

FIBEROCK® Brand Panels— Abuse-Resistant



Gypsum fiber panels outperform paper-faced gypsum board in abuse-prone areas

- No face paper to scratch or tear
- Resist denting, breaking, and puncturing, even in high-traffic areas
- Provide excellent fire resistance
- Offer an economical alternative to concrete block and plaster construction
- Ideal for institutional, commercial, and residential interiors
- Certified, recycled content of 95 percent

Description

FIBEROCK® Brand Panels—Abuse-Resistant are engineered to provide increased resistance to abrasion, indentation, and penetration for interior walls and ceilings in demanding construction applications. These gypsum fiber panels are designed to outperform paper-faced gypsum board. Strong, solid, and durable, they resist denting, breaking, and puncturing—even in high-traffic areas.

FIBEROCK Brand Panels—Abuse-Resistant are code approved for use in noncombustible construction. They have exceptional surface burning characteristics (ASTM E84, Flame Spread 5, Smoke Developed 0) and fire resistance (ASTM E119). 5/8" FIBEROCK Brand Panels—Abuse-Resistant may be used in lieu of Type X gypsum panels in over 50 fire-rated wall assemblies as listed in the UL Fire Resistance Directory under "Type FRX."

Advantages

Reduced life-cycle costs: Use of FIBEROCK Brand Panels—Abuse-Resistant ensures a high-quality finished job, resulting in higher durability and reduced maintenance costs.

Environmentally Responsible: FIBEROCK Brand Panels—Abuse-Resistant are made from recycled materials. They are certified by Scientific Certifications Systems to have a recycled content of 95 percent.

Increased strength: FIBEROCK Brand Panels—Abuse-Resistant are reinforced throughout, providing increased strength, stiffness, and abuse-resistant properties when compared to paper-faced gypsum board.

Improved nail and screw holding: Panels offer superior screw/nail holding ability compared with paper-faced gypsum board.

Limitations

1. FIBEROCK Brand Panels—Abuse-Resistant require weather-protected storage. Not designed for exterior exposure or to be subjected to sustained moisture.
2. Panels should not be used as a base for tile or as a water-resistant wall panel in wet areas.
3. Panels should not be exposed to sustained temperatures in excess of 125 °F (51.6 °C).
4. For fire-resistant or abuse-resistant construction over steel framing, a minimum of 20-gauge steel framing is required.

WARNING: Store all FIBEROCK Brand Panels flat. Panels are heavy and can fall over, causing serious injury or death. Do not move unless authorized.

Product Data	Dimensions	Thickness		Length
		in.	mm	ft.
		1/2	12.7	8, 9, 10, 12
		5/8	15.9	8, 9, 10, 12
Physical Properties	Nail-Pull Resistance (lb_f)			
	Thickness		FIBEROCK Brand Panel	Gypsum Wallboard Standard Specification
	1/2"	12.7 (mm)	185	77
	5/8"	15.9 (mm)	231	87
	Screw Withdrawal* (lb_f)			
	Thickness		FIBEROCK Brand Panel	Gypsum Wallboard Standard Specification
1/2"	12.7 (mm)	100	28	
5/8"	15.9 (mm)	121	39	

Flexural Strength (lb _f)			
Thickness	FIBEROCK Brand Panel Either Direction	Gypsum Wallboard Standard Specification	
		Across Panel Width	Parallel to Panel Length
1/2" (12.7 mm)	137	107	36
5/8" (15.9 mm)	196	147	46

Bending Radius*	
Product	Bending Radius
1/2" FIBEROCK Brand Panel	> 25
5/8" FIBEROCK Brand Panel	> 30 ft.

*** Notes**

Panels applied perpendicular to framing.
Panels are not to be wetted for application.
Panels should be fastened 16" o.c. starting in the center of the panel and working out toward the edges.

Compliance with Standards: Meets ASTM C1278; meets CAN/ULC-S101 and -S102. Meets or exceeds the physical properties of ASTM C36 and CAN/CSA A82-27.

Fire Hazard Classification: Flame spread 5, smoke developed 0.

Edge Configuration: Long edges tapered; ends cut square.

Comparative Abuse-Resistant Performance

Abrasion

Surface Abrasion			
Number of Cycles	5/8" FIBEROCK AR	5/8" Paper Faced Abuse Resistant Drywall	5/8" Type X
50	0.284"	0.468"	0.462"

Note: Values reflect the average abrasion depth following 50 cycles. Testing performed using the abrasion test apparatus specified in ASTM D4977 with a 25 lb. added weight. Independent testing performed by H. P. White Laboratories, Inc. Three identical specimens were tested for each product.

Indentation

Surface Indentation		
5/8" FIBEROCK AR	5/8" Paper-Faced Abuse Resistant Drywall	5/8" Type X
0.11"	0.12"	0.21"

Note: Values reflect the average measured depth of indentation. Testing performance using the Gardner test apparatus specified in ASTM D5420, with 5/8" die at 72 in.-lb. drop energy. Independent testing performed by H. P. White Laboratories, Inc. Three identical specimens were tested for each product.

Hard-Body Impact

5/8" FIBEROCK AR	5/8" Paper-Faced Abuse Resistant Drywall	5/8" Type X
85 ft.-lbs.	50 ft.-lbs.	27 ft.-lbs.

Note: Values reflect the minimum impact energy required for a 2" steel pipe cap to completely penetrate the panel when supported by 16" o.c. framing. Independent testing performed by H. P. White Laboratories, Inc. Three identical specimens were tested for each product.

Soft-Body Impact (Based on ASTM E695)

Criterion	5/8" FIBEROCK AR	5/8" Paper-Faced Abuse Resistant Drywall	5/8" Type X
Surface Failure	150 ft.-lbs.	60 ft.-lbs.	90 ft.-lbs.
Structural Failure	210 ft.-lbs.	120 ft.-lbs.	120 ft.-lbs.

* No failure observed up to apparatus capacity of 300 ft.-lbs.

Note: Values reflect the minimum impact energy required for the following: "Surface Failure"—First evidence of creasing or other damage at panel surface. "Structural Failure"—Complete penetration through panel. Testing performed in accordance with ASTM E695 using a 60 lb. leather bag. Panels supported by 16" o.c. framing. Independent testing performed by H. P. White Laboratories, Inc. Three identical specimens were used for each product.

Soft-Body Impact (Based on ASTM E695—Modified)

Criterion	5/8" FIBEROCK AR	5/8" Paper-Faced Abuse Resistant Drywall	5/8" Type X
Structural Failure	>200* impacts	45 impacts	5 impacts

* No failure observed after 200 impacts; therefore, test was terminated.

Note: Values reflect the number of 60 ft.-lb. repetitive impacts required for complete penetration of the impacting bag through panel: "Structural Failure." Testing performed in accordance with ASTM E695 using a 60 lb. leather bag. However, test procedure modified to repeatedly impact at a constant 12" drop height. Panels supported by 16" o.c. framing. Independent testing performed by H. P. White Laboratories, Inc. Three identical specimens were used for each product.

Good Design Practices

- 1 FIBEROCK Brand Panels—Abuse-Resistant are designed for interior use.
- 2 FIBEROCK Brand Panels—Abuse-Resistant can be attached to wood or steel-stud framing and furring channels.
- 3 For abuse-resistant or fire-resistant construction, 20-gauge or heavier studs are required.
- 4 Use SHEETROCK® Brand Joint Tape and SHEETROCK® Brand Setting-Type Joint Compound (DURABOND®) for the embedment of tape (Do not use fiberglass tape). Standard ready-mixed compounds (non-lightweight) can be used for the balance of finishing. For areas subjected to critical lighting conditions, a level 5 Gypsum Board finish is recommended. Please refer to Gypsum Association Guidelines GA-214-96 and USG publications J510, J1613.
- 5 For improved abuse resistant system performance, SHEETROCK™ Brand Paper Faced Metal Corner Bead and Trim and SHEETROCK® Brand Primer-Surfacers TUFF-HIDE™ are recommended. (See Section 3.4.1 in Architectural Specifications for more information).
- 6 Do not use in wet areas.
- 7 Where FIBEROCK Systems abut or intersect dissimilar construction or building structural components, isolation techniques, such as caulk and/or slip tracks, are required.
- 8 Control joints should be spaced at a maximum of 30 ft. on center in walls and above door jambs; 30 ft. on center in ceilings (50 ft. with perimeter relief) and at L-, T-, or U-intersections. Location of control joints is the responsibility of the professional/ architect.
- 9 For very high impact resistance, specify FIBEROCK Brand VHI panels.
- 10 For veneer plaster applications, specify USG plaster bonder over the entire surface after joint treatment, before plaster application. See Section 3.4.2 in Architectural Specifications below for additional details.
- 11 Framing members should be straight and true. Studs and joints must be in true alignment; bridging, firestops, etc., must not protrude beyond plane of framing. Due to strength and rigidity of FIBEROCK Panels, it may be difficult to compensate for out-of-plane imperfections in framing.

Architectural Specifications Part 1: General	1.1 Scope	Specify to meet project requirements.
	1.2 Qualifications	All materials, unless otherwise indicated, shall be manufactured by USG, and shall be installed in accordance with USG's current printed directions.
	1.3 Related Work	Wood framing, steel framing, solid substrates, insulation, joint sealers, finishes, and electrical/mechanical-related installations.
	1.4 Framing	Steel or wood framing to receive FIBEROCK Brand Panels shall be structurally sound, free from bow, and in general compliance with local building code requirements. Damaged and excessively bowed studs shall be replaced before installation of gypsum panels.
	1.5 Delivery and Storage of Materials	All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. All materials should be stored flat. Damaged or deteriorated materials shall be removed from the premises.
	1.6 Environmental Conditions	In cold weather during panel application and joint finishing, temperatures within the building shall be maintained within a range of 55 to 70 °F (13 to 21 °C). Adequate ventilation shall be provided to carry off excess moisture.
Part 2: Products	2.1 Materials	<p>A Gypsum Fiber Panels (FIBEROCK Brand Panels—Abuse-Resistant) 4' (1220 mm) x (8' [2438 mm]) (9' [2743 mm]) (10' [3048 mm]) x (1/2" [12.7 mm]) (5/8" [15.9 mm]), tapered.</p> <p>B Joint Reinforcement: SHEETROCK Brand Joint Tape and SHEETROCK Brand Setting-Type Joint Compound (DURABOND) for the embedment of tape. For the balance of the finishing use standard ready-mixed compounds (non-lightweight).</p> <p>C SHEETROCK Brand Paper Faced Metal Bead and Trim; SHEETROCK Brand Primer-Surfacers, TUFF-HIDE</p> <p>D Framing: Size and gauge of steel studs shall be determined per stud manufacturer's limiting height recommendations.</p>
Part 3: Execution	3.1 Walls	Space wood or steel framing a maximum of 24" o.c. (16" o.c. is recommended for abuse-resistant applications). Furred walls shall be fully braced back to structure.
	3.2 Ceilings	Ceiling joists, furring channels, or furring strips must be spaced max. 24" o.c. Framing must be capable of supporting the total ceiling system dead load.

**3.3
FIBEROCK Panel
Application**

3.3.1 Cutting Panels

- A** Cut ends, edges, scribe, and make cutouts within fields of panels in a workmanlike manner. Panels should be cut to size utilizing a knife and straight edge. A power saw should be used only if it is equipped with a dust-collection device. Panels may be cut by scoring and snapping, or by sawing, working from the face side. A SNAPPER SHEAR® tool specifically designed for FIBEROCK Brand Panels may also be used.
- B** When using the score-and-snap method, score the panel twice and snap the panel away from the cut face. The backside of the panel is then broken by snapping the panel in the reverse direction.
- C** If a power-operated saw is used, a low-RPM, 3-1/2" (89 mm) carbide-blade, portable saw is recommended.
- D** Where necessary to obtain neatly fitting joints, a rasp or surform should be used to smooth cut edges.
- E** Holes for pipes, fixtures, and other small openings can be cut out with a saw or a drywall router equipped with a 1/4" carbide bit. When using a router, panels should be held away from the wall to avoid damage to utility boxes.

3.3.2 Basic Single-Layer System, Treated Joints

- A** Position all ends and edges of all gypsum fiber panels over framing members, except when joints are at right angles to framing members, as in perpendicular application or when end joints are back-blocked.
- B** Apply gypsum fiber panels first to the ceiling, then to the walls. Install panels vertically whenever possible. For horizontal panel application, panels must be gapped 1/16" of an inch. End joints should be loosely fit. Install panels a minimum of 3/8" above the floor. To minimize end joints, use panels of maximum practical lengths. Stagger end joints in successive courses with joints on opposite sides of a partition placed on different studs.
- C** Attach panels to framing supports by: (Standard Single Nailing Method) (Double Nailing Method) (Power-Driven Screws). Space fasteners not less than 3/8" from edges and ends of panels and drive as recommended for specified fastening method. Drive fasteners in field of panels first, working toward ends and edges. Hold panel in firm contact with framing while driving fasteners. Drive fastener heads slightly below surface of gypsum fiber panels in a uniform dimple.
- D** For non-fire-rated partition designs, refer to the table below for fastener spacing. For UL fire-rated partition designs, refer to the specific UL design for proper fastener spacing.

Ceilings (Wood- or Steel Framed)	Thickness	Application	Frame Spacing	Fastner Spacing	
				Nails	Screws
				1/2"	parallel
	perpendicular	16" o.c.	7" o.c.	12" o.c.	
	5/8"	parallel	16" o.c.	7" o.c.	12" o.c.
		perpendicular	24" o.c.	7" o.c.	12" o.c.

Walls	Thickness	Frame Spacing*	Fastener Spacing	
			Nails	Screws
			1/2"	24" o.c.
	16" o.c.	8" o.c.	16" o.c.	
	5/8"	24" o.c.	8" o.c.	12" o.c.
		16" o.c.	8" o.c.	16" o.c.

*16" o.c recommended for abuse-resistant applications.

- E** Install trim at all internal and external angles formed by the intersection of either panel surfaces or other surfaces. Apply (metal) (paper-faced) corner bead to all vertical or horizontal external corners in accordance with manufacturer's directions.

3.3.3 Control Joint Installation Attach Zinc Control Joint No. 093 with Bostitch 9/16" "G" staples or equivalent spaced not over 6" apart in each flange. Cut end joints square and align for neat fit. Remove protective tape when joint treatment is completed. Break panel behind joint and back by double framing members (spaced 1/2" apart).

3.3.4 Fastener Application

- A Drywall Screws:** Power-drive with an electric screw gun so screwheads provide a slight depression below surface of gypsum fiber panels. Do not drive screws closer than 3/8" from edges and ends of gypsum fiber panels.
- B Nails:** Drive nails with heads slightly below gypsum fiber panel surface in a uniform dimple 1/32" deep formed by crowned face of hammer. Drive nails no closer than 3/8" from edges and ends of panel.

3.3.5 Interior Joint System Application

- A** Mix joint compound in accordance with manufacturer's recommendation. Use SHEETROCK Brand Setting-Type Joint Compound (DURABOND) for the embedment of the SHEETROCK Brand Joint Tape. Standard ready-mixed compounds (non-lightweight) can be used for the balance of finishing.

- B** Apply joint compound in a thin uniform layer to all joints and angles to be reinforced. Immediately apply SHEETROCK Brand Joint Tape centered over joint and seated into compound. Sufficient compound must remain under the tape to provide proper bond. Follow immediately with a thin skim coat to embed tape, but not to function as a second coat. Fold and embed tape properly in all interior angles to provide a true angle. The tape or embedding coat must be hardened prior to application of second coat.
Note: Do not use fiberglass tape.
 - C** Apply second coat of joint compound over embedding coat, filling panel taper flush with surface; cover tape and feather beyond first coat. On joints with no taper, cover the tape and feather on either side of tape. Allow second coat to harden prior to application of finish coat.
 - D** Spread finish coat evenly over and extend beyond second coat on all joints and feather to a smooth uniform finish. Do not allow finished joint to protrude beyond plane of the surface. Apply a finish coat to cover tape and taping compound at all tapered angles and provide a true angle. Where necessary, sand lightly between coats and following the final application of compound to provide a smooth surface ready for decoration.
- 3.3.6 Finishing Fasteners** Apply joint compound to all fastener depressions.
- 3.3.7 Finishing Bead and Trim**
- A** Apply first coat to all bead and trim and properly feather out from ground to plane of surface. Compound must harden prior to application of second coat.
 - B** Apply second coat in same manner as first coat, extending compound slightly beyond first coat, and properly feathering from ground to plane or surface. When dry, sand finish as necessary to provide a flat smooth surface ready for decoration. When sanding, take care not to roughen surface.

**3.4.1
SHEETROCK Brand
Primer- Surfacers,
TUFF-HIDE (Optional)**

Treat all joints, fasteners and accessories with a recommended SHEETROCK® Brand joint treatment system. A minimum Level 4 wallboard finish is recommended (refer to Gypsum Association publication GA-214, "Recommended Levels of Gypsum Board Finish" or ASTM C-840 equivalent for a detailed description.) Apply a uniform coat of SHEETROCK Brand Primer-Surfacers to entire surface using approved airless spray equipment to a minimum wet film thickness (WFT) of 15 mils. On all applications, a WFT in excess of 20 mils is not recommended. Use a WFT gauge to ensure proper application and maximum performance. Refer to USG publications J1613 and J1691 for complete recommendations.

**3.4.2
Veneer Plaster (Optional)**

Joints should be treated with SHEETROCK Brand Joint Tape and SHEETROCK Brand Setting-Type Joint Compound (DURABOND or EASY SAND). Joint surfaces must be treated with a separate coat of joint compound to fully conceal the paper tape. When the joint is completely dry, treat entire wall surface with USG plaster bonder according to application directions. Then apply DIAMOND® Brand Veneer Basecoat Plaster from 1/16" to 3/32" thickness using a scratch and double-back technique. This is accomplished by applying a tight, thin coat over the entire area, and immediately doubling back with plaster from the same batch to achieve full thickness. When basecoat plaster is firm, broom the surface to leave it rough and open for finish. With basecoat set and partially dry, apply IMPERIAL® Brand Finish Plaster using a scratch and double-back technique. Complete finishing when material is firm. Leave finished surface smooth and dense for decorating. Refer to USG System Folder SA920 for complete plaster recommendations.

**3.4.3
Ceramic Tile
Applications**

FIBEROCK Brand Abuse-Resistant panels are acceptable for use as a ceramic tile backer in dry areas only. Refer to the TCA Handbook designs W221, W222, W223, W242 and W243 for specific system and finishing requirements.

**Submittal
Approvals:**

Job Name	
Contractor	Date

Trademarks

The following trademarks used herein are owned by United States Gypsum Company: DIAMOND, DURABOND, EASY SAND, FIBEROCK, IMPERIAL, SHEETROCK, TUFF-HIDE. THERMAFIBER is a trademark of Thermafiber LLC. SNAPPER SHEAR is a trademark of Pacific International Tool & Shear.

Note

Products described here may not be available in all geographic markets. Consult your U.S. Gypsum Company sales office or representative for information.

Notice

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

SAFETY FIRST!

Follow good safety and industrial hygiene practices during handling and installing all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

