06 16 43/NGC

Gold Bond® BRAND e²XP®

Extended Exposure Sheathing

Gold Bond® BRAND Gypsum Board

National Gypsum®

Gold Bond® BRAND e²XP® Extended Exposure Sheathing

Exterior Walls and the Building Envelope

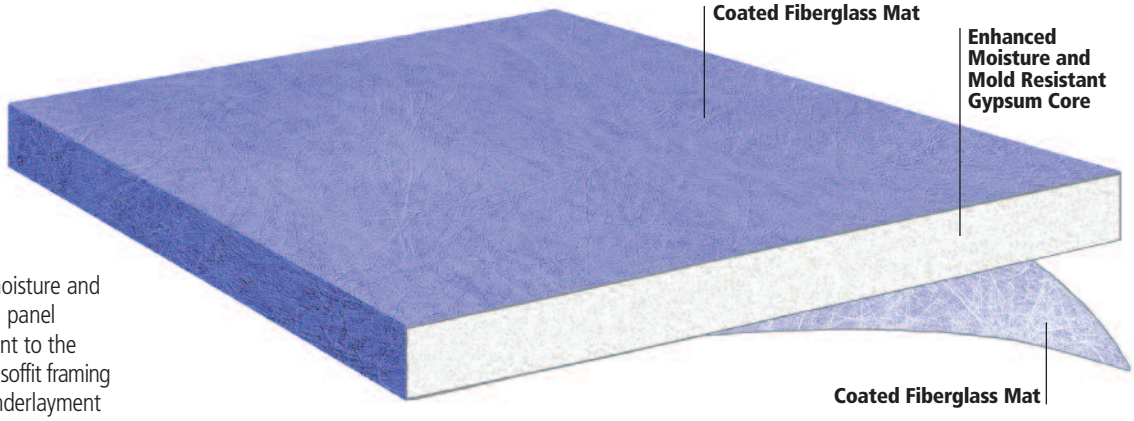
The separation between the interior and the exterior environments of a building is commonly referred to as the building envelope. The building envelope serves as the outer shell which protects and regulates the indoor environment.

Exterior walls and soffits are critical elements of any building envelope. These assemblies are constructed with a wide variety of designs and finishes, most of which require a sheathing attached to outside framing as a water resistant underlayment for various exterior cladding materials. These exterior surfaces are typically exposed to the elements for extended periods during the construction process. Exterior sheathings and soffits must provide a strong base that can hold up to this exposure to the elements while providing the flexibility to adapt to a variety of finishes.

e²XP Extended Exposure Sheathing

National Gypsum has developed Gold Bond® BRAND e²XP Sheathing, a moisture and mold resistant extended exposure panel ideally suited to meet the challenging requirements of a substrate for exterior assemblies. It's the latest addition to National Gypsum's XP® family of mold resistant products, incorporating the active XP process that has been successfully utilized for a number of years.

Gold Bond® BRAND e²XP®
Extended Exposure Sheathing



Description

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

Basic Uses

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

*Follow manufacturer's directions and comply with all local building code requirements for the installation of all exterior cladding finishes (EIFS, stucco, brick, wood, fiber-cement, etc.)

Features/Benefits

- Manufactured to meet ASTM C 1177 ("Standard Specification For Glass Mat Gypsum Substrate For Use As Sheathing").
- Will withstand up to 12 months of exposure to typical weather conditions, subject to the terms, conditions and exclusions of National Gypsum's Limited Warranties.
- Resists the growth of mold per ASTM D 3273 with a score of 10, the best possible score.**
- Superior water resistance which does not impede vapor transmission.
- Dimensionally stable under changes in temperature and relative humidity and resists warping, rippling, buckling and sagging for a flat and even substrate.
- Noncombustible material.
- 5/8" Fire-Shield e²XP Sheathing is an approved component in specific UL fire-rated designs.
- No special tools or fasteners required for installation.
- e²XP Sheathing can be scored and snapped to the exact size without sawing.
- Coated fiberglass mat on face and back for easy handling.
- Ideally suited for soffit applications.
- Suitable for radius applications.

Limitations

- e²XP Sheathing is not a finished surface nor is it a substrate for the direct application of joint compound, paint or textures in exterior wall applications.
- All materials used in conjunction with e²XP Sheathing should be installed per the manufacturer's recommendations.
- e²XP Sheathing should never be used as a nailing base. Mechanical fasteners should pass through the sheathing and engage the framing member behind the panel.
- e²XP Sheathing is resistant to weather, but it is not intended for immersion in water and should not be subjected to cascading water conditions.
- Do not apply e²XP Sheathing below grade. Always follow building code grade clearance requirements.
- Do not laminate e²XP Sheathing directly to masonry surfaces; use furring strips or framing over masonry surfaces.
- e²XP Sheathing is not intended for tile applications. For tile applications, PermaBase® BRAND Cement Board is recommended.
- e²XP Sheathing should be protected from the elements and maintained in reasonable condition prior to installation. Boards should be stacked flat with care taken to prevent sagging or damage to edges, ends and surfaces. Following installation, the structure must be adequately maintained by the contractor and/or building owner.
- Forced air heaters should not be used to the point of creating water condensation.
- e²XP Sheathing is not a replacement for structurally engineered sheathings required for racking qualities and should not be used in lieu of plywood when required.
- e²XP Sheathing application to framing by adhesive only is not recommended.
- Stud spacing must not exceed 24" o.c.
- All design details such as fasteners, sealants and control joints, per system specifications, must be properly installed. Openings and penetrations must be properly flashed and sealed according to code, building design and weather resistive barrier manufacturer's instructions. Failure to do so will void the warranty.

Installation

Recommendations

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

Joint Treatment

e²XP Sheathing is compatible with a variety of exterior systems. For applications requiring joint treatment, joint finishes must be compatible with the exterior system specified. Consult your weather/water resistant barrier manufacturer, cladding manufacturer or local building code authority to determine the appropriate joint treatment. The e²XP 12-month exposure limited warranty does not require, for its applicability, the use of joint treatment or a weather barrier.

Safety

The following standard work practices are recommended: Installers should wear long pants and a long-sleeved loose fitting shirt. Protective gloves and special eye protection (goggles or safety glasses with side shields) should be used. A dust mask should be worn when sanding and additional breathing protection may be needed 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 MSDS for this product, available at **purplechoice.info** before use.

Decoration

Soffit and Ceiling applications only

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

**Mold and Mildew Resistance:

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

Technical Data

Fire Resistance Ratings

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

The UL core designation for e²XP Sheathing is FSW-6.

Code Compliance:

– ICC-ES ESR 2743
– FL 12750
– CCMC-13439-L
– N.Y. CITY MEA 227-08-M

PHYSICAL PROPERTIES

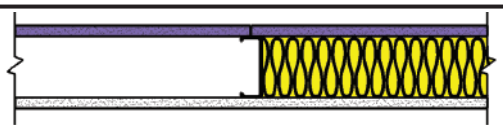
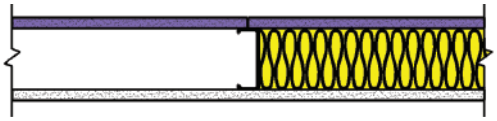
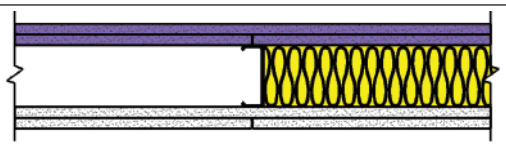
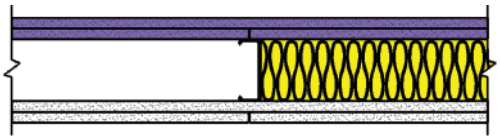
Thickness	1/2" (12.7 mm)	5/8" (15.9 mm)
Width, Nominal	4' (1219 mm)	4' (1219 mm)
Length, Standard	8', 9', 10' (2438, 2743, 3048 mm) + 1/4" (6 mm)	8', 9', 10' (2438, 2743, 3048 mm) + 1/4" (6 mm)
Weight/lbs./SF (kg/m²)	1.9 (9)	2.5 (12)
Bending Radius	6' (1829 mm)	8' (2438 mm)
Composition	Coated fiberglass mat/gypsum core	
Racking strength, lbs./ft. (dry) (N/m) (Ultimate – not design value)	>540 (>7878)	>654 (>9544)
Flexural Strength, parallel, lbf. (N) (4' weak direction)	80 (356)	100 (445)
Compressive Strength	Min. 500 psi	Min. 500 psi
Humidified Deflection, inches	1/8" (3 mm)	1/8" (3 mm)
Permeance (perms) (ng/Pa.s.m²)	22 (1260)	19 (1090)
Combustibility	Noncombustible	Noncombustible
Linear Expansion with Change Moisture in/in/%RH (mm/mm %RH)	6.25×10^{-6}	6.25×10^{-6}
Flame Spread, E84 CAN ULC-S102	0/0	0/0
Coefficient of Thermal Expansion in/in/°F (mm/mm/°C)	9.26×10^{-6} (1.67×10^{-5})	9.26×10^{-6} (1.67×10^{-5})
Resists Growth of Mold (tested, as manufactured, per ASTM D 3273)	Yes	Yes
Handling Characteristic	Scores with utility knife and snaps easily	
Fasteners	Standard	Standard

APPLICABLE STANDARDS AND REFERENCES

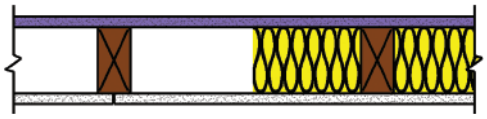
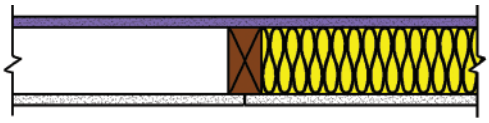
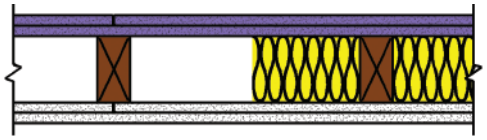
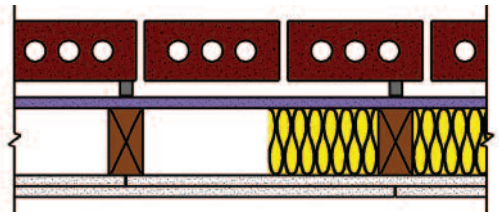
ADTM C 1177- Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
ASTM C 1280 – Standard Specification for Application of Gypsum Sheathing
ASTM C 1396 – Standard Specification for Gypsum Board
ASTM E 72 – Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
ASTM C 473 – Standard Test Methods for Physical Testing of Gypsum Panel Products
ASTM E 96 – Standard Test Method for Water Vapor Transmission of Materials
ASTM E 119 - Standard Test Method for Fire Tests of Building Construction and Materials
ASTM C 518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750° C
ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM E 228 - Standard Test Method for Linear Thermal Expansion of Solid Materials With a Push-Rod Dilatometer
ASTM D 3273 – Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
Gypsum Association GA – 253 – Application of Gypsum Sheathing

Fire-Rated Assemblies

UL LISTED e²XP SHEATHING EXTERIOR PARTITIONS – STEEL FRAMING

Fire Rating	UL Design No.		Description
1 hr. Load Bearing	U425		5/8" e²XP Sheathing applied vertically to exterior side of 3-1/2", 20 gauge steel studs 24"o.c. 5/8" Fire-Shield Gypsum Board applied vertically to interior side. Joints staggered on opposite side.
1 hr.	U465		5/8" e²XP Sheathing applied vertically to exterior side of 3-5/8" steel studs 24"o.c. 5/8" Fire-Shield Gypsum Board applied vertically to interior side. Joints staggered on opposite side.
2 hr. Load Bearing	U425		Two layers 5/8" e²XP Sheathing applied vertically to exterior side of 3-1/2", 20 gauge steel studs 24"o.c. Two layers 5/8" Fire-Shield Gypsum Board applied vertically to interior side. Joints staggered each layer and side.
2 hr.	U411		Two layers 5/8" e²XP Sheathing applied vertically to exterior side of 2-1/2" steel studs 24"o.c. Two layers 5/8" Fire-Shield Gypsum Board applied vertically to interior side. Joints staggered each layer and side.

UL LISTED e²XP SHEATHING EXTERIOR PARTITIONS – WOOD FRAMING

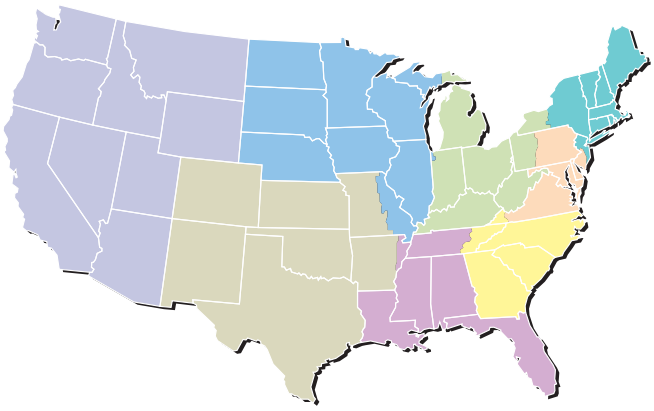
Fire Rating	UL Design No.		Description
1 hr.	U305		5/8" e²XP Sheathing applied horizontally or vertically to exterior side of 2x4 wood studs 16"o.c. 5/8" Fire-Shield Gypsum Board applied horizontally or vertically to interior side. Joints staggered on opposite side.
1 hr.	U309		5/8" e²XP Sheathing applied horizontally or vertically to exterior side of 2x4 wood studs 24"o.c. 5/8" Fire-Shield Gypsum Board applied horizontally or vertically to interior side. Joints staggered on opposite side.
2 hr.	U301		Two layers 5/8" e²XP Sheathing applied horizontally or vertically to exterior side of 2x4 wood studs 16"o.c. Two layers 5/8" Fire-Shield Gypsum Board applied horizontally or vertically to interior side. Joints staggered each layer and side.
2 hr.	U302		1/2" or 5/8" e²XP Sheathing applied horizontally or vertically with portland cement stucco, brick veneer, thin brick finishes to exterior side of 2x4 wood studs 16"o.c. Two layers 5/8" Fire-Shield Gypsum Board applied horizontally or vertically to interior side. Joints staggered each layer and side.

UL Listed Assemblies

The 5/8" e²XP Fire-Shield Sheathing is classified as Type X for use in the following UL listings: G501, G503, G520, G531, L501, L508, L554, L591, N501, N502, N505, N602, S728, S736, U017, U032, U040, U204, U207, U301, U302, U305, U309, U326, U329, U330, U332, U337, U338, U339, U341, U342, U344, U351, U354, U355, U356, U357, U358, U360, U364, U368, U369, U371, U373, U379, U392, U396, U405, U411, U418, U420, U421, U425, U434, U436, U439, U442, U449, U450, U460, U465, U466, U467, U473, U475, U487, U494, U495, U497, U498, U499, U502, U504, U505, U506, U510, U512, U524, U525, U531, U617, U623, U626, U633, U646, U647, U648, U651, U652, U926, V408, V417, V419, V420, V421, V425, V430, V432, V433, V434, V435, V438, V449, V450, V452, V483, V484, V486, V488, V497, X508, X510, X516, X517, X525, X526, X527, X528, X602, X604.

In addition, 5/8 e²XP Fire-Shield Sheathing can be used as an insulation underlayment in properly designed/specified roof assemblies to replace gypsum board panels listed in the following UL "P" assemblies: P225, P227, P230, P235, P254, P259, P266, P302, P508, P510, P512, P514, P516, P517, P518, P521, P525, P527, P536, P540, P541, P542, P543, P701, P710, P711, P713, P714, P717, P718, P719, P720, P722, P725, P727, P728, P729, P730, P731, P732, P733, P734, P735, P738, P739, P740, P741, P742, P743, P801, P811, P815, P819, P824, P825, P826, P827, P828. Consult the roof system manufacturer or specifier for proper compatibility and application requirements of other roofing components.

CUSTOMER SERVICE SALES AREAS



Atlantic Area
Phone: (800) 237-9167
Fax: (877) 252-0430

Central Area
Phone: (800) 252-1065
Fax: (866) 232-0440

Gulf Area
Phone: (800) 343-4893
Fax: (866) 482-8940

Midwest Area
Phone: (800) 323-1447
Fax: (866) 692-8590

Northeast Area
Phone: (800) 253-3161
Fax: (866) 632-1480

Southeast Area
Phone: (800) 548-9394
Fax: (866) 732-1990

Southwest Area
Phone: (800) 548-9396
Fax: (866) 792-7520

Western Area
Phone: (800) 824-4227
Fax: (800) 438-6266

National Accounts
Phone: (800) 440-1230
Fax: (866) 622-3590

Manufactured Housing
Phone: (800) 455-3185
Fax: (800) 639-1714

Gold Bond® BRAND e2XP® Extended Exposure Sheathing

For the latest technical and product information, go to: purplechoice.info

LIMITED WARRANTY

LIMITED WARRANTY

National Gypsum Company ("NGC") warrants to the purchasers of its e²XP® Sheathing, and to the owner at the time of installation of any building on which such product is installed, that subject to the conditions and limitations set forth below:

1. *e²XP Sheathing will at the time shipped by NGC be free from defects in material and workmanship that would make it unsuitable for its intended use ("Defects Warranty") and;*
2. *e²XP Sheathing will not deteriorate or delaminate as a result of exposure to normal weather conditions in areas of use and application for which the product is intended ("Exposure Warranty").*

The Defects Warranty will remain in effect until 5 years after the date the product is purchased by the contractor for purposes of installation; provided, that in the case of installation of e²XP Sheathing as a substrate in an architecturally-specified External Insulated Finish System (EIFS), the Defects Warranty shall remain in effect until 10 years after the date of purchase by the contractor for such installation.

The Exposure Warranty will remain in effect until 12 months after the date of installation of the product.

The warranties provided hereunder may not be transferred or assigned.

WARRANTY CONDITIONS

This warranty applies only if the following conditions are met:

- *The installation methods are in accordance with applicable building codes and applicable written recommendations and specifications published by NGC;*
- *The product has been properly handled and stored at all times according to standard building practices, and has not been abused or used for an improper application;*
- *The problem with the product is not due to structural movement of the building; movement in, failure of or defects in materials to which the product is attached or which are attached to it; causes other than normal weather conditions, such as near gale or higher force winds, tornadoes, hail storms, hurricanes, floods, earthquakes or falling objects; immersion in water, or sustained pooling or cascading of water; or fire, vandalism, misuse or abuse; and*
- *The building on which the product is installed is maintained with reasonable care.*

EXCLUSIONS AND LIMITATIONS

This warranty does not cover damage or claims to the extent arising from or relating to:

- *Other manufacturers' products used with e²XP Sheathing;*
- *Mold, mildew, algae, fungus or other conditions involving organic growth;*
- *Installation over structural or framing members that are or which become twisted, bowed or otherwise distorted;*
- *Damage due to improper installation or building or system design, including but not limited to inclusion as a substrate/sheathing under claddings such as stucco, brick, lap siding or EIFS systems which are improperly designed or installed;*
- *Installations in buildings that have not been maintained with reasonable care; or*
- *The performance of other exterior materials installed over or with e²XP Sheathing.*

This Limited Warranty is the only warranty applicable to e²XP Sheathing and IS IN LIEU OF AND EXCLUDES, AND NGC DISCLAIMS, ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NGC WILL NOT BE RESPONSIBLE OR LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PUNITIVE DAMAGES, REGARDLESS OF THE NATURE OR THEORY OF THE CLAIM, OR FOR LOSS OF INCOME OR PROFITS, DAMAGE TO ANY STRUCTURE, CONTENTS OR OTHER PROPERTY, OR LOSS OF USE. Some states prohibit the exclusion or limitation of warranties or may not allow the exclusion or limitation of incidental or consequential damages, so the above disclaimers may not apply to you. This warranty gives you specific legal rights and you may also have other rights which will vary depending upon the state.

CLAIMS

All claims under this warranty must be submitted in writing to NGC within thirty (30) days from the time you discover a problem with e²XP Sheathing. Include a brief description of the problem with photographs and copies of sales receipts, invoices or other documents which may show the dates of purchase and installation. Mail this information to:

National Gypsum Company
5901 Carnegie Boulevard
Charlotte, NC 28209
Attn: Director, Quality Services R&D

If NGC determines that the product in question does not comply with this Limited Warranty, NGC will replace the product or, at its option and for product which has been installed, will provide reimbursement to cover costs of repair and replacement up to a maximum of two times the price paid for the product at the time of purchase for installation. Such price must be properly documented by the claimant. THIS REMEDY SHALL BE THE EXCLUSIVE REMEDY FOR ANY CLAIM HEREUNDER AND IS THE TOTAL LIABILITY OF NGC FOR ANY CLAIM OF PROBLEMS OR DEFECTS WITH e2XP SHEATHING, WHETHER BASED ON THIS LIMITED WARRANTY OR ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, NEGLIGENCE, OR STRICT LIABILITY.

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National Gypsum®

Excellence Across The Board®