



Product Evaluation Report

PER-01146

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Progressive Engineering Inc.

Initial Listing
November, 2011

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Goshen, Indiana 46528

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Listed Products

SHEETROCK® MH Brand Gypsum Base Board
SHEETROCK® MH Brand Gypsum TUF-BASE™
SHEETROCK® MH Brand Gypsum ULTRABASE™

Listed For

United States Gypsum Company
550 West Adams Street
Chicago, IL 60661

Progressive Engineering Inc. is an accredited Testing Laboratory and Third Party Quality Control Agency. This **Product Evaluation Report** represents a product that Pei has a follow-up service agreement with. This **Product Evaluation Report** in no way implies warranty for this product or relieves **United States Gypsum Company** of their liabilities for this product. Pei is accredited to ISO Standard 17020 and 17025. This **PER** is an official document if it is within one year of the initial or renewal date.

Approved Manufacturing Locations

USG Co. Plant #225
10 West Evan Hewes Hwy.
El Centro, CA 92243

USG Co. Plant # 240
29073 Dike Road
Rainier, OR 97045

USG Co. Plant # 360
End of S.R. 650
Shoals, IN 47581

USG Co. Plant #861
1 USG Road
Sweetwater, Tx 79556

Listing Details

USG SHEETROCK® MH Brand Gypsum Panels are especially designed for the Manufactured housing & Modular Housing industries meeting the needs of time sensitivity construction and structural integrity. These panels are manufactured at the locations listed above. Each location has an approved Q.C. Manual to manufacture these products and have a Follow-up Service Agreement with **Progressive Engineering Inc.**

Product Description

USG SHEETROCK® MH Brand Gypsum Base Board is manufactured 5/16", 3/8", 1/2" & 5/8" thick and is manufactured 48" wide by 8 ft. to 14 ft. in length. The 5/16" & 3/8" panels have square edges while the 1/2" & 5/8" panels have tapered edges. All panels have a sag resistant core with a natural finish paper on the face side and a liner paper on the backside. Sheetrock® MH Brand Base Board is designed for parallel application to wood framing for wall applications. These panels may be fastened with a two-part polyurethane adhesive, a one-part polyurethane adhesive, mechanical fasteners or a combination of adhesive and mechanical fasteners.

USG SHEETROCK® MH Brand Gypsum Tuf-Base™ is manufactured 1/2" & 5/8" thick and is manufactured 48" wide by 8 ft. to 14 ft. in length. The panels have tapered edges. All panels have a sag resistant core with a natural finish paper on the face side and a liner paper on the backside. Sheetrock® MH Brand Base Board is designed for parallel or perpendicular application to wood framing for wall and ceiling applications. These panels may be fastened with a two-part polyurethane adhesive, a one-part polyurethane adhesive, mechanical fasteners or a combination of adhesive and mechanical fasteners.

USG SHEETROCK® MH Brand Gypsum ULTRABASE™ is manufactured 1/2" thick and is manufactured 48" wide by 8 ft. to 14 ft. in length. The ULTRABASE™ panels have tapered edges. All panels have a sag resistant core with a natural finish paper on the face side and a liner paper on the backside. ULTRABASE™ is designed for parallel application to wood framing spaced up to 24" O.C. in Ceiling applications. These panels may be fastened with a two-part polyurethane adhesive, or mechanical fasteners.

Compliance

A. General

- Meets or exceeds the requirements of ASTM C1396 *Standard Specification for Gypsum Board*
- **USG SHEETROCK® MH Brand Gypsum ULTRA-BASE™** is covered by ICC-ES Evaluation report ESR-2062 and can be installed parallel to wood framing spaced up to 24" O.C. in ceiling applications.

Compliance cont.**B. Fire-Resistant-Rated Assemblies**

See UL Fire Resistance Directory for approved fire rated assemblies.

C. Fire Reactance

- Non-combustible core when tested in accordance with ASTM E 136, and defined in 2012 International Building Code® Section 703.5.2.
- Surface Burning Characteristics - Flame Spread 15 / Smoke Development 0 when tested in accordance with ASTM E 84 (Class A as defined in 2012 International Building Code® Section 803.1.1).

D. Shear Resistance

See UL Certification Directory for approved shear rated wall and ceiling assemblies or contact **USG** for third party test reports on additional shear rated assemblies.

Tested to

ASTM E 72 standard Test Methods of Conducting Strength Tests of Panels for Building Construction
 ASTM E 84-11 Standard Test Method for Surface Burning Characteristics of Building Materials
 ASTM E 136-11 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C
 ASTM C1396/C1396M-06a Standard Specification for Gypsum Board

General Product Use

1. These products shall be installed in accordance with ASTM C 1280 *Standard Specification for Application and Finish of Gypsum Board*, The **USG** *Manufacturing Housing Handbook, Second Edition*, and the requirements of **USG** Product Data.
2. **USG SHEETROCK® MH Brand Gypsum** Panels are approved for interior use, attached to wood Framing at a maximum spacing of 24" O.C.
3. **USG SHEETROCK® MH Brand Gypsum** Panels are not approved for moist or wet areas such as shower backer board.
4. Where a vapor barrier is required, no vapor retarder shall be applied between the Gypsum board and a Two-Part Polyurethane adhesive.
5. Fasteners should be driven just below the Gypsum Panel surface leaving the paper intact. Breaking the face paper might lessen the holding power of the fastener.
6. Use of **USG SHEETROCK® MH Brand Gypsum** Panels in Fire-Resistance or Fire-Rated assemblies is outside of the scope of this Evaluation Report.
7. Use of **USG SHEETROCK® MH Brand Gypsum** Panels in Seismic design is outside of the scope of this Evaluation Report.
8. These products need to be stored flat and in a dry environment and should not be exposed to excessive or continuous amounts of moisture.

Product Documentation

A MSDS sheet for SHEETROCK® MH Brand Gypsum Base Board, dated 1/1/2011
 A MSDS sheet for SHEETROCK® MH Brand Gypsum TUF-BASE™, dated 1/1/2011
 A MSDS sheet for SHEETROCK® MH Brand Gypsum ULTRABASE™, dated 1/1/2011
 A Product Data Sheet for SHEETROCK® MH Brand Gypsum Base Board
 A Product Data Sheet for SHEETROCK® MH Brand Gypsum TUF-BASE™
 A Product Data Sheet for SHEETROCK® MH Brand Gypsum ULTRABASE™
USG Manufactured Housing Hand Book, Second Edition
 A Quality Control Manual Dated 4/8/2011
 A follow-up Listing & Inspection agreement between **Progressive Engineering Inc.** and **USG Company**
 A report Reference # SV19050/11CA41151 ASTM E84-11
 A report Reference # SV19050/11CA41151 ASTM E136-11
 A **PEI** test report No. 2011-1269 Dated 10/3/2011- ASTM C1396/C1396M-06a using 1/2" **USG** SHEETROCK MH Brand Gypsum

Roof/Ceiling Diaphragm Design Loads

Fasteners	Flat or Cathedral	Width and Maximum Span	Diaphragm Design Value
AlphaSeal 5200	Both	11'-9" to 15'-6" x 48 ft.	203 plf
Dow MB 3022	Both	11'-8" to 15'-6" x 52 ft.	219 plf
Dow MB 3099	Both	11'-8" to 15'-6" x 52 ft.	202 plf
FSI FoamNail	Both	10'-0" to 15'-6" x 52 ft.	192 plf
ITW TACC F-2100	Both	11'-9" to 15'-6" x 48 ft.	180 plf
Paslode Nails	Flat	13'-8" x 40 ft.	168.8 plf
Staples	Flat	11'-9" x 40 ft.	104.8 plf
Staples	Flat	15'-6" x 48 ft.	130.2 plf
Staples	Flat	9'-10" x 44 ft.	117.9 plf
Staples	Cathedral	13'-8" x 44 ft.	146.3 plf

Note:

- The Design Load Value has already considered a 2.5 safety Factor.

Ceiling Dead Load Designs

Gypsum Orientation	Truss Spacing	Fastener	Design Load
Parallel to truss	24" o.c.	Staples & Screws	10.7 psf
Parallel to truss	24" o.c.	Nails at 7" o.c.	41.8 psf
Parallel to truss	24" o.c.	Screws at 12" o.c.	28.4 psf
Perpendicular to truss	16" o.c.	Nails at 7" o.c.	25.2 psf
Perpendicular to truss	16" o.c.	Screws at 12" o.c.	14.9 psf
Parallel to truss	24" o.c.	AlphaSeal 5200	15.3 psf
Parallel to truss	24" o.c.	Dow MB 3022	11.7 psf
Parallel to truss	24" o.c.	Dow MB 3099	15.5 psf
Parallel to truss	24" o.c.	FSI FoamNail	16.9 psf
Parallel to truss	24" o.c.	ITW TACC F-2100	12.0 psf

Note:

- The Design Load Value has already considered a 2.5 safety Factor.

Wall Racking Resistance Designs

Framing					Ultimate Load		
Top Plate	Bott. Plate	Studs	Stud Spacing	Gypsum / Orientation	Single/Double Sided	Adhesive	Load
1x3	1x3	2x3	16" o.c.	5/16" / Vertical	Single	Voramers MB 3099	505.7
					Single	ME 3805	574.3
					Single	ME 3513	624.6
					Single	FoamNail	602.5
					Single	FSI One-Part	677.6
					Single	F2100	584.5
					Single	F6400 LVR	601.5
					Single	Sun 59-10	1050.0
					Single	JM-40	493.7
					Single	Pemco 5100	708.5
			24" o.c.	5/16" / Vertical	Single	F-2100	482.3
					Single	F6400 LVR	407.0
			16" o.c.	5/16" Vertical	Double	ME 3513	972.1
					Double	Macroplast UR	1110.7
					Double	JM-40	870.5
					Double	P3100&3200	881.9
					Double	F6400 LVR	1027.8
					Double	SUN 59-10	1073.1
			24" o.c.	5/16" Vertical	Double	F6400 LVR	697.3
					Double	F6400 LVR	697.3
16" o.c.	1/2" Horizontal	Single	FoamNail	682.0			
		Single	FSI 1-Part	644.8			
		Single	Voramers MB 3099	649.6			
		Single	F-2100	688.7			
2x3	1x3	2x3	16" o.c.	5/16" / Vertical	Single	Gun-N-Go	468.5
					Single	Pemco 5100	647.9
					Double	Gun-N-Go	734.5
2x3	2x3	2x3	16" o.c.	5/16" / Vertical	Single	Sun 59-10	631.0
					Single	Gun-N-Go	657.0
					Single	FoamNail	811.0
					Double	Gun-N-Go	995.0
					Double	Sun 59-10	958.0
					1/2" Horizontal	Single	Sun 59-10
			Single	FoamNail		818.0	
Double	Sun 59-10	481.2					

Notes:

- Ultimate load does NOT include any required safety factors

Product Labeling

Each bundle shipped of **USG Sheetrock® MH Brand Gypsum Panels** that is covered by this PER must have at least the following information;

1. Board End Tape with Board brand and type.
2. **USG's** name and address.
3. Date of manufacture
4. A bundle label with this PER number & *Peri's* logo



SheetRock MH Bundle