheathing
2. Weep Screed
3. Base Flashing
4. Weather-Resistant Barrier
5. Rigid Insulation
6. Cement Board
7. Basecoat
8. Thin Stone Veneer



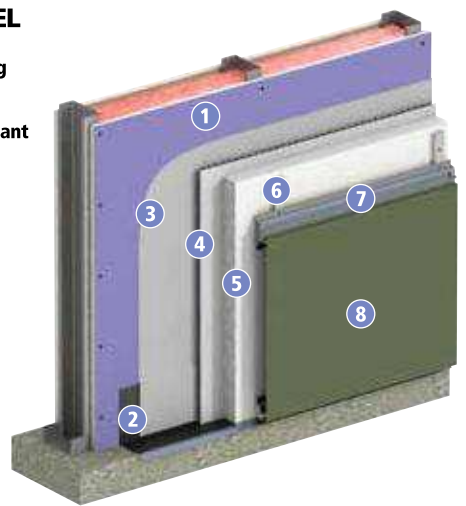
FIBER CEMENT WOOD STUD

1. EXP® Sheathing
2. Base Flashing
3. Weather-Resistant Barrier
4. Drainage Mat
5. Rigid Insulation
6. Furring Strips
7. Lap Siding



METAL PANEL

1. EXP® Sheathing
2. Base Flashing
3. Weather-Resistant Barrier
4. Drainage Mat
5. Rigid Insulation
6. Furring Strips
7. Horizontal Girts
8. Metal Panel System



eXP® Shaftliner

Extra Protection Against Inclement Weather

eXP® Shaftliner is optimal when constructing lightweight fire barriers for cavity shaftwalls, stairwells and area separation walls in multi-family housing units.

Whether you are constructing multifamily housing or commercial projects, we can help you guard against damaging elements like rain and moisture and ensure you will achieve a fire rating. Gold Bond® BRAND eXP® Shaftliner is a moisture- and mold-resistant shaftliner panel with a fire-resistant (Type X) core. Use eXP Shaftliner Panels to construct lightweight fire barriers for cavity shaftwalls (1-4 hr.), stairwells and area separation fire walls in multi-family housing. These panels are key components in the Cavity Shaftwall Systems and the Area Separation Fire Wall Systems. With more shared walls and questions about structural safety, give yourself peace of mind by specifying eXP Shaftliner.

As with all eXP® products, eXP Shaftliner is a moisture- and mold-resistant panel with added fire-resistance. The PURPLE® coated fiberglass facers provide excellent weather- and water-resistant capabilities. Dimensionally stable under changes in temperature and humidity, this hard-working panel resists warping, rippling, buckling and sagging. It is specially coated on the front, back and edges for easy installation. eXP Shaftliner can also enhance acoustical performance; again, ideal when you are constructing multi-family residences.



Applications Of EXP® Shaftliner

EXP® Cavity Shaftwall Systems: These systems enclose elevator, horizontal shafts and chase walls in buildings where it is advantageous to erect these walls from one side only. EXP® Shaftliner is the right choice when designing for fire resistance and changing air pressure. Shaftwalls are non-load bearing partitions made up of gypsum board and metal framing. These systems are lightweight and economical compared with conventional shaftwalls.

EXP® Area Separation Wall Systems: Area Separation Wall is a popular method for constructing today's multi-family housing units. These assemblies will be exposed to outdoor elements during the building process, and EXP Shaftliner features a coated glass mat facer and gypsum core that can provide increased protection.

Sizes: 1 in. (25.4 mm) thick panels are available in 2 ft. (610 mm) nominal widths and standard lengths up to 12 ft. (3,658 mm).

Advantages



PROVIDES FIRE RESISTANCE

- Fire-resistant material with a non-combustible gypsum core helps protect framing elements, even when cladding is combustible.
- Approved component in specific UL fire-rated designs.



INSTALLS FAST AND EASY

- Scores and snaps easily without sawing.
- Coated glass mat facers for easy handling.



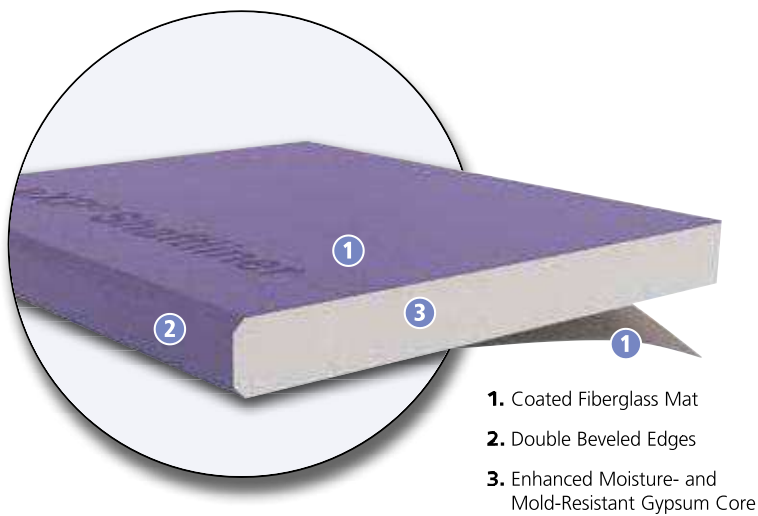
RESISTS MOISTURE AND MOLD BETTER

- Provides superior water resistance without impeding vapor transmission.
- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.



OFFERS SUPERIOR DURABILITY

- Offers a 12-month extended exposure warranty for typical weather conditions.
- Dimensionally stable under changes in temperature and relative humidity.



* Please refer to National Gypsum's "Limited Warranty And Remedy" (back cover) for details. For details about fire resistance, technical data and installation recommendations, refer to pages 33-35, nationalgypsum.com and the **NGC Construction Guide**.

TECHNICAL DATA

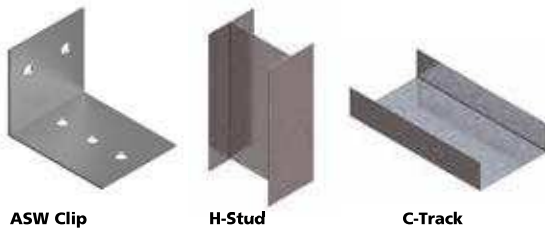
PHYSICAL PROPERTIES	
	EXP Shaftliner
Thickness ¹ , Nominal	1" (25.4 mm)
Width ¹ , Nominal	2' (610 mm)
Length ^{1,4} , Standard	8' – 12' (2,438 mm – 3,658 mm)
Weight, Nominal	3.75 lbs. / sq. ft. (18.31 k/m ²)
Edges ¹	Double Beveled
Flexural Strength ¹ , Perpendicular	≥ 230 lbf. (1,023 N)
Flexural Strength ¹ , Parallel	≥ 80 lbf. (356 N)
Humidified Deflection ¹	N/A
Nail Pull Resistance ¹	≥ 80 lbf. (356 N)
Hardness ¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)
Thermal Resistance ⁵	R = .65
Water Absorption ¹ (% of Weight)	≤ 5%
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F
Mold Resistance ⁶ , ASTM D3273	Score of 10
Product Standard Compliance	ASTM C1658
Fire-Resistance Characteristics	
Core Type	Type X
UL Type Designation	FSW-7
Combustibility ²	Non-combustible Core
Surface Burning Characteristics ³	Class A
Flame Spread ³	0
Smoke Development ³	0
Applicable Standards and References	
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products	
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board	
ASTM C1658 Standard Specification for Glass Mat Gypsum Panels	
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber	
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials	
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C	
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>	
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>	
National Gypsum Company, <i>NGC Construction Guide</i>	

1. Specified minimum values per ASTM C1858, tested in accordance with ASTM C473.
 2. Tested in accordance with ASTM E136.
 3. Tested in accordance with ASTM E84.
 4. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.
 5. Tested in accordance with ASTM C518.
 6. Tested in accordance with ASTM D3273.

Common EXP® Shaftliner Applications

Area Separation Wall Limiting Heights

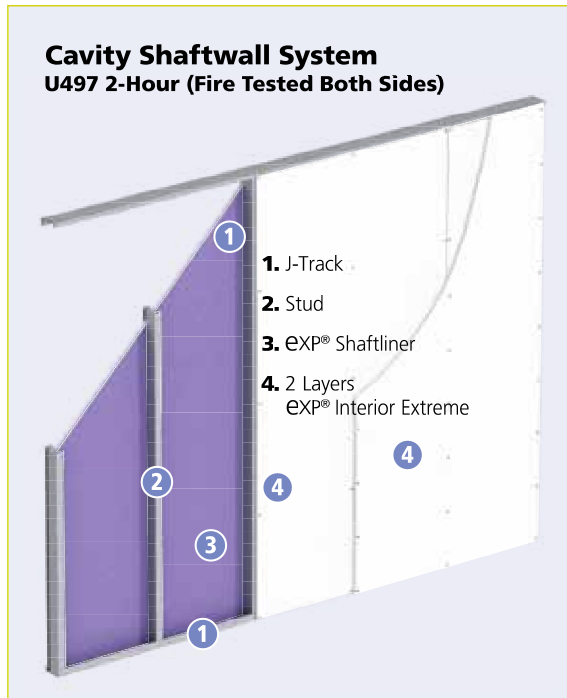
1. Roof
2. Stringer
3. Top Plate
4. EXP® Shaftliner
5. H -Stud
6. Double C-Track (Back-to-Back)
7. EXP® Sheathing
8. Fire Blocking 1" EXP® Shaftliner or Mineral Wool
9. ASW Clip
10. Wood Stud
11. Horizontal Blocking
12. Floor
13. Ceiling
14. Minimum 3/4" Air Space
15. Concrete Slab or Foundation



ASW Clip

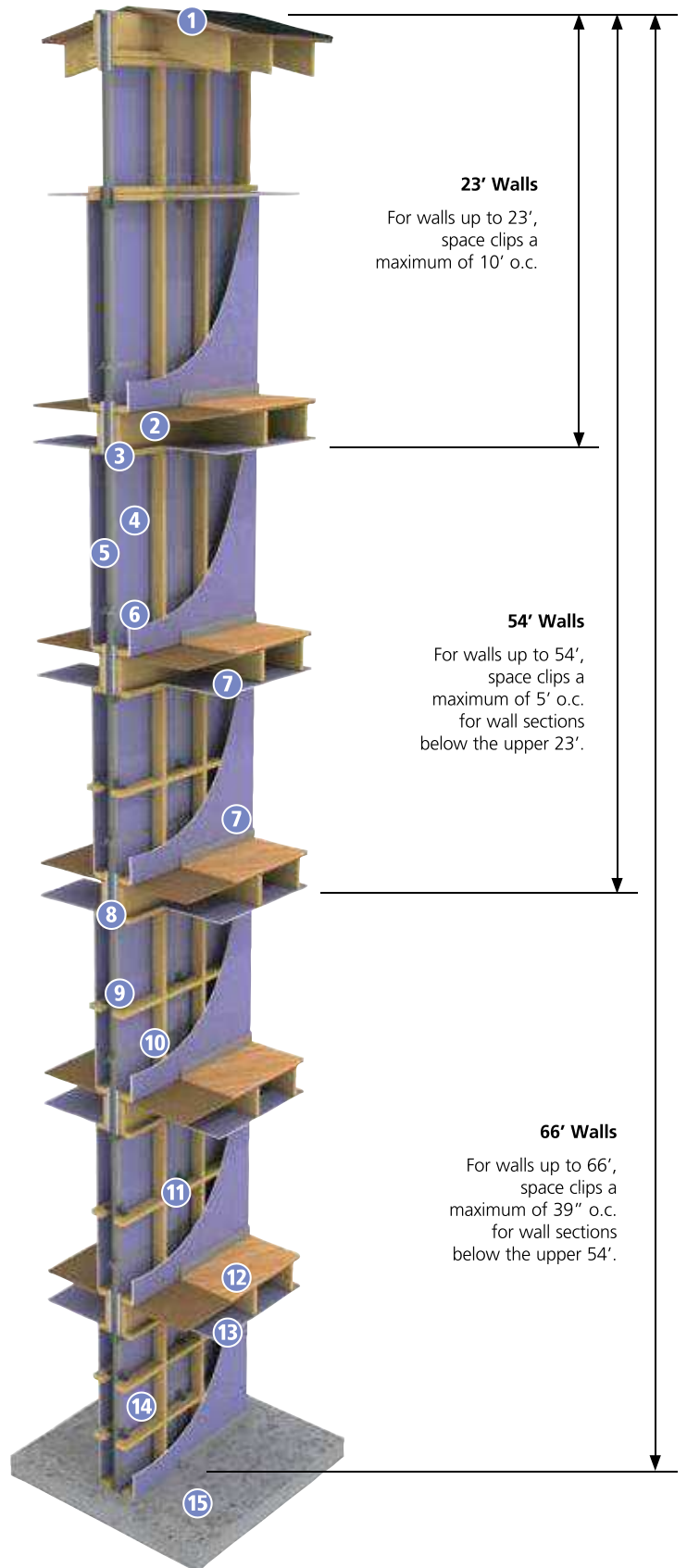
H-Stud

C-Track



Cavity Shaftwall System U497 2-Hour (Fire Tested Both Sides)

1. J-Track
2. Stud
3. EXP® Shaftliner
4. 2 Layers EXP® Interior Extreme



eXP® Tile Backer

Helping To Defend Against Moisture

When you are designing a commercial project that includes high humidity areas, like indoor swimming pools, gang showers, spas and whirlpools, we have the ideal substrate to specify: Gold Bond® BRAND eXP® Tile Backer.

Use Gold Bond® BRAND eXP® Tile Backer in rooms subjected to high humidity and you can build those indoor swimming pools, spas and whirlpools with confidence. eXP Tile Backer is an acrylic-coated moisture- and mold-resistant gypsum panel specially designed for use as a substrate for tile applications in high moisture areas, including showers, bathrooms, indoor swimming pools, laundry rooms and kitchens. Use eXP Tile Backer as a code-compliant substrate for tile and other finishes in both wet and non-wet areas, areas of high humidity and fire-rated assemblies. It is ideally suited for interior walls and ceilings.

eXP Tile Backer is an acrylic-coated moisture- and mold-resistant gypsum panel manufactured with an enhanced moisture- and mold-resistant core encased in specially designed coated glass mat facers. The facer is then coated with a specially formulated acrylic coating, which provides superior protection against moisture and humidity.

It provides an integral water barrier, eliminating the need for a separate water barrier. Another reason to consider eXP Tile Backer for your project: It has achieved GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg. So the next time you need a product that will perform well in wet, non-wet or high-moisture areas that are more susceptible to encouraging mold, think eXP Tile Backer. This substrate will give you the added assurance you need to get the job done to your exacting standards.



Gold Bond® BRAND EXP® Tile Backer is manufactured with an enhanced moisture- and mold-resistant core encased in specially designed coated glass mat facers. The facer is then coated with a specially formulated acrylic coating, which provides superior protection against moisture and humidity. The glass mat is folded around the long edges to reinforce and protect the core.

- Use it as a substrate for tile applications in high-moisture areas, including showers, bathrooms, indoor swimming pools, laundry rooms and kitchens.
- It is also a code-compliant substrate for tile and other finishes in both wet and non-wet areas, areas of high humidity and fire-rated assemblies. It is ideally suited for a variety of interior applications.

Sizes: Regular panels are 1/2 in. (12.7 mm) thick, available in 4 ft. (1,219 mm) nominal widths, and in 8 ft. (2,438 mm) lengths; Fire-Shield® Type X Panels are 5/8 in. (15.9 mm) thick and available in standard lengths.

Advantages



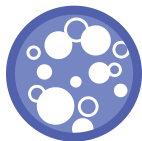
PROVIDES FIRE RESISTANCE

- Fire-resistant material with a non-combustible gypsum core helps protect framing elements, even when cladding is combustible.
- 5/8 in. (15.9 mm) EXP® Tile Backer is an approved component in specific UL fire-rated designs.



INSTALLS FAST AND EASY

- Coated glass mat facers for easy handling.
- Integrated water barrier.



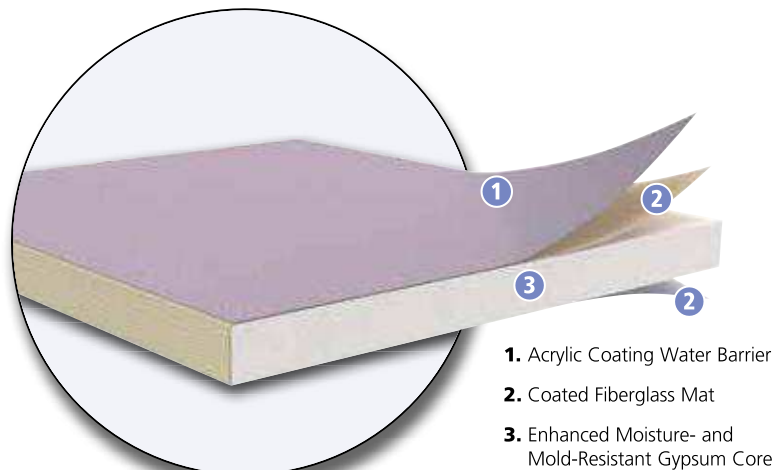
RESISTS MOISTURE AND MOLD BETTER

- Acrylic-coated fiberglass front facer provides an integral water barrier, eliminating the need for a separate water barrier.
- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.



OFFERS SUPERIOR DURABILITY

- Dimensionally stable under changes in temperature and relative humidity.



* Please refer to National Gypsum's "Limited Warranty And Remedy" (back cover) for details. For details about fire resistance, technical data and installation recommendations, refer to pages 33-35, nationalgypsum.com and the **NGC Construction Guide**.

TECHNICAL DATA

PHYSICAL PROPERTIES		
	EXP Tile Backer	EXP Fire-Shield Tile Backer
Thickness¹, Nominal	1/2" (12.7 mm)	5/8" (15.9 mm)
Width¹, Nominal	4' (1,219 mm)	4' (1,219 mm)
Length^{1,8}, Standard	8' (2,438 mm)	8' (2,438 mm)
Weight, Nominal	2.0 lbs. / sq. ft. (9.76 k/m ²)	2.5 lbs. / sq. ft. (12.21 k/m ²)
Edges¹	Square	Square
Flexural Strength¹, Perpendicular	≥ 100 lbf. (445 N)	≥ 140 lbf. (623 N)
Flexural Strength¹, Parallel	≥ 80 lbf. (356 N)	≥ 100 lbf. (445 N)
Humidified Deflection¹	≤ 2/8" (6 mm)	≤ 1/8" (3 mm)
Nail Pull Resistance¹	≥ 70 lbf. (311 N)	≥ 90 lbf. (400 N)
Hardness¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)	≥ 15 lbf. (67 N)
Bending Radius	12' (3,658 mm)	16' (4,877 mm)
Thermal Resistance⁴	R = .43	R = .50
Permeance⁵	2 perms	2 perms
Water Absorption¹ (% of Weight)	≤ 5%	≤ 5%
Surface Water Absorption¹	≤ .5 grams	≤ .5 grams
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F	9.26 x 10 ⁻⁶ in./in./°F
Mold Resistance⁶, ASTM D3273	Score of 10	Score of 10
Mold Resistance⁷, ASTM D6329	Yes	Yes
Product Standard Compliance	ASTM C1178	ASTM C1178
Fire-Resistance Characteristics		
Core Type	Regular	Type X
UL Type Designation	N/A	FSW-6
Combustibility²	Non-combustible Core	Non-combustible Core
Surface Burning Characteristics³	Class A	Class A
Flame Spread³	0	0
Smoke Development³	0	0
Applicable Standards and References		
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products		
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus		
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board		
ASTM C1178 Standard Specification For Coated Glass Mat Water-Resistant Gypsum Backing Panel		
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber		
ASTM D6329 Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers		
ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction		
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials		
ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials		
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C		
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>		
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>		
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>		
National Gypsum Company, <i>NGC Construction Guide</i>		

1. Specified minimum values per ASTM C1178, tested in accordance with ASTM C473.
 2. Tested in accordance with ASTM E136.
 3. Tested in accordance with ASTM E84.
 4. Tested in accordance with ASTM C518.
 5. Tested in accordance with ASTM E96.
 6. Tested in accordance with ASTM D3273.
 7. Tested in accordance with ASTM D6329.
 8. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.

COUNTERTOP INSTALLATION

1. Mortar
2. Tile and Grout
3. EXP® Tile Backer
4. Fiberglass Mesh Tape
Embedded in Joint Compound



SHOWER INSTALLATION

1. Support Framing
1/4" / 12" slope towards drain
2. Plywood, Min. 1/2"
3. Membrane
4. EXP® Tile Backer
5. Membrane
6. Sealant
7. Latex-Portland Cement Mortar
8. Tile and Grout



Gold Bond® BRAND
exp
Tile Backer

eXP® Interior Extreme® Gypsum Panels

When Long-Term Exposure To Mold Is A Concern

Your project warrants added protection against mold and moisture in interior applications, and Gold Bond® BRAND eXP® Interior Extreme® Gypsum Panel is an excellent choice. When designing a building with a non-paper faced gypsum application, this gypsum panel features coated fiberglass facers as well as an enhanced moisture- and mold-resistant gypsum core. The inorganic glass mat is embedded in the core, giving it added strength and moisture-resistant properties.

With eXP Interior Extreme, you can use a single gypsum panel throughout the entire project, wherever gypsum board is specified. This helps to make your job seamless and offers you added peace of mind.

Consider specifying Interior Extreme for pre-rock applications, or before the building envelope is completely enclosed. Use it on the interior side of exterior walls, where moisture exposure is more likely to occur. It is also ideally suited for topping out, helping push the construction schedule to an on-time completion. This flexible substrate works well for both wood and metal-framed construction.

Easy to work with and handle, it is also approved for specific UL fire-rated designs. It has achieved GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg.



Gold Bond® BRAND EXP® Interior Extreme® Gypsum Panels consist of a moisture- and mold-resistant gypsum core encased in a coated, specially designed fiberglass mat on the face, back and sides. It is available in a Regular, Type X or Type C core (often specified where the weight and number of gypsum board layers are a concern). The glass mat is folded around the long edges to reinforce and protect the core.

- Use it wherever gypsum board is specified in interior applications for the entire project, wood or metal framing, for increased resistance to incidental moisture.

Sizes: 1/2 in. (12.7 mm) Regular, 1/2 in. (12.7 mm) Type C and 5/8 in. (15.9 mm) Gold Bond® BRAND Fire-Shield® Type X or Type C Panels are available in 4 ft. (1,219 mm) nominal widths and in 8 ft. (2,438 mm) to 12 ft. (3,658 mm) lengths.

Finishing: Perform finishing of EXP® Panels in accordance with GA-214. Joints between EXP Panels may be finished with either paper tape and ready mix joint compound or fiberglass mesh tape and setting compound, such as ProForm® BRAND Interior Finishing Products. In most areas to receive final decoration, skim coating of the entire surface is recommended.

Advantages



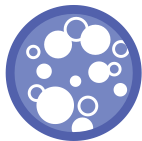
PROVIDES FIRE RESISTANCE

- Fire-resistant material with a non-combustible gypsum core helps protect framing elements, even when cladding is combustible.
- 1/2 in. (12.7 mm) Fire-Shield® C, 5/8 in. (15.9 mm) Fire-Shield® Type X or Type C have specially formulated cores that are approved components in specific UL fire-rated designs.



INSTALLS FAST AND EASY

- Features the GridMarX® guide marks on the panel to allow for faster and more accurate installation.
- May use for pre-rock applications before building is completely enclosed, which may speed installation.
- Versatile product can be used throughout the entire project where gypsum board is specified.



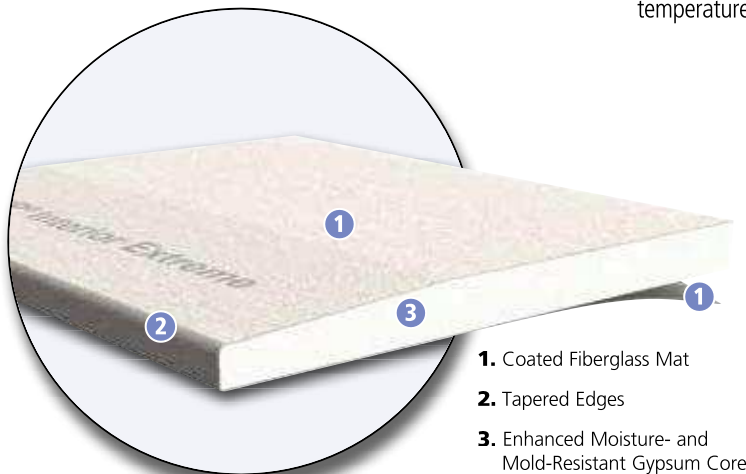
RESISTS MOISTURE AND MOLD BETTER

- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.



OFFERS SUPERIOR DURABILITY

- Offers a 12-month extended exposure warranty for typical weather conditions.
- Dimensionally stable under changes in temperature and relative humidity.



1. Coated Fiberglass Mat
2. Tapered Edges
3. Enhanced Moisture- and Mold-Resistant Gypsum Core

* Please refer to National Gypsum's "Limited Warranty And Remedy" (back cover) for details. For details about fire resistance, technical data and installation recommendations, refer to pages 33-35, nationalgypsum.com and the **NGC Construction Guide**.

TECHNICAL DATA

PHYSICAL PROPERTIES				
	EXP Interior Extreme	1/2" EXP Interior Extreme Type C	5/8" EXP Interior Extreme Type X	5/8" EXP Interior Extreme Type C
Thickness¹, Nominal	1/2" (12.7 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)	5/8" (15.9 mm)
Width¹, Nominal	4' (1,219 mm)	4' (1,219 mm)	4' (1,219 mm)	4' (1,219 mm)
Length^{1,4}, Standard	8' – 12' (2,438 mm – 3,658 mm)	8' – 12' (2,438 mm – 3,658 mm)	8' – 12' (2,438 mm – 3,658 mm)	8' – 12' (2,438 mm – 3,658 mm)
Weight, Nominal	2.0 lbs. / sq. ft. (9.76 k/m ²)	2.1 lbs. / sq. ft. (10.25 k/m ²)	2.5 lbs. / sq. ft. (12.21 k/m ²)	2.5 lbs. / sq. ft. (12.21 k/m ²)
Edges¹	Tapered	Tapered	Tapered	Tapered
Flexural Strength¹, Perpendicular	≥ 100 lbf. (445 N)	≥ 100 lbf. (445 N)	≥ 140 lbf. (623 N)	≥ 140 lbf. (623 N)
Flexural Strength¹, Parallel	≥ 80 lbf. (356 N)	≥ 80 lbf. (356 N)	≥ 100 lbf. (445 N)	≥ 100 lbf. (445 N)
Humidified Deflection¹	≤ 5/16" (8 mm)	≤ 5/16" (8 mm)	≤ 4/16" (6 mm)	≤ 4/16" (6 mm)
Nail Pull Resistance¹	≥ 80 lbf. (356 N)	≥ 80 lbf. (356 N)	≥ 90 lbf. (400 N)	≥ 90 lbf. (400 N)
Hardness¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)	≥ 15 lbf. (67 N)	≥ 15 lbf. (67 N)	≥ 15 lbf. (67 N)
Bending Radius	6' (1,829 mm)	6' (1,829 mm)	8' (2,438 mm)	8' (2,438 mm)
Thermal Resistance⁵	R = .43	R = .43	R = .50	R = .50
Permeance⁶	22 perms	22 perms	19 perms	19 perms
Water Absorption¹ (% of Weight)	≤ 5%	≤ 5%	≤ 5%	≤ 5%
Surface Water Absorption¹	≤ 1.6 grams	≤ 1.6 grams	≤ 1.6 grams	≤ 1.6 grams
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH	6.25 x 10 ⁻⁶ in./in./%RH	6.25 x 10 ⁻⁶ in./in./%RH	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F	9.26 x 10 ⁻⁶ in./in./°F	9.26 x 10 ⁻⁶ in./in./°F	9.26 x 10 ⁻⁶ in./in./°F
Mold Resistance⁷, ASTM D3273	Score of 10	Score of 10	Score of 10	Score of 10
Mold Resistance⁸, ASTM D6329	Yes	Yes	Yes	Yes
Product Standard Compliance	ASTM C1658	ASTM C1658	ASTM C1658	ASTM C1658
Fire-Resistance Characteristics				
Core Type	Regular	Type C	Type X	Type C
UL Type Designation	N/A	EXP-C	FSW-6	EXP-C
Combustibility²	Non-combustible Core	Non-combustible Core	Non-combustible Core	Non-combustible Core
Surface Burning Characteristics³	Class A	Class A	Class A	Class A
Flame Spread³	0	0	0	0
Smoke Development³	0	0	0	0
Applicable Standards and References				
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products				
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus				
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board				
ASTM C1658 Standard Specification for Glass Mat Gypsum Panels				
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber				
ASTM D6329 Standard Guide For Developing Methodology For Evaluation The Ability Of Indoor Materials Using Static Environmental Chambers				
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials				
ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials				
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C				
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>				
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>				
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>				
National Gypsum Company, <i>NGC Construction Guide</i>				

1. Specified values per ASTM C1658, tested in accordance with ASTM C473.

2. Tested in accordance with ASTM E136.

3. Tested in accordance with ASTM E84.

4. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.

5. Tested in accordance with ASTM C518.

6. Tested in accordance with ASTM E96.

7. Tested in accordance with ASTM D3273.

8. Tested in accordance with ASTM D6329.

Installation Applications

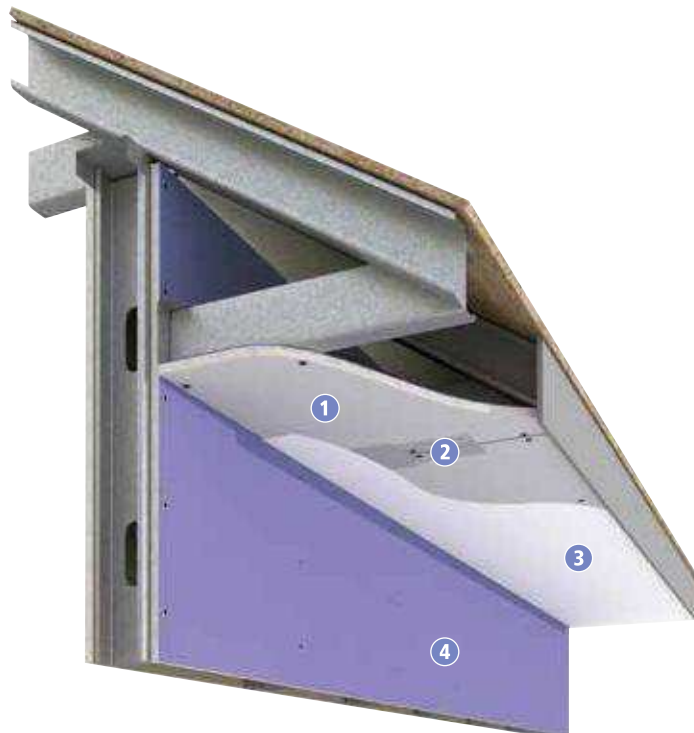
PRE-ROCK INSTALLATION

1. Topping out with EXP® Interior Extreme® Gypsum Board in an exposed environment
2. Pre-rock with EXP® Interior Extreme® Gypsum Board



SOFFIT INSTALLATION

1. EXP® Interior Extreme® Gypsum Board
2. Mesh Tape Set In Setting Compound
3. Skim Coat Setting Compound
4. EXP® Sheathing



EXP® Interior Extreme® AR Gypsum Panels

For High-Traffic Areas Where Indentation And Surface Abrasion Are Concerns

We have taken the moisture- and mold-resistant qualities of our EXP® Interior Extreme® and improved upon it with Gold Bond® BRAND EXP® Interior Extreme® AR (Abuse Resistant) Gypsum Panel. In addition to the standard IE performance benefits, this coated fiberglass-faced gypsum panel also offers an extra level of surface durability.

EXP Interior Extreme AR is designed for a non-paper faced gypsum application, utilizing coated glass mat facers. The specially formulated gypsum core combines enhanced protection against moisture and mold with added surface-abrasion resistance. When you think about EXP Interior Extreme AR, think: *strong and durable*.

As with EXP Interior Extreme, consider specifying Interior Extreme AR for pre-rock applications before the building envelope is completely enclosed.

Easy to work with and handle, it is also approved for specific UL fire-rated designs. It has achieved GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg.

Areas prone to surface abrasion and indentation include:

- Corridors
- Entryways
- Lobby areas
- Warehouses



Gold Bond® BRAND EXP® Interior Extreme® Abuse Resistant (AR) Gypsum Panels consist of an abuse-, moisture- and mold-resistant gypsum core encased in a coated, specially designed glass mat on the face, back and sides. In addition to moisture and mold resistance, the AR Panel has a denser core and an enhanced glass mat for increased resistance to indentation and abrasion. It is available in a Type X core. The glass mat is folded around the long edges to reinforce and protect the core.

- Use it for interior applications in areas prone to surface abrasion and indentation, including corridors, entryways, lobby areas and warehouses.

Sizes: 5/8 in. (15.9 mm) Gold Bond® BRAND Type X Panels are available in 4 ft. (1,219 mm) nominal widths and in standard lengths of 8 ft. (2,438 mm) to 12 ft. (3,658 mm).

Finishing: Perform finishing of EXP Panels in accordance with GA-214. Joints between EXP Panels may be finished with either paper tape and ready mix joint compound or fiberglass mesh tape and setting compound, such as ProForm® BRAND Interior Finishing Products. In most areas to receive final decoration, skim coating of the entire surface is recommended.

Advantages



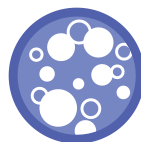
PROVIDES FIRE RESISTANCE

- Fire-resistant material with a non-combustible gypsum core helps protect framing elements, even when cladding is combustible.
- Manufactured to meet ASTM C1658 (“Standard Specification for Glass Mat Gypsum Substrate for use as Sheathing”).



INSTALLS FAST AND EASY

- Features the GridMarX® guide marks on the panel to allow for faster and more accurate installation.
- Coated glass mat facers for easy handling.



RESISTS MOISTURE AND MOLD BETTER

- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.



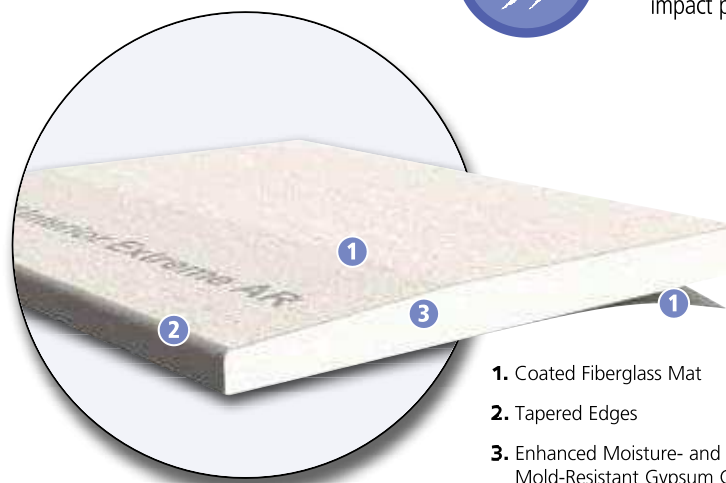
OFFERS SUPERIOR DURABILITY

- Offers a 12-month extended exposure warranty for typical weather conditions.
- Dimensionally stable under changes in temperature and relative humidity.



PROVIDES ABUSE RESISTANCE

- Provides greater resistance to surface abuse and impact penetration over gypsum board.



1. Coated Fiberglass Mat
2. Tapered Edges
3. Enhanced Moisture- and Mold-Resistant Gypsum Core

* Please refer to National Gypsum’s “Limited Warranty And Remedy” (back cover) for details. For details about fire resistance, technical data and installation recommendations, refer to pages 33-35, nationalgypsum.com and the **NGC Construction Guide**.

EXP® Interior Extreme® AR Gypsum Panels

TECHNICAL DATA

PHYSICAL PROPERTIES	
	EXP Interior Extreme AR
Thickness¹, Nominal	5/8" (15.9 mm)
Width¹, Nominal	4' (1,219 mm)
Length^{1,4}, Standard	8' – 12' (2,438 mm – 3,658 mm)
Weight, Nominal	2.8 lbs. / sq. ft. (13.67 k/m ²)
Edges¹	Tapered
Flexural Strength¹, Perpendicular	≥ 140 lbf. (623 N)
Flexural Strength¹, Parallel	≥ 100 lbf. (445 N)
Humidified Deflection¹	≤ 4/16" (6 mm)
Nail Pull Resistance¹	≥ 90 lbf. (400 N)
Hardness¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)
Bending Radius	8' (2,438 mm)
Thermal Resistance⁵	R = .50
Permeance⁶	19 perms
Water Absorption¹ (% of Weight)	≤ 5%
Surface Water Absorption¹	≤ 1.6 grams
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F
Mold Resistance⁷, ASTM D3273	Score of 10
Surface Abrasion⁸	Level 3
Indentation⁸	Level 1
Soft Body Impact⁸	Level 2
Hard Body Impact⁸	Level 1
Product Standard Compliance	ASTM C1658
Fire-Resistance Characteristics	
Core Type	Type X
UL Type Designation	FSW-6
Combustibility²	Non-combustible Core
Surface Burning Characteristics³	Class A
Flame Spread³	0
Smoke Development³	0
Applicable Standards and References	
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products	
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board	
ASTM C1629 Standard Classification for Abuse-Resistant Non-decorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels	
ASTM C1658 Standard Specification for Glass Mat Gypsum Panels	
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber	
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials	
ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials	
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C	
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>	
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>	
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>	
National Gypsum Company, <i>NGC Construction Guide</i>	

1. Specified values per ASTM C1658, tested in accordance with ASTM C473.

2. Tested in accordance with ASTM E136.

3. Tested in accordance with ASTM E84.

4. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.

5. Tested in accordance with ASTM C518.

6. Tested in accordance with ASTM E96.

7. Tested in accordance with ASTM D3273.

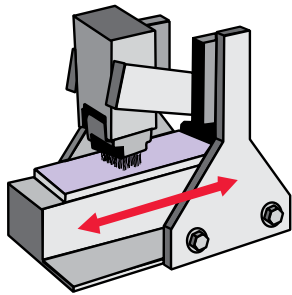
8. Tested in accordance with ASTM methods in ASTM C1629 – D4977 (Surface Abrasion), D5420 (Indentation), E695 (Soft Body Impact), Annex A1 (Hard Body Impact)

Abuse And Impact Test Results (ASTM C1629)

RECOMMENDED CLASSIFICATION LEVELS FOR COMPLIANCE

Test/Classification Level	Gold Bond EXP Interior Extreme AR Gypsum Board
ASTM D4977 – Surface Abrasion	3
ASTM D5420 – Surface Indentation	1
ASTM E695 – Soft-Body Impact	2
Annex A1 – Hard-Body Impact	1*

* Abuse products are not recommended for areas prone to cavity penetration

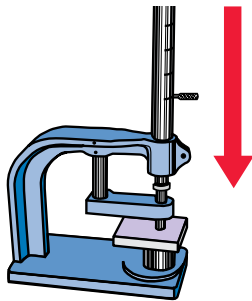


SURFACE ABRASION (Modified ASTM D4977)

This test measures the ability of a gypsum panel surface to resist scratches and scuffs by subjecting the panel to 50 back-and-forth cycles with a wire brush. The depth of the abrasion is measured. The test was originally developed to test granule adhesion to mineral surfaced roofing and was modified by adding 25 lbs. of additional weight to the wire brush.

TEST RESULTS

Classification Level	Abraded Depth Maximum
1	0.126" (3.2 mm)
2	0.059" (1.5 mm)
3	0.010" (0.3 mm)

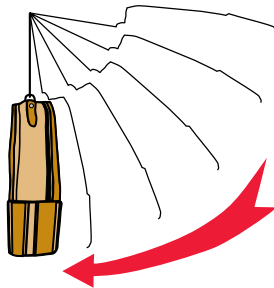


SURFACE INDENTATION (ASTM D5420 – Gardner Impact Test)

This test measures the ability of a gypsum panel to resist dents by a small, hard object, by raising and dropping a hemispherical rod onto the gypsum panel. The depth of the indentation is measured. The original test was developed to test flat, rigid sheets of plastic.

TEST RESULTS

Classification Level	Indentation Maximum
1	0.150" (3.8 mm)
2	0.100" (2.5 mm)
3	0.050" (1.3 mm)

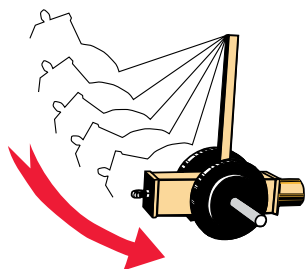


SINGLE DROP SOFT-BODY IMPACT (Modified ASTM E695)

This test measures the ability of a gypsum panel to withstand a single impact of a heavy soft object. This test is conducted by swinging a leather bag loaded with steel pellets into the panel. When the panel breaks, the height of the drop and weight of the bag are used to calculate the foot-pound measurement required to break the panel. The test was originally developed to measure relative resistance of wall, floor and roof construction to impact loading.

TEST RESULTS

Classification Level	Soft-Body Minimum
1	90 ft-lbs (112 J)
2	195 ft-lbs (265 J)
3	300 ft-lbs (408 J)



HARD-BODY IMPACT (Annex A1)

This test measures the ability of a gypsum panel to withstand the impact of a hard object such as a hammer, or heel of a boot. A panel is impacted once with a 2-3/4" steel cylinder mounted to a ram. The maximum amount of impact force the panel can withstand without breaking the stud cavity is recorded. This is a new test proposed by manufacturers of high-performance panels.

TEST RESULTS

Classification Level	Hard-Body Minimum
1	50 ft-lbs (68 J)
2	100 ft-lbs (136 J)
3	150 ft-lbs (204 J)

Tests witnessed by H.P. White Laboratory, Inc.

EXP® Interior Extreme® IR Gypsum Panels

For Areas Susceptible To Extreme Abuse And Impact Penetration

We have taken EXP® Interior Extreme® and added even more protective properties, creating Gold Bond® BRAND EXP® Interior Extreme® IR (Impact Resistant) Gypsum Panel. EXP® Interior Extreme IR is an even more durable and impact-resistant version of EXP® Interior Extreme® AR.

EXP® Interior Extreme IR has the same added protection against mold and moisture in interior applications as EXP® Interior Extreme. IR is designed for a non-paper faced gypsum application and anywhere impact penetration and heavy traffic is a concern. It utilizes coated fiberglass facers, along with a specially formulated fiberglass mesh embedded into the gypsum core. IR provides a high level of surface-impact resistance. When you think about EXP® Interior Extreme IR, think: *the toughest board in the series.*

EXP® Interior Extreme IR has the features you're already familiar with in Interior Extreme and Interior Extreme AR. This flexible substrate works well for both wood and metal-framed construction. Approved for specific UL fire-rated designs, it has also achieved GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg.

Areas prone to cavity penetration include:

- Gymnasiums ■ Correctional facilities
- Schools ■ Workshops



Gold Bond® BRAND EXP® Interior Extreme® Impact Resistant (IR) Gypsum Panels consist of an impact- and a moisture- and mold-resistant gypsum core encased in a coated, specially designed glass mat on the face, back and sides. In addition to moisture and mold resistance, the impact-resistant panel has a denser core and an enhanced glass mat for increased resistance to indentation and impact. Additionally, the fiberglass mesh embedded into the core enhances impact resistance. It is available in a Type X core. The glass mat is folded around the long edges to reinforce and protect the core.

■ Use it for interior applications requiring increased resistance to incidental moisture and wall penetrations. It is ideal for areas prone to cavity penetration, including gymnasiums, correctional facilities, schools and workshops.

Sizes: 5/8 in. (15.9 mm) Gold Bond® BRAND Type X Panels are available in 4 ft. (1,219 mm) nominal widths and standard lengths of 8 ft. (2,438 mm) to 12 ft. (3,658 mm).

Finishing: Perform finishing of EXP panels in accordance with GA-214. Joints between EXP panels may be finished with either paper tape and ready-mix joint compound or fiberglass mesh tape and setting compound, such as ProForm BRAND Interior Finishing Products. In most areas to receive final decoration, skim coating of the entire surface is recommended.

Advantages



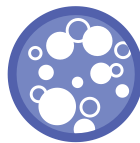
PROVIDES FIRE RESISTANCE

- Fire-resistant material with a non-combustible gypsum core helps protect framing elements, even when cladding is combustible.
- Approved component in specific UL fire-rated designs.



INSTALLS FAST AND EASY

- Features the GridMarX® guide marks on the panel to allow for faster and more accurate installation.
- Coated glass mat facers for easy handling.



RESISTS MOISTURE AND MOLD BETTER

- Resists the growth of mold per ASTM D3273 with a score of 10, the best possible score.



OFFERS SUPERIOR DURABILITY

- Offers a 12-month extended exposure warranty for typical weather conditions.
- Dimensionally stable under changes in temperature and relative humidity.



PROVIDES IMPACT RESISTANCE

- Provides greater resistance to abuse and impact penetration over standard gypsum board.



1. Coated Fiberglass Mat
2. Tapered Edges
3. Enhanced Moisture- and Mold-Resistant Gypsum Core
4. Fiberglass Mesh

* Please refer to National Gypsum's "Limited Warranty And Remedy" (back cover) for details. For details about fire resistance, technical data and installation recommendations, refer to pages 33-35, nationalgypsum.com and the **NGC Construction Guide**.

TECHNICAL DATA

PHYSICAL PROPERTIES	
	EXP Interior Extreme IR
Thickness ¹ , Nominal	5/8" (15.9 mm)
Width ¹ , Nominal	4' (1,219 mm)
Length ^{1,4} , Standard	8' – 12' (2,438 mm – 3,658 mm)
Weight, Nominal	2.8 lbs. / sq. ft. (13.67 k/m ²)
Edges ¹	Tapered
Flexural Strength ¹ , Perpendicular	≥ 140 lbf. (623 N)
Flexural Strength ¹ , Parallel	≥ 100 lbf. (445 N)
Humidified Deflection ¹	≤ 4/16" (6 mm)
Nail Pull Resistance ¹	≥ 90 lbf. (400 N)
Hardness ¹ – Core, Edges and Ends	≥ 15 lbf. (67 N)
Bending Radius	8' (2,438 mm)
Thermal Resistance ⁵	R = .50
Permeance ⁶	19 perms
Water Absorption ¹ (% of Weight)	≤ 5%
Surface Water Absorption ¹	≤ 1.6 grams
Linear Expansion with Change Moisture	6.25 x 10 ⁻⁶ in./in./%RH
Coefficient of Thermal Expansion	9.26 x 10 ⁻⁶ in./in./°F
Mold Resistance ⁷ , ASTM D3273	Score of 10
Surface Abrasion ⁸	Level 3
Indentation ⁸	Level 1
Soft-Body Impact ⁸	Level 3
Hard-Body Impact ⁸	Level 2
Product Standard Compliance	ASTM C1658
Fire-Resistance Characteristics	
Core Type	Type X
UL Type Designation	FSW-6
Combustibility ²	Non-combustible Core
Surface Burning Characteristics ³	Class A
Flame Spread ³	0
Smoke Development ³	0
Applicable Standards and References	
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products	
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board	
ASTM C1629 Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels	
ASTM C1658 Standard Specification for Glass Mat Gypsum Panels	
ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber	
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials	
ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials	
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C	
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>	
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>	
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>	
National Gypsum Company, <i>NGC Construction Guide</i>	

1. Specified values per ASTM C1658, tested in accordance with ASTM C473.
 2. Tested in accordance with ASTM E136.
 3. Tested in accordance with ASTM E84.

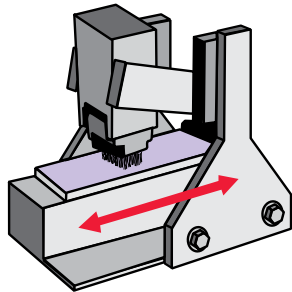
4. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.
 5. Tested in accordance with ASTM C518.
 6. Tested in accordance with ASTM E96.

7. Tested in accordance with ASTM D3273.
 8. Tested in accordance with ASTM methods in ASTM C1629 – D4977 (Surface Abrasion), D5420 (Indentation), E695 (Soft-Body Impact), Annex A1 (Hard-Body Impact).

Abuse And Impact Test Results (ASTM C1629)

RECOMMENDED CLASSIFICATION LEVELS FOR COMPLIANCE

Test/Classification Level	Gold Bond EXP Interior Extreme IR Gypsum Board
ASTM D4977 – Surface Abrasion	3
ASTM D5420 – Surface Indentation	1
ASTM E695 – Soft-Body Impact	3
Annex A1 – Hard-Body Impact	2

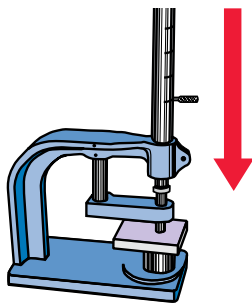


SURFACE ABRASION (Modified ASTM D4977)

This test measures the ability of a gypsum panel surface to resist scratches and scuffs by subjecting the panel to 50 back-and-forth cycles with a wire brush. The depth of the abrasion is measured. The test was originally developed to test granule adhesion to mineral surfaced roofing and was modified by adding 25 lbs. of additional weight to the wire brush.

TEST RESULTS

Classification Level	Abraded Depth Maximum
1	0.126" (3.2 mm)
2	0.059" (1.5 mm)
3	0.010" (0.3 mm)

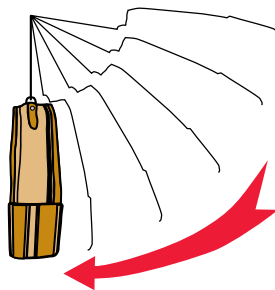


SURFACE INDENTATION (ASTM D5420 – Gardner Impact Test)

This test measures the ability of a gypsum panel to resist dents by a small, hard object, by raising and dropping a hemispherical rod onto the gypsum panel. The depth of the indentation is measured. The original test was developed to test flat, rigid sheets of plastic.

TEST RESULTS

Classification Level	Indentation Maximum
1	0.150" (3.8 mm)
2	0.100" (2.5 mm)
3	0.050" (1.3 mm)

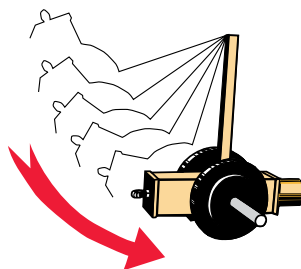


SINGLE DROP SOFT-BODY IMPACT (Modified ASTM E695)

This test measures the ability of a gypsum panel to withstand a single impact of a heavy soft object. This test is conducted by swinging a leather bag loaded with steel pellets into the panel. When the panel breaks, the height of the drop and weight of the bag are used to calculate the foot-pound measurement required to break the panel. The test was originally developed to measure relative resistance of wall, floor and roof construction to impact loading.

TEST RESULTS

Classification Level	Soft-Body Minimum
1	90 ft-lbs (112 J)
2	195 ft-lbs (265 J)
3	300 ft-lbs (408 J)



HARD-BODY IMPACT (Annex A1)

This test measures the ability of a gypsum panel to withstand the impact of a hard object such as a hammer, or heel of a boot. A panel is impacted once with a 2-3/4" steel cylinder mounted to a ram. The maximum amount of impact force the panel can withstand without breaking the stud cavity is recorded. This is a new test proposed by manufacturers of high-performance panels.

TEST RESULTS

Classification Level	Hard-Body Minimum
1	50 ft-lbs (68 J)
2	100 ft-lbs (136 J)
3	150 ft-lbs (204 J)

Tests witnessed by H.P. White Laboratory, Inc.

Fire And Sound Selector

No.	Fire Rating	UL/GA Design	Description	STC	Test No.
Gypsum Board Partitions – Shaftwall Systems					
1	1 Hr.	W419 U499 WP 6905	<p>1 in. (25.4 mm) Fire-Shield Shaftliner inserted between flanges of 2-1/2 in. (63.6 mm) steel C-T, C-H, or I studs 24 in. (610 mm) o.c. 5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically or horizontally to studs with 1 in. (25.4 mm) Type S screws 12 in. (305 mm) o.c. on side opposite shaftliner panel.</p> <p>Sound rating with 1-1/2 in. (38.1 mm) glass fiber insulation in stud cavity.</p>	37	NGC 2001003
				42	NGC 2542
2	2 Hr.	W419 U498 WP 7077	<p>1 in. (25.4 mm) Fire-Shield Shaftliner inserted between flanges of 2-1/2 in. (63.6 mm) steel C-T, C-H, or I studs 24 in. (610 mm) o.c. 5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically or horizontally to each side of studs with 1 in. (25.4 mm) Type S screws 12 in. (305 mm) o.c. Joints staggered each side.</p> <p>Sound rating with 1-1/2 in. (38.1 mm) glass fiber insulation in stud cavity.</p>	42	NGC 2535
				48	NGC 2534
3	2 Hr.	W419 U497 WP 7076	<p>1 in. (25.4 mm) Fire-Shield Shaftliner inserted between flanges of 2-1/2 in. (63.6 mm) steel C-T, C-H, or I studs 24 in. (610 mm) o.c. Base layer 5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically to studs with 1 in. (25.4 mm) Type S screws 24 in. (610 mm) o.c. on side opposite shaftliner panel. Face layer 5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically with 1-5/8 in. (41.3 mm) Type S screws 12 in. (305 mm) o.c. Joints staggered each layer.</p> <p>Sound rating with 1-1/2 in. (38.1 mm) glass fiber insulation in stud cavity.</p>	41	NGC 2508
				48	NGC 2507
4	1 Hr.	V438 U465 WP 1081	<p>5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically to each side of 3-5/8 in. (92.1 mm) steel studs 24 in. (610 mm) o.c. with 1 in. (25.4 mm) Type S screws 8 in. (203 mm) o.c. at vertical joints and 12 in. (305 mm) o.c. at intermediate studs.</p> <p>Sound rating with 2-1/2 in. (63.6 mm) glass fiber insulation in stud cavity.</p>	47	NGC 2386
5	2 Hr.	V438 U411 WP 1548	<p>Base layer 5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically to each side of 2-1/2 in. (63.6 mm) steel studs 24 in. (610 mm) o.c. with 1 in. (25.4 mm) Type S screws 16 in. (406 mm) o.c. Face layer 5/8 in. (15.9 mm) Fire-Shield Gypsum Board applied vertically to each side with 1-5/8 in. (41.3 mm) Type S screws 16 in. (406 mm) o.c. at vertical joints and intermediate studs and 12 in. (305 mm) o.c. at floor and ceiling runners. Joints staggered each layer and side.</p> <p>Sound rating with 3-5/8 in. (92.1 mm) steel studs and 3-1/2 in. (88.9 mm) glass fiber insulation in stud cavity.</p>	56	NGC 3022
Area Separation Fire Walls					
6	2 Hr.	U347 ASW 0988	<p>Two layers of 1 in. (25.4 mm) Fire-Shield Shaftliner inserted between flanges of 2 in. (50.8 mm) steel H-studs 24 in. (610 mm) o.c. 3/4 in. (19.1 mm) air space each side. 2x4 (38.1 mm x 88.9 mm) wood stud partition with one layer of 1/2 in. (12.7 mm) Gold Bond Gypsum Board on each side.</p> <p>Sound rating with 3-1/2 in. (88.9 mm) glass fiber insulation in stud cavity on each side.</p>	61	RAL-TL05-199

Installation Recommendations

GENERAL

- Install gypsum panels in accordance with methods described in ASTM C840 and GA-216. Note that cutting and scoring should be from the back side of the panels.
- Examine and inspect framing materials to which gypsum panels are to be applied. Remedy all defects prior to installation of the gypsum board.
- Apply gypsum panels first to ceilings at right angles to framing members, then to walls. Use boards of maximum practical length so that the minimum number of end joints occur. Bring panel edges into contact with each other but do not force into place.
- Install batt or blanket ceiling insulation BEFORE the gypsum panels on ceilings when installing a vapor retarder behind the gypsum panels. Install the insulation IMMEDIATELY after the gypsum panels when using loose fill insulation. Avoid installation practices that might allow condensation to form behind panels.
- Locate gypsum panel joints at openings so that no joint will occur within 12 in. (305 mm) of the edges of the opening unless installing control joints at these locations. Stagger vertical end joints. Joints on opposite sides of a partition should not occur on the same stud.
- Hold gypsum panels in firm contact with the framing member while driving fasteners. Fastening should proceed from center portion of the panels toward the edges and ends. Set fasteners with heads slightly below the surface of the panels. Take care to avoid breaking the fiberglass mat of the gypsum panel. Remove improperly driven nails or screws.
- Provide minimum 1/4 in. (6.4 mm) clearance between boards and adjacent concrete or masonry to minimize wicking of moisture.
- Maintain a room temperature of not less than 40°F (4°C) during application of gypsum panels.

SAFETY

Installers should wear long pants and long-sleeved, loose-fitting shirt. Use protective gloves and special eye protection (goggles or safety glasses with side shield). Wear a dust mask when sanding; you may need additional breathing protection in extremely dusty conditions. Do not use a power saw to cut this product.

Caution: Because this product contains fiberglass, dust and glass fibers may be released during normal handling, which could result in eye or skin irritation or cause difficulty in breathing. Wherever possible, avoid contact with the skin and eyes and avoid breathing dust or fibers that may be released during installation. Consult the SDS for this product, available at: purplechoice.info before use.

FASTENING

EXP® Sheathing® – Fasteners (nail or screw heads or the crown of staples) should bear tightly against the face of the sheathing panel but should not cut into the facer. Staples should be driven with the crown parallel to the framing. Fasteners should be no less than 3/8 in. (9.5 mm) from the edges and ends of the panel. When shear values are not required, fasteners should be spaced not more than 8 in. (203 mm) o.c. along the vertical ends or edges and intermediate supports.



NAILS

- Galvanized, 11 gauge
- 7/16 in. (11.1 mm) head, 1-1/2 in. (38.1 mm) long for 1/2 in. (12.7 mm) sheathing
- 1-3/4 in. (44.5 mm) long for 5/8 in. (5.9 mm) sheathing.



STAPLES

- Galvanized 16 gauge, 7/16 in. (11.1 mm) crown, 1-1/2 in. (38.1 mm) long for 1/2 in. (12.7 mm) sheathing
- 1-5/8 in. (41.3 mm) long for 5/8 in. (15.9 mm) sheathing.



SCREWS

- ASTM C1002 or ASTM C954
- 1-1/4 in. (31.8 mm) long Type W for wood framing
- 1 in. (25.4 mm) long Type S-12 for metal framing

EXP® Gypsum Panels

Installation Recommendations (continued)



EXP® SHEATHING

- EXP® Sheathing may be attached parallel to or perpendicular to wood or metal framing. For horizontal applications, install EXP Sheathing with end joints staggered.
- Use appropriate panel orientation for specific fire assemblies and shear wall applications, as required by the design.
- Install fire-rated assemblies in accordance with the details found in the UL Fire Resistance Directory or the Gypsum Association's GA-600, *Fire-Resistance Design Manual*.
- Install EXP Sheathing with vertical edges butting over the center of framing members. Fit sheathing snugly around all openings.
- Install panels with a 3/8 in. (9.5 mm) gap where non-load-bearing construction abuts structural elements.
- To prevent wicking, install panels with a 1/4 in. (6.4 mm) gap where they abut masonry or similar materials that might retain moisture.



EXP® SHAFTLINER

Install EXP® Shaftliner consistent with methods described in specific application details for National Gypsum Cavity Shaftwall Systems

or Area Separation Fire Wall Systems in *NGC Construction Guide*, or with other fire-resistance-rated designs.



EXP® TILE BACKER

- Do not embed EXP® Tile Backer into mortar bed in showers. Install with gray side facing away from the framing, apply tile/finishes to the gray side.
- Score/cut from the gray side using a standard utility knife. Cut outs are made easily with a utility knife or saw. Panel joints must be tight. Fill gaps and inside corners with flexible sealant.
- Drive fasteners flush with the panel surface; do not countersink.
- Hold tile backer boards in firm contact with the framing member while driving fasteners. Fastening should proceed from center portion of the panels toward the edges and ends. Take care to avoid breaking the facer of the tile backer board. Remove improperly driven nails or screws.
- Provide minimum 1/4 in. (6.4 mm) clearance between boards and adjacent concrete or masonry to minimize wicking of moisture.
- Embed alkali-resistant fiberglass tape with the tile setting material at tile backer board joints prior to tile installation.
- Maintain a room temperature of not less than 40°F (4°C) during application of tile backer boards.
- Install fire-rated assemblies in accordance with the details found in the *UL Fire Resistance Directory* or the Gypsum Association, GA-600, *Fire Resistance Design Manual*.



EXP® INTERIOR EXTREME®

- Install fire-rated assemblies in accordance with the details found in the *UL Fire Resistance Directory* or the Gypsum Association's GA-600, *Fire-Resistance Design Manual*.
- Drive fasteners just below the surface, avoiding damage to the core and/or glass mat facer.
- Avoid installing water-sensitive materials on EXP® Interior Extreme® Panels in pre-rock applications until the building is enclosed.

EXP® INTERIOR EXTREME® AR

- Listed impact ratings apply to walls constructed with EXP® Interior Extreme® AR applied with long edges parallel to and centered over minimum 20-gauge framing members spaced a maximum of 16 in. (406 mm) o.c.
- Install fire-rated assemblies in accordance with the details found in the *UL Fire Resistance*

Directory or the Gypsum Association's GA-600, *Fire-Resistance Design Manual*.

- Drive fasteners just below the surface, avoiding damage to the core and/or glass mat facer.
- Avoid installing water-sensitive materials on EXP Interior Extreme AR Panels in pre-rock applications until the building is enclosed.



EXP® INTERIOR EXTREME® IR

- When handling EXP® Interior Extreme® IR, cutting and scoring should be from the back side of the panels.
- Listed impact ratings apply to walls constructed with EXP Interior Extreme IR applied with long edges parallel to and centered over minimum 20-gauge framing members spaced a maximum of 16 in. (406 mm) o.c.

■ Install fire-rated assemblies in accordance with the details found in the *UL Fire Resistance Directory* or the Gypsum Association's GA-600, *Fire-Resistance Design Manual*.

- Drive fasteners just below the surface, avoiding damage to the core and/or glass mat facer.
- Avoid installing water-sensitive materials on EXP Interior Extreme IR Panels in pre-rock applications until the building is enclosed.



FIRE-RESISTANCE RATINGS

Fire-resistance ratings represent the results of tests on assemblies made up of specific materials in a specific configuration. When you are selecting construction designs to meet certain fire-resistance requirements, use caution to ensure that each component of the assembly

is specified in the test. Take further precautions to ensure that assembly procedures are in accordance with those of the tested assembly. For additional fire-safety information, please refer to nationalgypsum.com. For copies of specific tests, call 1-800-NATIONAL®.



SUSTAINABLE DESIGN

Recycled content data and manufacturing location data are available for National Gypsum Company products based upon current National Gypsum distribution plan and manufacturing

location capabilities at the National Gypsum Company Green Product Score website: gps.nationalgypsum.com/Welcome.aspx.



GREENGUARD CERTIFICATION

Select EXP® products have achieved GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products

are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For details, visit: ul.com/gg.



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National Gypsum Company will not be liable for products claimed to be defective

Mold And Mildew Resistance

EXP® Panels were designed to provide extra protection against mold and mildew compared to standard gypsum board products. When tested by an independent lab per ASTM D3273 ("Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber"), EXP Panels achieved a score of 10, the best possible score for this test. No material can be considered "mold-proof," nor is it

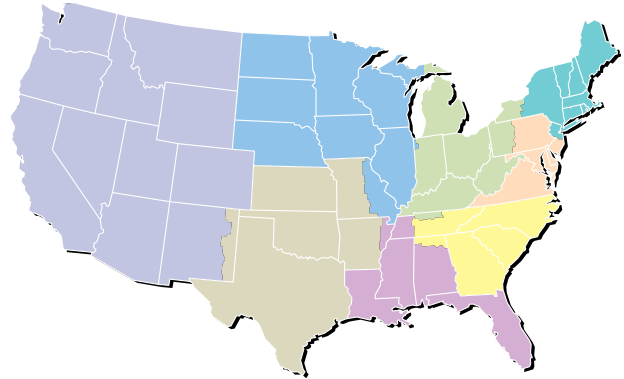
where the defect resulted from causes not within National Gypsum's control, or which arose or occurred after shipment, including but not limited to accidents, misuse, mis-handling, improper installation, contamination or adulteration by other materials or goods, or abnormal conditions of temperature, moisture, dirt or corrosive matter.

Any claim that products sold by National Gypsum Company were defective or otherwise did not conform to the contract of sale is waived unless the customer submits it in writing to National Gypsum within thirty (30) days from the date the customer discovered or should have discovered the defect or non-conformance. No legal action or proceeding complaining of goods sold by National Gypsum may be brought by the customer more than one year after the date the customer discovered or should have discovered the defect or problem of which it complains.

For warranty information on specific products, see nationalgypsum.com.

certain that any material will resist mold or mildew indefinitely. When used in conjunction with good design, handling, and construction practices, EXP Panels 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.

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