HardieBacker®
Cement Board

MADE BETTER.
INSTALLS BETTER.
PERFORMS BETTER.™

TECHNICAL DATA SHEET

DESCRIPTION
HardieBacker® cement board offers architects, builders, and contractors a unique cement based backer board that can be used on walls, floors, ceilings and countertops. Its formulation resists damage from moisture while providing the ideal combination of strength, uniform composition and performance that no other backer board can provide.

BASIC COMPOSITION
90% Portland cement and sand; 10% cellulose fiber and selected additives. HardieBacker cement board does not contain asbestos, gypsum, glass fiber, or added formaldehyde.

	GENERAL PROPERTY	TEST METHOD	UNIT OR CHARACTERISTIC	HARDIEBACKER® 1/4 IN CEMENT BOARD		HARDIEBACKER® 500 CEMENT BOARD	
PHYSICAL ATTRIBUTES	Nominal Dimensions	ASTM C1288	Width	3 ft	4 ft	3 ft	4 ft
			Length	5 ft	8 ft	5 ft	8 ft
			Thickness	1/4 in		13/32 (0.42) in	
	Weight		lbs per sq ft	1.9		2.6	
	Compressive Strength	ASTM D2394	psi	7,000		6,500	
	Flexural Strength	ASTM C947	psi	2,100		1,700	
PERFORMANCE	Freeze/Thaw Resistance	ASTM C666 (Proceedure B) Type A	Pass/Fail	Not Tested		Pass	
	Warm Water	ASTM C1288	Pass/Fail	Pass		Pass	
	Water Vapor Transmission	ASTM E96 (Desiccant Method)	Perms	1.75 perms		2.84 perms	
	Standard Method for Evaluating Ceramic Floor Tile Installation Systems	ASTM C627	passes cycles 1-6	Light-Commercial		Light-Commercial	
FIRE	Noncombustibiblity	ASTM E136	Pass/Fail	Pass		Pass	
	Surface-Burning Characteristics	ASTM E84	Flame Spred Index/ Smoke Developed Index	0/5 or less		0/5 or less	
	Fire-resistance Rate Construction	ASTM E119		1 Hour Designs Available see Backside or Consult James Hardie for E119 Listings			
THERMAL	Coefficient of Thermal Conductivity	ASTM C177	K-value	7.80 Btu / (ft2 x h x ºF)		20.07 Btu / (ft2 x h x ºF)	
	Coefficient of Thermal Resistance	ASTM C177	R-value	.13 ft^ 2 x h x F/ Btu		0.05 ft^ 2 x h x F/ Btu	
WEIGHT CAPACITY	Shear Bond Strength (saturated)	ASTM C1288 / ANSI A118.1	Dry-Set Portland Cement Mortar	Pass		Pass	
	Shear Bond Strength	ASTM C1288 / ANSI A118.4	Latex-Portland Cement Mortar	Pass		Pass	
	Shear Bond Strength	ASTM C1288 / ANSI A136.1	Organic Adhesives Type 1	Pass		Pass	

RECOGNITIONS
HardieBacker cement board is recognized as interior substrates according to the following:

- International Code Council Evaluation Service ESR-2280
- ANSI A108.11 Specifications for Interior Installations of Cementitious Backer Units
- HUD Materials Release Nos. 1263 and 1268
- IBC 2509.2
- IRC R702.4.2

ENVIRONMENTAL CONSIDERATIONS
James Hardie has demonstrated a commitment to reducing energy consumption, while improving process efficiencies and waste management. It avoids the use of environmentally damaging materials and uses abundant, renewable resources in the manufacture of HardieBacker cement board.
The company also focuses on water conservation and recycle water and waste product as much as possible during the manufacturing process. Because of this and its formulation, HardieBacker cement board is eligible for LEED points and is UL GREENGUARD Gold certified.

HEALTH AND SAFETY
James Hardie® fiber cement products contain crystalline silica. During installation, we recommend using the score and snap technique or a fiber cement electric shear to cut HardieBacker products. During clean up, use HEPA vacuums or wet cleanup methods. For additional information visit jhsafesite.com or view the material safety data sheet (MSDS) at hardiebacker.com

JamesHardie™
Underlayment

HARDIEBACKER® CEMENT BOARD TECHNICAL DATA SHEET

INTERIOR APPLICATIONS

Tile and Stone – (Floors, Walls, Ceilings and Countertops) HardieBacker cement board is intended as an interior substrate for tiling in residential and commercial properties. It's a moisture resistant underlayment that can be used in wet areas in both new construction and renovations, compatible with all sizes and types of tile including ceramic, glass and natural stone.

Vinyl and Resilient Flooring – HardieBacker cement board may be installed under or over vinyl composition tile (VCT) and other resilient flooring.

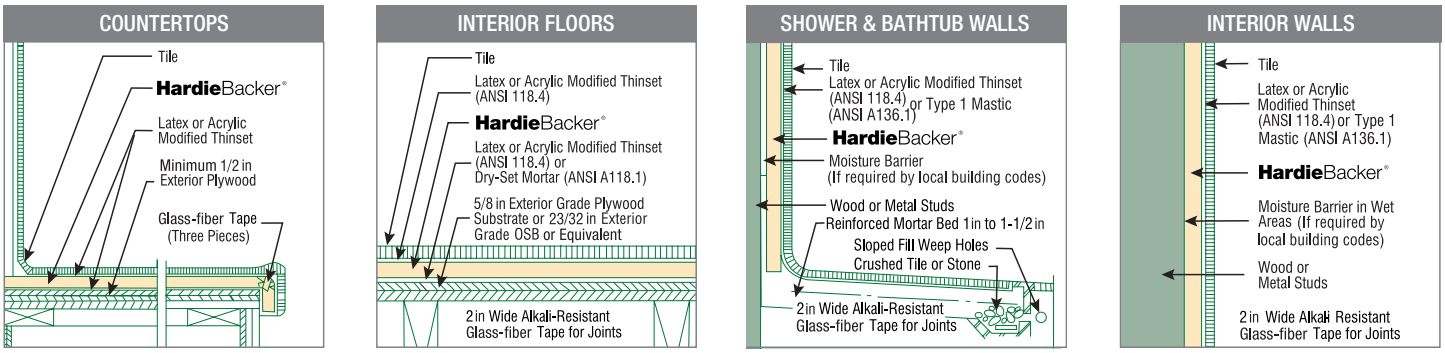
Paint and Wallpaper finishes – Apply a drywall primer suitable for high-moisture areas, as recommended by the paint manufacturer. Paint HardieBacker cement board as you would drywall. If wallpapering, prime surface of HardieBacker cement board with a primer suitable for high-moisture areas as recommended by the wallpaper manufacturer.

Steam Room – HardieBacker cement board is recognized for use in residential steam rooms when installed over conventional framing and in accordance with HardieBacker cement board printed installation instructions, TCNA guidelines and local building codes.

EXTERIOR APPLICATIONS

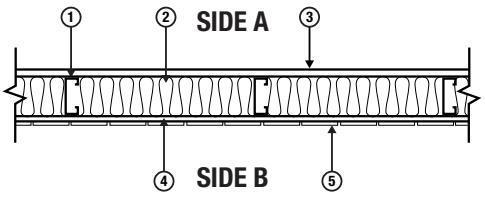
(HardieBacker 500 in HZ10® product areas only) Install over sub-sheathing with a code approved water-resistive barrier, or in accordance with applicable code. May be used up to a height not exceeding the lesser of: through the second-story above grade or 30 feet above grade. See installation guide for details and zone coverage for exterior applications.

HOW TO INSTALL HARDIEBACKER® CEMENT BACKERBOARD FOR TILE AND STONE*

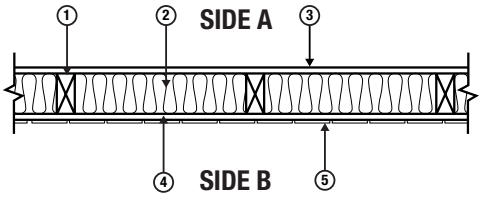


1-HOUR FIRE RATED ASSEMBLIES (Warnock Hersey listing)

Steel Studs



Wood Studs



STEEL STUD 1 -HOUR FIRE RATED ASSEMBLY (JH/WA 60-07)

1. Steel Studs: Minimum 3-5/8 in depth, 25 GA galvanized steel studs, spaced 16 in on center (oc).
2. Insulation: Minimum 3 in thickness, 3 pcf mineral fiber batt insulation. (rockwool), conforming to ASTM-C665 Type I, friction fit in joist cavities.
3. Gypsum Wallboard, Side A: 5/8 in Type X gypsum wallboard installed. horizontally or vertically and fastened with minimum 1-1/4 in Type S drywall screws, 8 in oc at board perimeter and in field areas of boards.
4. Fiber cement Board, Side B: 13/32" [0.42 in] Hardibacker 500 backerboard, applied horizontally or vertically and fastened with minimum 1" long No. 8 by 0.323" HD ribbed furring screws, located 8" oc along board perimeter and in field areas of boards.
5. Ceramic Tile: Nominal 4 in by 4 in by ¼ in standard grade ceramic wall tile.

WOOD STUD 1-HOUR FIRE RATED ASSEMBLY (JH/WA 60-08)

1. Wood Studs: Nominal 2 in by 4 in solid sawn wood studs located 16 in on center (oc). With two top plates and a single bottom plate.
2. Insulation: Minimum 3 in thickness, 3 pcf mineral fiber batt insulation (rockwool), conforming to ASTM-C665 Type I, friction fit in joist cavities
3. Gypsum Wallboard, Side A: 5/8 in Type X gypsum wallboard installed. horizontally or vertically and fastened with minimum 1-7/8 in long cup-head gypsum board nails or equivalent Type W screws, 8 in oc at board perimeter and in field areas of boards.
4. Fiber-cement Board, Side B: 13/32" [0.42 in] HardieBacker 500 backer board, applied horizontally or vertically and fastened with 1-1/2 in long by 0.375 in HD corrosion resistant roofing nails, located 8 in oc along board perimeter and in field areas of boards.
5. Ceramic Tile: Nominal 4 in by 4 in by ¼ in standard grade ceramic wall tile.

LIMITED WARRANTY

HardieBacker cement boards come with a limited lifetime warranty. For more information, download a copy of the warranty from **hardiebacker.com**.

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*These examples are not intended to replace HardieBacker installation instructions. For more information, or to download the full set of instructions, visit **HardieBacker.com** or call **800-942-7343.**

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