

# Hardirock®

# REGULAR



Hardirock Regular gypsum board is a lightweight building material for lining interior walls and ceilings in non-fire rated construction. It offers an economical means of creating durable and fire resistant surfaces that can accept a variety of finishes. Hardirock Regular gypsum board is available in several thicknesses to accommodate a range of uses.

1/4", 3/8" and 1/2" products are manufactured with the long edges tapered to facilitate the application of joint compound. High quality manila face paper provides a smooth surface that can be decorated with paint, texture or wallpaper.

### Hardirock 1/2" Regular

Hardirock 1/2" Regular is designed primarily for single layer residential projects. When properly installed on framing spaced up to 24" o.c. it provides walls that are both strong and aesthetically pleasing.

### Hardirock 1/4" & 3/8" Regular

These two versatile gypsum board products can be used in multi-layer applications to improve sound control or to overlay existing walls. Old and damaged finishes can often be hidden without replacing the moldings. 1/4" and 3/8" Regular are also flexible enough to form curved surfaces.

For Additional Product Information  
 Contact James Hardie Gypsum  
 Technical Services Department  
 Phone: 1-800-346-3537  
 Web Site: [www.hardirock.com](http://www.hardirock.com)



**Hardirock® Regular Gypsum Board For Non-Fire Rated Applications**

### PHYSICAL PROPERTIES

Hardirock® Regular gypsum board meets or exceeds the physical property requirements specified in American Society for Testing and Materials (ASTM) C 36.

	Regular	Regular	Regular
Thickness	1/4" (6.35 mm)	3/8" (9.5 mm)	1/2" (12.7 mm)
Width	4' (1219 mm)	4' (1219 mm)	4', 54" (1219 mm, 1371 mm)
Standard Lengths	8' (2438 mm)	8' (2438 mm)	8', 9', 10', 12', 14', 16' (2438, 2743, 3048, 3658, 4266, 4876)
Edges	Tapered	Tapered	Tapered
Approx. Weight	1.0 psf (4.9 kg/m <sup>2</sup> )	1.4 psf (6.8 kg/m <sup>2</sup> )	1.6 psf (7.8 kg/m <sup>2</sup> )

For further information consult a James Hardie Gypsum sales representative. All products are not available in all geographic areas. Consult local building codes for regulations in your area.

### SURFACE BURNING CHARACTERISTICS

When tested in accordance with ASTM E 84:

Flame Spread (Class I, Class A)	0 - 25
Smoke Developed	0

### HANDLING AND STORAGE

Hardirock gypsum boards should be stacked flat on a smooth, level surface, but not stored directly on concrete floors. When spacers are used, position them closely enough together to minimize warpage. Care should be taken to prevent damage to edges and corners. Always keep Hardirock gypsum board dry prior to installation.

### TECHNICAL REFERENCES

For additional information on application and finishing consult:

- BOCA® National Building Code
- Standard Building Code
- Uniform Building Code
- CABO One- and Two-Family Dwelling Code
- Gypsum Association Brochures GA-214, GA-216 and GA-600
- ASTM C 475, C 514, C 645, C 754, C 840, C 1002, C 1047, E 119
- As a member of the Gypsum Association, James Hardie's Regular Gypsum Board is recognized for use in ICBO Evaluation Service Reports #1632 and #1874



**James Hardie  
Gypsum**

## CUTTING

The score and snap method is a fast and efficient way to cut Hardirock gypsum boards.

Steps:

1. On the face side, position a straight edge along the line of cut.
2. Score with a knife or other suitable tool.
3. With a quick, firm motion, snap back away from the face.
4. The back paper can either be cut with a knife or separated by snapping the piece in the opposite direction.
5. Smooth all cut ends and edges to ensure tight joints.

Hardirock gypsum boards can also be cut with a saw. For information on avoiding dust inhalation, refer to a Material Safety Data Sheet available where James Hardie Gypsum products are sold. Safety glasses should always be worn when using power tools.

To make cut outs, score around the perimeter on the face and back and tap out the waste piece from the face side. For rectangular openings, it may be helpful to score board diagonally from corner to corner. Cut outs can also be made with a drywall saw.

## INSTALLATION ON WALLS & CEILINGS

Follow instructions below when installing 3/8" and 1/2" Regular gypsum board in single ply wall and ceiling applications. Where fire resistance and sound control are required, specific construction details should be obtained from the Gypsum Association Fire Resistance Design Manual GA-600, the Uniform Building Code and ICBO Report #1632.

For information on applications such as double ply systems, attaching Hardirock gypsum board to masonry, concrete and existing walls and creating curved surfaces, consult ASTM C 840, the Gypsum Association Brochures GA-216 and GA-650 and other James Hardie Gypsum product literature.

### Framing

Hardirock 3/8" and 1/2" Regular can be installed over wood or steel framing. All construction shall comply with local building codes, including the use of vapor barriers

TABLE 1 - Framing Spacing For Single Ply Applications

	Hardirock Thickness	Application to Framing	Maximum Spacing <sup>(1)</sup>
Ceilings: <sup>(2)</sup>	3/8" 1/2"	Perpendicular Parallel or Perpendicular	16" <sup>(2)</sup> 16"
Walls:	3/8" <sup>(4)</sup> 1/2"	Perpendicular Parallel or Perpendicular	16" 16" 24"

- <sup>(1)</sup> Wood or steel framing.
- <sup>(2)</sup> 3/8" should not support thermal insulation.
- <sup>(3)</sup> For water based textures, refer to ASTM C 840/GA-216.
- <sup>(4)</sup> 3/8" for walls should not be used over steel studs.

### Fastener Types and Sizes

Hardirock Regular can be attached with either:

- nails (meeting ASTM C 514) or,
- screws (meeting ASTM C 1002).

TABLE 2 - Fastener Lengths For Single Ply Applications

Framing	Board Thickness	Nails* <sup>†</sup>		Screws** <sup>††</sup>	
		Min. Penetration	Length	Min. Penetration	Length
Wood	3/8"	7/8"	1-1/4"	7/8"	1-1/4"
	1/2"	7/8"	1-3/8"	3/4"	1-1/4"
Steel	1/2"	—	—	1/2"	1"

- \* For nail application use drywall type nails
- \*\* For screw applications use: Type W for wood framing and Type S for steel framing

TABLE 3 - Fastener Spacing For Single Ply Applications

Framing Spacing*	Nails		Screws	
	Ceilings	Walls	Ceilings	Walls
16" 24"	7" o.c. 7" o.c.	8" o.c. 8" o.c.	12" o.c. 12" o.c.	16" o.c. 12" o.c.

- \* For wood or steel framing
- Consult ASTM C 844 or GA-216 for recommendations on installing gypsum board with adhesives or adhesives with mechanical fasteners.

where required. Unheated spaces above ceilings should be properly ventilated.

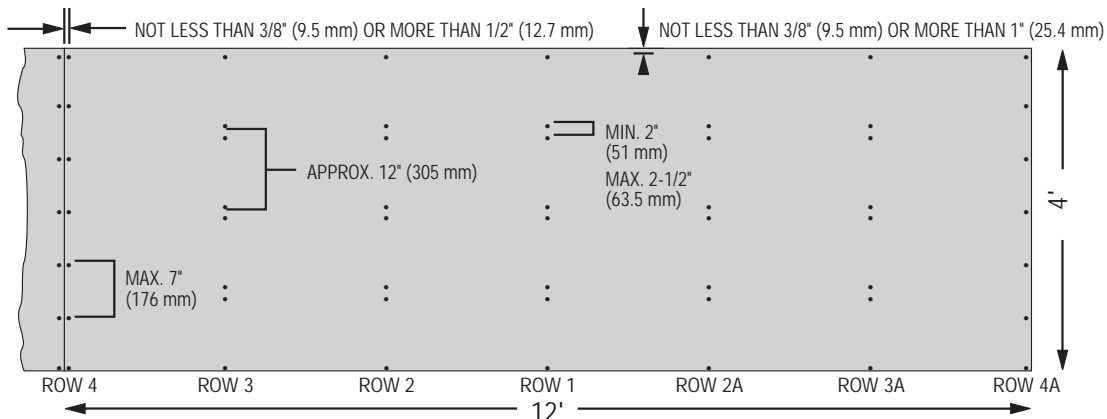
Framing members and other surfaces must be straight, true, of uniform dimensions and properly aligned. Steel components shall meet ASTM C 645 and be installed in accordance with ASTM C 754. For non-fire rated wood construction follow spacing recommendations above in Table 1.

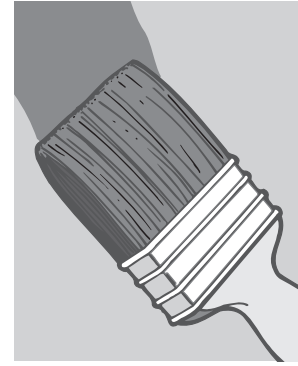
### Attachment

1. Hardirock Regular gypsum board shall be installed on the ceilings first. Apply at right angles to framing.
2. Unless specified in fire or sound rated assemblies, horizontal wall application is recommended to give added strength and reduce the number of joints.
3. Starting in the upper corner of the wall, work across and down. Ends and edges of sheets shall be in moderate contact.
4. Holding Hardirock Regular gypsum board firmly against the framing, begin fastening in the center of the sheet and move outward toward ends and edges.

For fastener types and spacing, follow the recommendations in Tables 2 and 3. Nails or screws must not be less than 3/8" or further than 1/2" from the ends and edges of the sheets (except where floating angles are used).

5. Set fastener heads slightly indented from the surface without breaking the face paper or damaging the gypsum core.
6. For double nailing, refer to the diagram below. All the fasteners represented by dots shall be installed first, moving sequentially from row 1, 2, 2A, 3, 3A, etc.
7. Install sheets in a brick pattern with the ends staggered and supported by framing members. Joints shall not fall on the same studs as those directly on the opposite side of the wall.
8. Cut openings out of full sheets or lay out joints to fall on the studs nearest the center of doors and windows. Where possible, position full sheets to extend completely above and below openings and avoid piecing.





### Finishing

Hardirock Regular gypsum board can be finished with paint, texture or wallpaper. A high quality primer/sealer must be used prior to any type of decoration. For high gloss paint and severe lighting conditions, a thin skim coat of joint compound should be applied across the entire surface. Always follow the recommendations in the Gypsum Association Brochure Levels of Gypsum Board Finish, GA-214.

### Control Joints

Control joints, as specified and detailed by the architect, shall be installed in the following situations:

- In ceilings exceeding 2500 sq. ft. in area and where the framing or furring changes direction. The distance between control joints shall not be greater than 50' in either direction.
- In partition, wall and wall furring runs exceeding 30' in length. Distances between control joints shall not be greater than 30'. Wall or partition height door frames may be utilized as control joints.
- Opposite of where a control joint occurs in the exterior base wall construction.
- To coincide whenever possible with construction joints of the building.

When partitions are erected to span the full height of the slabs between floors as required for fire or STC rated assemblies, a perimeter relief joint shall be used at the top to accommodate normal structural slab or beam movement without loading partition.

### Joint, Corner and Surface Preparation

These areas should be finished in accordance with ASTM C 840, the GA-216 and the joint compound manufacturer's instructions. Materials shall comply with ASTM C 475 and ASTM C 1047.

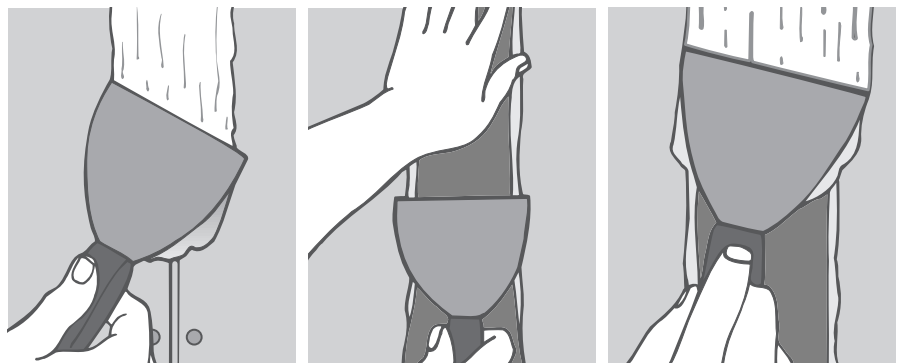
1. No treatment of joints shall be done until the interior temperature has been maintained at a minimum of 50° F for at least 48 hours prior to application of compounds and until all materials have completely dried. Adequate continuous ventilation must also be provided.

2. Fill and level joints with joint compound.
3. Embed tape into the wet compound and allow to dry. For inside corners, crease the tape and work it into joint.
4. Apply a second coat of compound across the joint, feather to approximately 4" on each side.
5. Apply a third coat of compound and feather to approximately 6" on each side.
6. Allow each coat of compound to dry before proceeding.
7. Attach corner bead to outside corners and apply three coats of compound. Feather out each coat as described in steps 4-6.
8. Spot cover all fastener heads with three coats of joint compound applied in different directions.
9. Lightly sand the last coat of all treated areas, taking care not to rough the surrounding gypsum board paper. Smoothing can also be accomplished with a damp sponge.

### LIMITATIONS

- Gypsum board shall not be used in areas that are continuously or repeatedly exposed to excessive moisture or steam such as saunas, gang shower rooms or swimming pool enclosures.
- Gypsum board shall not be exposed to sustained temperatures exceeding 125° F.
- The weight of ceiling insulation shall not exceed 2 pounds per square foot.
- Sheets should not come in direct contact with concrete, masonry or other surfaces that have a high moisture content.
- Not recommended for use with radiant heat ceilings. For specific systems contact the James Hardie Gypsum Technical Services Department.

**Consider local climatic conditions and consult local building codes.**



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