

DUROCK[®] Cement Board

The information contained in this document applies to DUROCK[®] brand cement board and DUROCK cement board Next Gen.



Backerboard for ceramic tile and exterior finish systems

- Water-durable, mold-resistant substrate for high-moisture areas (scores a 10 when tested per ASTM D3273)
- Can be used in interior or exterior applications
- Will not rot, warp, delaminate or disintegrate
- Easy to score and snap
- Non-combustible
- Rough side for thin-set mortar and portland cement basecoat applications
- Smooth side for ceramic tile mastic applications

Description

Both cement board products provide an outstanding base for glass and ceramic mosaics; ceramic and quarry tile; lugged tile; and thin stone and thin brick. Suitable for application to wood or steel framing spaced 16" o.c. in new construction and in remodeling. Board is ideal for use in partitions, walls, floors, soffits and ceilings in wet or dry areas. It does not deteriorate in the presence of water, so it is highly durable in high-moisture areas such as baths, showers, kitchens and laundry rooms. Also adaptable for fences, fireplace fronts, mobile home skirting, agricultural buildings, garage wainscoting and exterior finishes.

Limitations

1. Both cement board products are designed for positive or negative uniform loads up to 30 psf. For complete information on the use of DUROCK panels in exterior systems, consult your USG sales representative.
2. Wall applications: Maximum stud spacing: 16" o.c. (24" o.c. for cavity shaft wall assembly); maximum allowable deflection, based on stud properties only: L/360. Maximum fastener spacing: 8" o.c. for wood and steel framing; 6" o.c. for ceiling applications.
3. Floor applications: Maximum joist spacing 24" o.c. The subfloor system should be designed with a minimum deflection limit of L/360 for the span. Some finish materials may require a more rigid sub-assembly (such as large format tile and natural stone products). In these cases, follow the manufacturer's minimum requirements. The subfloor should be APA Span-Rated Plywood or OSB with an Exposure 1 classification or better with tongue and groove or back blocked at the unsupported edges.
4. Maximum dead load for ceiling system is 7.5 psf.
5. Steel framing must be 20-gauge or heavier.
6. Do not use drywall screws or drywall nails.
7. Do not use either 5/16" DUROCK cement board for wall or ceiling applications.
8. Do not use either DUROCK cement board product with vinyl flooring.

Installation

- A. Apply cement board product with ends and edges closely abutted, but not forced together. Stagger end joints in successive courses.
- B. Fasten DUROCK panels to framing with specified fasteners. Drive fasteners into field of panels first, working toward ends and edges. Hold panels in firm contact with framing while driving fasteners. Space fasteners maximum 8" o.c. for walls, 6" o.c. for ceilings, with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. Drive nails and screws so bottoms of heads are flush with panel surface to ensure firm panel contact with framing. Do not overdrive fasteners. Approved fasteners include: 1. DUROCK™ screws, USG sheathing, type WF for wood-frame or type SF for steel-frame construction, or 2. Minimum (1-1/2") 11-gauge, hot-dipped galvanized roofing nails with nominal 7/16" diameter head for wood framing. Prefill joints with tile-setting mortar or adhesive and then immediately embed DUROCK tile backer tape and level joints.
- C. Cement board products should be cut to size with a knife and straight edge. A power saw should be used only if it is equipped with a dust-collection device. Worker should wear NIOSH/MSHA-approved dust mask.

Refer to current United States Gypsum Company literature, *Moisture-Resistant Assemblies* (SA934) and *Exterior Service Systems* (SA700), for complete installation information. For technical assistance, call USG Technical Service at 800.USG.4YOU (874.4968).

Product Data

Sizes and Packaging

1/2" or 5/8" thickness, 32", 36" or 48" width x lengths of 4', 5', 6', 8'. 5/16" thickness, 36" or 48" width x 4' to 5' length. Custom sizes may be available upon request.

Standards

DUROCK cement boards exceed ANSI standards for cementitious backer units (CBU). See ANSI A118.9-1999 for test methods and specifications for CBU and ANSI 108.11-1999 for interior installation of CBU. Exceeds industry standards as an exterior substrate for exterior finishes. Exceeds ASTM C1325 standards for non-asbestos fiber-mat reinforced cementitious backer units.

Availability

DUROCK cement board and DUROCK cement board Next Gen are distributed in select markets throughout the United States. Contact a United States Gypsum Company sales office or sales person for additional information.



Composition and Materials DUROCK cement board products are formed in a continuous process of aggregated portland cement slurry with polymer-coated, glass-fiber mesh completely encompassing edges, back and front surfaces. The edges are formed smooth—patent No. 4,916,004. The ends are square cut.

Environmental Conditions All materials should be delivered and stored in their original unopened package and stored in an enclosed shelter providing protection from damage and exposure to the elements. Even though the stability and durability of DUROCK cement board is unaffected by the elements, moisture and temperature variations may have an effect on the bonding effectiveness of basecoats and adhesives.

Technical Data

Property	Unit of Measure	ASTM Test Method	1/2" Cement Board Typical Value	5/16" Underlayment Typical Value
Flexural strength	psi	C947-81	750	1250
Indentation strength	psi	D2394	>1250	>1250
Shear bond strength	psi	ANSI A118.4	>50	>50
Uniform load	psf (studs spaced 16" o.c.)	—	30 maximum	—
Water absorption	% by wt. 24 hrs.	C473	15	15
Nail-pull resistance	lb. (0.4" head diameter, wet or dry)	C473	90	—
Weight	psf	C473	<3.0	<2.3
Freeze/thaw resistance	procedure B, number of cycles with no deterioration	C666	100	100
Mold resistance	—	G21	No growth	No growth
Non-combustibility	Pass/Fail	E136	Pass	Pass
Surface burning characteristics	flame/smoke	E84	0/0	0/0
Thermal	"R"/k value	C518	0.26/1.92	—
Standard method for evaluating ceramic floor tile installation systems	Passes cycles 1-6	C627	Light Commercial	Light Commercial
Minimum bending radius	ft. (requires special framing—details available upon request)	—	8	—

Submittal Approvals:

Job Name		
Contractor		Date

Product Information
See usg.com for the most up-to-date product information.
Warning
Portland cement is strongly alkaline. Direct contact can be corrosive and cause severe damage or chemical burns to the eyes and wet or moist skin. Avoid contact with eyes and skin. Wear eye protection, alkali-resistant protective gloves, long-sleeved shirts and pants to prevent direct contact. If eye contact occurs, immediately flush thoroughly with water for 30 minutes and seek

medical advice. Inhalation of dust may be corrosive or cause chemical burns or irritation to nose, throat and respiratory tract. Avoid breathing dust. Use in a well-ventilated area or provide sufficient local ventilation. If dusty, wear a NIOSH/MSHA-approved dust respirator. Wash thoroughly with soap and water after use. Do not ingest. If ingested, call physician. If cutting board with a power tool, use a wet or vacuum saw to reduce the amount of dust generated. Panels are heavy and can fall

over, causing serious injury or death. Avoid creating a tripping hazard and do not exceed floor limit loads. Long-term breathing of respirable crystalline silica dust can cause permanent lung damage and/or cancer. Product safety information: (800) 507-8899 or usg.com.
KEEP OUT OF REACH OF CHILDREN.

Trademarks
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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/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read MSDS and literature before specification and installation.

