

Gold Bond[®] BRAND
eXP[®] Shaftliner
Area Separation Fire Wall Systems



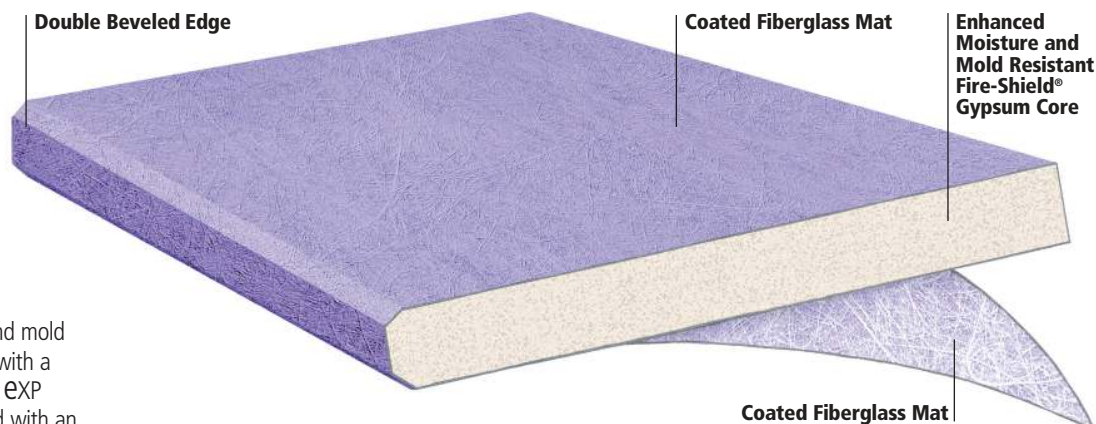
Gold Bond[®]
BRAND
Gypsum Board

National 
Gypsum[®]

Shaftliner

Gold Bond® BRAND

EXP® Extended Exposure Shaftliner



Description

EXP® Extended Exposure Shaftliner is a moisture and mold resistant shaftliner panel with a fire-resistant Type X core. EXP Shaftliner is manufactured with an enhanced moisture and mold resistant core and facer. The purple facer is composed of a coated fiberglass mat which provides superior weather resistance capabilities. EXP Shaftliner is specially coated on the front, back and edges for easy handling. The panel's long edges are double beveled for ease of installation.

Basic Uses

1" EXP Shaftliner panels are designed to be used to construct lightweight fire barriers for cavity shaftwalls, stairwells and area separation fire walls in multifamily housing. The panels are key components in the I Stud, C-T Stud and C-H Stud Cavity Shaftwall Systems and the H-Stud Area Separation Fire Wall Systems.

Features/Benefits

- Manufactured to meet ASTM C 1396 and ASTM C 1658.
- 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.
- Area Separation Fire Wall System may be built up to a maximum of 66' high.
- Treated fiberglass facer and gypsum core provides extra protection against mold growth per ASTM D 3273, achieving a score of 10, the best possible score.
- EXP Shaftliner can be substituted for Gold Bond BRAND Shaftliners in Cavity Shaftwall, Area Separation Fire Wall Systems and solid laminated partitions.
- 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.
- UL Classified and approved for inclusion in specific UL fire-rated designs.
- Specially coated front, back and edges for easy handling.
- Easily scored and snapped to exact size without sawing.

Limitations

- Area separation fire walls are non-loadbearing.
- To prevent weakening due to calcining, EXP Shaftliner panels, like any gypsum wallboard, should not be exposed to temperatures over 125°F (52°C) for extended periods of time.
- Limiting loads and heights not to exceed design specification.
- EXP Shaftliner is resistant to weather, but is not intended for immersion in water and should not be subjected to cascading water conditions.
- EXP Shaftliner should be protected from the elements and maintained in reasonable condition prior to installation. Boards should be stacked flat, supported off the ground and protected from inclement weather 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.
- All design details such as fasteners and sealants per system specifications, must be properly installed. Failure to do so will void the warranty. (See EXP Shaftliner Warranty for terms, conditions and limitations.)

Installation

Solid Type Area Separation Fire Wall

The H-Stud Area Separation Fire Wall System consists of 2" light-gauge steel H-Studs which secure two layers of 1" EXP Shaftliner between adjacent studs.

The H-Studs are secured at the foundation floor by the flanges of C-Runner. The same runner is used back-to-back at intermediate floors to provide a splicing means so that the System can be erected one floor at a time. C-Runner is also used at the roof line or at the parapet and at wall ends.

For a fire-rated assembly without the need for battens, a minimum 3/4" air space shall be maintained between the H-Stud assembly and any adjacent framing members. When a minimum 3/4" air space cannot be maintained, the H-Studs and C-Runners are covered by screw-attached battens. Boards can be fastened to the H-Studs and joints* covered with tape and joint compound to provide a finished wall. Mineral wool or glass fiber can be installed in adjacent framing to provide higher STC ratings.

Steel H-Stud framing members are attached on each side to adjacent framing with breakaway, heat softenable aluminum ASW Clips.

*Refer to UL Design U347.

Basement wall section – length equal to distance from foundation floor to approximately 3" above floor line of first floor.

Intermediate floors – length equal to distance between floor lines.

Topmost floor – length to extend to top of parapet wall or to roof intersection, depending on detail.

Basement Wall Installation

1. Beginning at foundation floor, attach 2" C-Runner to concrete with power-driven fasteners spaced 24" o.c. Apply acoustical sealant along edges of runner at floor line.

2. Install C-Runner on foundation walls where Area Separation Fire Wall intersects, if applicable. Fasten with power-driven fasteners 24" o.c. Caulk edges as with the floor runner.

3. At intersection of foundation or exterior wall and Area Separation Fire Wall begin erecting by inserting first layer of 1" EXP Shaftliner into floor and wall runner. Insert second layer back-to-back with first and seat into floor and wall runner. EXP Shaftliner and studs may be set into position from the basement floor or fed down through the space provided in the wood framing from the floor above.

4. Making sure that both pieces of EXP Shaftliner are seated all the way into the floor and wall runners and that their edges are flush, insert an H-Stud into the floor runner and engage the H-Stud legs over the long edges of the EXP Shaftliner boards. Seat the H-Stud fully so the board edges contact the stud web.

5. Continue in this manner, erecting two thicknesses of EXP Shaftliner, and installing the legs of the H-Stud

over the EXP Shaftliner edges until wall is completed. Again, make sure all studs and boards are tightly pushed together. Floor runner may be screw fastened to H-Studs with 3/8" Type S pan head screws to assist with installation.

6. If the Area Separation Fire Wall terminates at a foundation wall, the last two EXP Shaftliner panels will have to be inserted from the floor above. Panels are pushed down into the channel formed by the previous H-Stud's legs and the legs of the wall runner.

7. If the Area Separation Fire Wall terminates at or past a framed wall, insert the last boards conventionally and cap the end of the Area Separation Fire Wall with 2" C-Runner. Fasten C-Runner flanges at all corners on both sides with 3/8" Type S pan head screws.

8. The top edge of the erected wall is then capped off by placing 2" C-Runner over studs and boards. Runner may be screw fastened to H-Studs with 3/8" Type S pan head screws to assist with installation.

9. Attach studs to adjacent wood framing with ASW Clips. The ASW Clips may be attached directly to the steel studs or through the gypsum board batten face into the studs. Clips are attached to vertical steel H-Stud framing using one 3/8" Type S pan head screw and to adjacent framing with one 1-1/4" Type W Screws for wood and Type S Screws for steel.

10. A minimum 3/4" air space shall be maintained between the H-Stud assembly and any adjacent framing members. When a 3/4" air space cannot be maintained, gypsum board batten strips are installed over H-Studs and C-Runner on both sides of the wall. 3" wide battens are installed over C-Runner at foundation and roof. 6" battens are screw-attached to H-Studs with 1" Type S Screws spaced 12" o.c. screwed into alternate legs of H-Stud. Battens are cut from sheets of 1/2" Fire-Shield C Gypsum Board, 5/8" Fire-Shield Gypsum Board or 5/8" EXP Sheathing.



The fire-protection of gypsum-based Area Separation Fire Walls is demonstrated in dramatic fashion by the results of this actual townhouse fire in which the two-hour fire-rated assembly performed as expected in protecting adjacent properties. Break-away feature allowed collapse of fire-side structural framing without pulling down the entire wall.

Intermediate Floors and Roof Installation

1. Attach 2" C-Runner to the already installed capping runner of the lower floor's wall. This back-to-back runner installation allows the Area Separation Fire Wall to be erected one floor at a time. Secure the two runners together with two 3/8" Type S pan head screws 24" o.c. Stagger back-to-back runner joints a minimum of 12".

2. Erect EXP Shaftliner and H-Studs in the same manner as for the basement wall, steps 4-10, except that starting and ending procedures vary depending on the exterior wall intersection detail.

3. At roof intersection the walls are capped-off with C-Runner. Runner may be fastened to H-Stud with 3/8" Type S pan head screws to assist with installation. H-Studs are fastened to wood framing with ASW Clips. The specific framing procedure varies according to roof junction drawing details.

4. Fire blocking must be provided at intermediate floors and roof locations as shown in drawing details. Mineral wool or gypsum board filler may be used.

Interior Facings

1. 2" H-Stud Area Separation Fire Wall can be finished in a variety of ways depending on wall installation. For loadbearing applications, wood stud walls meeting required codes must be erected flanking the Area Separation Fire Wall. Stud walls are then finished in whatever method is specified. For non-loadbearing applications, finished wall may be of any type meeting local codes including exposed EXP Shaftliner and battens where appearance is not critical.

Specific details can be found at nationalgypsum.com.

Technical Data

Sizes and Types

- Width: 2' (610 mm)
- Lengths:
 - Standard: 8', 10' and 12' (2438 mm, 3048 mm and 3657 mm);
 - Custom: 7' – 14' (2134 mm – 4268 mm)
- Thickness: 1" (25.4 mm)
- Edges: Double beveled

Applicable Standards

- ASTM C 1396/ASTM C 1658
- ASTM D 3273

Composition & Materials

EXP Shaftliner is manufactured with a moisture and mold resistant core and facer. The facer is composed of a coated fiberglass mat which provides superior weather resistant capabilities. EXP Shaftliner has

special additives in the fire-resistant Type X gypsum core to enhance its fire-resistive properties.

EXP Shaftliner contains no asbestos.

Fire Resistance Ratings

EXP Shaftliner is UL Classified and approved for inclusion in specific UL fire-rated designs.

Fire resistance ratings represent the results of tests on assemblies made up of materials authorized by National Gypsum in specific configurations. When selecting construction designs to meet certain fire resistance requirements, caution must be used to ensure that each component of the assembly is the one specified in the design. Further, precaution should be taken that assembly procedures are in accordance with those of the design assembly. For copies of specific tests, call 1-800-NATIONAL. For fire safety information, see nationalgypsum.com.

UL Core Designation

1" EXP Shaftliner: FSW-7

Handling Precautions

Always store EXP Shaftliner Panels flat on a level surface, and support with properly placed risers. Care should be taken to avoid impact, unwarranted flexing and subsequent damage to board edges, ends and corners.

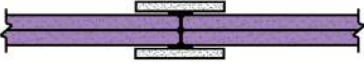
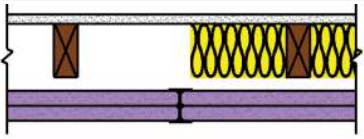
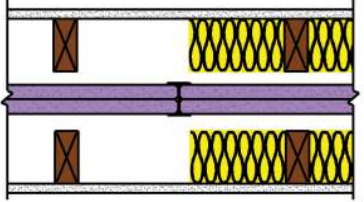
Appropriate storage and handling is outlined in Gypsum Association GA-801.

Surface Burning Characteristics

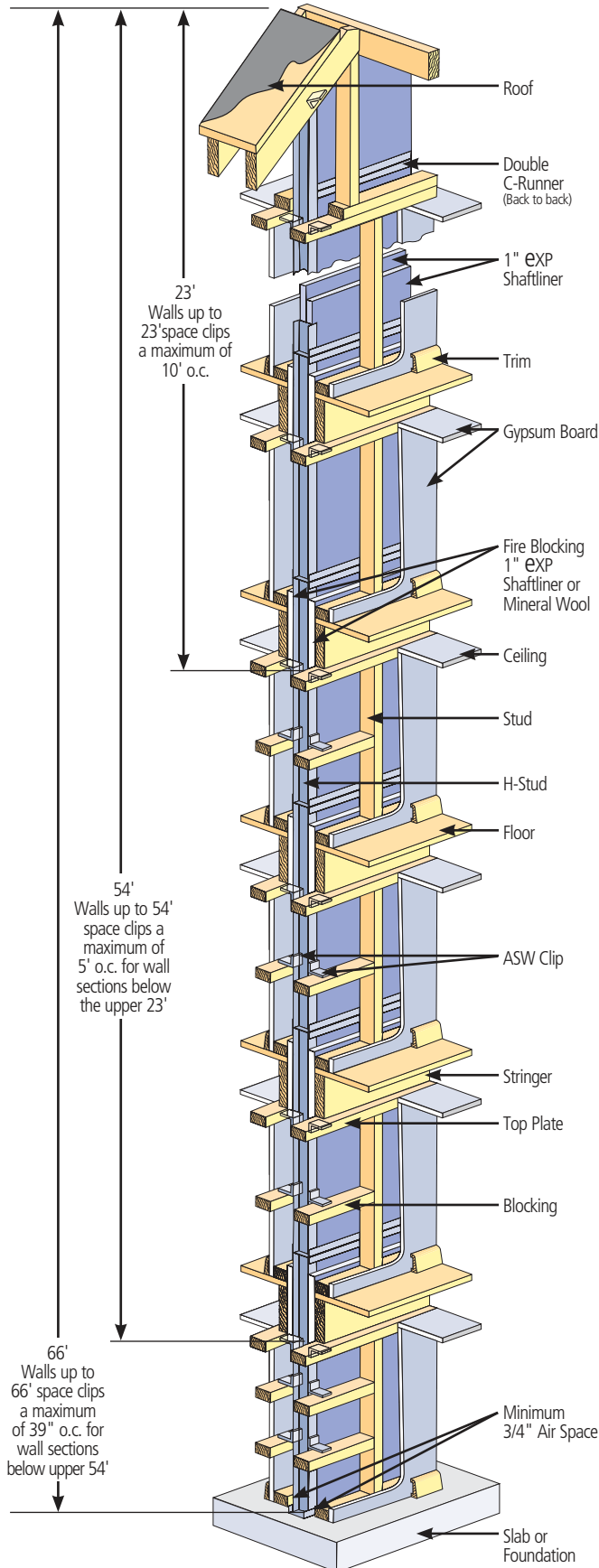
- Per ASTM E 84
 - Flame spread: 0
 - Smoke developed: 0
 - Non-combustible per ASTM E 136

Mold and Mildew Resistance

EXP Shaftliner was designed to provide extra protection against mold and mildew compared to standard gypsum board products. 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, EXP Shaftliner 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.

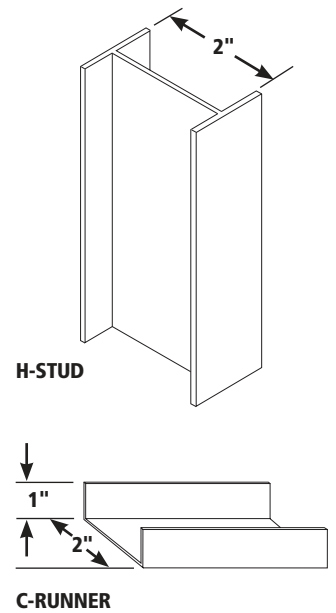
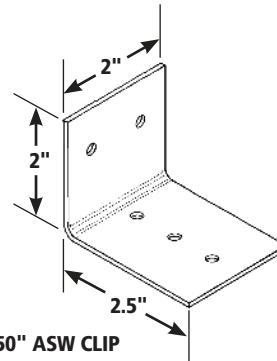
FIRE RATED EXP SHAFTLINER AREA SEPARATION FIRE WALL SYSTEMS					
Fire Rating	Fire Test/Design No.		Description	Sound Test No.	STC
2 hr.	WHI 694-0200.6		Two layers 1" EXP Shaftliner installed between 2" floor and ceiling runners with 2" steel H-studs between adjacent pairs of gypsum panels. H-studs and runners covered with 1/2" Fire-Shield C, 5/8" Fire-Shield Gypsum Board, or 5/8" EXP Sheathing 6" wide on both sides.	NGC-2827	35
2 hr.	UL - U347		Two layers 1" EXP Shaftliner installed between 2" floor and ceiling runners with 2" steel H-studs between adjacent pairs of gypsum panels. A 3/4" minimum air space must be maintained between steel components and adjacent framing on one side. Adjacent framing finished with 1/2" regular gypsum board.	NGC-2826	50
			Sound test with 3-1/2" mineral wool or fiberglass insulation in stud cavity.	NGC-2825	55
2 hr.	UL - U347		Two layers 1" EXP Shaftliner installed between 2" floor and ceiling runners with 2" steel H-studs between adjacent pairs of gypsum panels. A 3/4" minimum air space must be maintained between steel components and adjacent framing. Adjacent framing finished with 1/2" regular gypsum board.	NGC-2823	50
			Sound test with 3-1/2" mineral wool or fiberglass insulation in stud cavity one side.	NGC-2824	55
			Sound test with 3-1/2" mineral wool or fiberglass insulation in stud cavity both sides.	RAL-TL05-199	61
			Sound test with SoundBreak® XP® Gypsum Board both sides, and 3-1/2" mineral wool or fiberglass insulation in stud cavity both sides.	NRCC B-3451.1	67

AREA SEPARATION FIRE WALL LIMITING HEIGHTS

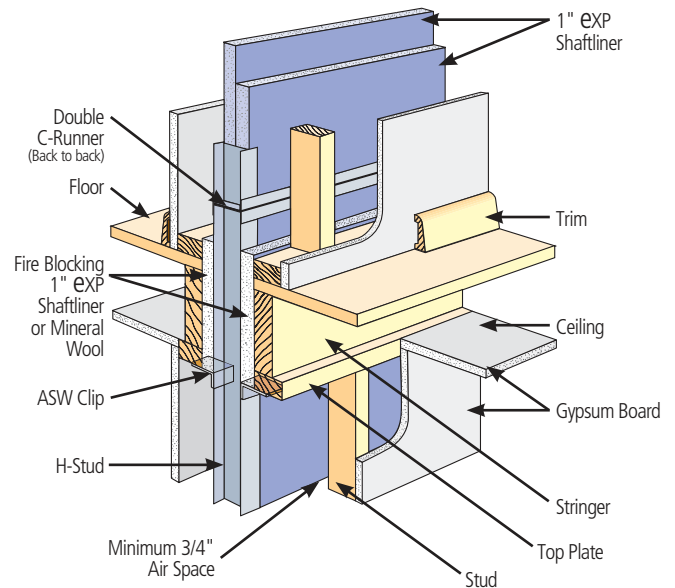


Area Separation Wall Clip

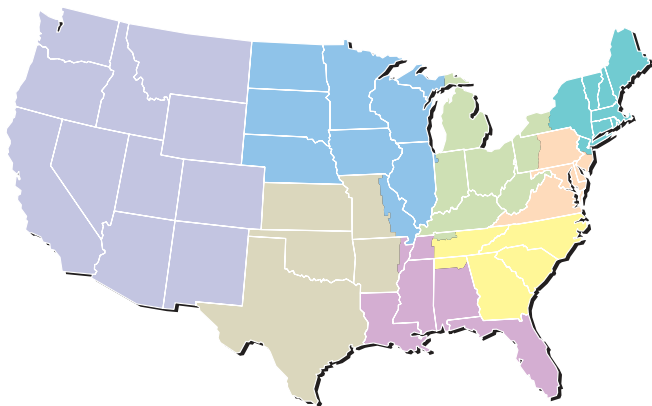
The framing attachment ASW Clips are made from 0.050" aluminum alloy that softens at about 1000°F. They are formed in the shape of an angle and are available 2" wide with legs either 1" x 2", 1" x 2.5" or 2" x 2.5". Clips are attached to vertical steel H-Stub framing using one 3/8" Type S pan head screw and to adjacent wood framing with one 1-1/4" Type W Screw.



TYPICAL FLOOR/CEILING JUNCTURE



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



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

Corporate Headquarters

National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211
Phone: (704) 365-7300
Web: nationalgypsum.com
nationalgypsum.com/espanol

Technical Information

Phone: (800) NATIONAL
(800) 628-4662
Fax: (800) FAX-NGC1
(800) 329-6421

LIMITED WARRANTY

LIMITED WARRANTY

National Gypsum Company ("NGC") warrants to the purchasers of its EXP® Shaftliner, 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. EXP Shaftliner 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. EXP Shaftliner 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.

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 EXP Shaftliner;
- 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;
- Installations in buildings that have not been maintained with reasonable care; or
- The performance of other materials installed with EXP Shaftliner.

This Limited Warranty is the only warranty applicable to EXP Shaftliner 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 EXP Shaftliner. 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 EXP SHAFTLINER, WHETHER BASED ON THIS LIMITED WARRANTY OR ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, NEGLIGENCE, OR STRICT LIABILITY.

Issued March 2009
Revised October 2014

National 
Gypsum®