

GEORGIA-PACIFIC DENS-SHIELD® TILE BACKER BOARD

- A.** Proprietary treated, water-resistant core - for added protection
- B.** Embedded glass mat adds strength
- C.** Heat cured acrylic coating for superior water-resistance and vapor retarding qualities

Dens-Shield® tile backer is designed to provide water-resistance, strength and ease of handling. Dens-Shield has an exclusive water-resistant coating and a treated gypsum core penetrated front and back by inorganic glass mats. This superior product is over 33 percent lighter than Portland cement board and 83 percent lighter than 1" thick metal lath and cement plaster bed. Which makes installation quicker and easier. Dens-Shield can be scored and snapped easily and requires no special cutting tools or fasteners. Dens-Shield code compliances include BOCA #90 30, SBCCI #9045 and ICBO #4465. The product has been tested in conformance with ASTM E 96 for water vapor transmission. Dens-Shield tile backer carries a 20 year limited warranty**. Patent No. 4,810,569. Other patents pending. Available in 1/2" or 5/8" Fireguard® thicknesses. Dens-Shield is manufactured to meet ASTM C 1178.

Standard Sizes

Thickness - 1/4"

Width - 4'

Lengths - 4'

Edge - S

Thickness - 1/2"

Width - 32", 4'

Lengths - 5', 8'

Edge - S

Thickness - 5/8"

Width - 4'

Lengths - 5', 8'

Edge - S

GEORGIA-PACIFIC DENS-SHIELD® TILE BACKER

DESCRIPTION

For high-moisture commercial and residential applications, Dens-Shield® tile backer provides outstanding performance and workability. Dens-Shield, which is covered by U.S. patents, and is backed by a Georgia-Pacific 20-year limited warranty** is easier to handle and install, and is more water-resistant than other tile backer products.

The proprietary Dens-Shield design consists of a water-resistant coating and treated core penetrated front and back by inorganic glass mats. The integral glass mats make the product durable, dimensionally stable, and lightweight: Dens-Shield tile backer is over 33 percent lighter than Portland cement board and 83 percent lighter than 1" thick metal lath and cement plaster bed.

Tests for surface water absorption, vapor transmission, and wicking attest to Dens-Shield's superior water- and moisture-resistant characteristics. (See Properties Chart below for details.)

Dens-Shield tile backer is ideal for use in wall and ceiling applications in commercial and residential high-moisture areas such as baths, showers, laundries, swimming pool areas and locker rooms. Dens-Shield tile backer must be installed so that tile is applied on the coated gray side of the board. Dens-Shield is suitable for countertop and residential as well as light commercial floor tile* applications. Dens-Shield is not suitable for exterior applications.

Dens-Shield is intended for use in wall and ceiling applications. Do not use where there is prolonged exposure to temperatures exceeding 125° F and/or there is continuous exposure to extreme humidity, such as steam rooms, saunas, or fireplaces (radiant barriers). **Vapor retarders should never be installed directly behind Dens-Shield.**

Dens-Shield tile backer should not be used as a base for nailing or mechanical fastening. Dens-Shield should not be installed using staples or adhesives by themselves – use nails or screws alone or in combination with adhesive. With proper preparation, Dens-Shield is a suitable substrate for tile, paint, and wallpaper.

Dens-Shield assemblies achieve 1 and 2 hour fire ratings when tested in accordance with ASTM E 119.

Now available in 5/8" Dens-Shield Fireguard® - the only 5/8" fire rated tile backer for commercial applications.

Minimum bending radii is 12' for 1/2" Dens-Shield.

*Floor Grade Tile Sizes:

Residential - 2" x 2" or larger.

Light Commercial: 4" x 4" or larger.

**See complete warranty copy, available from Georgia-Pacific for terms, conditions & limitations.

DENS-SHIELD® PROPERTIES (ASTM C 1178)

Thickness, nominal, inches - 1/2"

Width, nominal, inches - 32, 48

Length, nominal, inches - 96

Weight, lbs./m sq. ft. - 2060

Flexural strength(1)

Across – lbs. - 137

Parallel – lbs. - 114

Surface water absorption

(Cobb test)(1) gr. - .58

(Percolation test)(2)

Vapor transmission, perms(3) - 2.1

Humidified deflection, in.(1) - 0

Nail pull resistance(1) - 90

Wicking resistance(4) 24 hours, inches - .00

1. ASTM C 73 test procedure
2. Meets ICBO test requirements
3. ASTM C 355, dry cup method

4. CTI – T83

Note: Values are based on tests conducted in accordance with ASTM C 473.

CODE COMPLIANCE

ICBO #4465 (See report for allowable values and/or conditions of use concerning material presented in this document.)

SBCCI #9045

BOCA #90-30

New York City: MEA 65-88-M

Los Angeles, CA: RR 24917

Wisconsin: DIHL-910014-S

DENS-SHIELD® ARCHITECTURAL SPECIFICATIONS

Section 09252 - Tile Backer Board

Part 1 - General

1.0 - DESCRIPTION

A. Work in this section includes, but is not limited to:

1. Backer board for ceramic tile installation on walls and ceilings.
2. Underlayment for ceramic tile installation on indoor floors.
3. Substrate for ceramic tile installation on countertops.

B. Related work specified elsewhere:

1. Rough carpentry.
2. Finish carpentry.
3. Ceramic tile.
4. Joint sealers (line difference).
5. Tile backer board.
6. Painting.

1.1 - Submittals:

A. Product data:

Submit manufacturer's descriptive literature indicating material composition, thickness, sizes and fire resistance.

B. Certificates:

Submit manufacturer's written certification that product meets specified requirements.

1.2 - Quality assurance:

A. Fire resistance ratings:

Where indicated, provide materials and construction which are identical to those of assemblies whose fire resistance ratings indicated.

B. Certification:

Certify that materials meets specified requirements and fire resistance ratings indicated.

1.3 - Delivery, Storage and Handling:

A. Delivery:

Deliver materials to the job site in manufacturer's original packaging, containers and bundles with manufacturer's brand name and identification intact and legible.

B. Storage and handling:

Store and handle materials to protect against contact with damp and wet surfaces, exposure to weather, breakage and damage to edges. Provide air circulation under covering and around stacks of materials.

1.4 - Limitations:

A. Apply tile only to gray side of Dens-Shield.

B. Do not use Dens-Shield where there is prolonged exposure to temperatures exceeding 125° F.

C. Do not use Dens-Shield where there is continuous exposure to extreme humidity, i.e. saunas, steam rooms and radiant barriers at fireplaces.

D. Do not install vapor retarders directly behind Dens-Shield.

E. Do not use Dens-Shield in conjunction with passive solar heat systems.

F. Do not use Dens-Shield panels as a base for nailing and mechanical fastening.

G. Do not use Dens-Shield in residential floor tile installation using tile having less than 2" x 2" face dimensions or in light commercial applications using tile having less than 4" x 4" face dimensions.

H. Do not use Dens-Shield in Wall or ceiling tile applications with tile larger than 3/8" x 14" x 14".

I. Do not apply Dens-Shield directly to concrete or masonry block. Framing or furring of wall is necessary.

Part 2 - Products

2.1 - Tile backer

A. Acceptable products:

1. Georgia-Pacific Corporation, 1/4" Dens-Shield.
2. Georgia-Pacific Corporation, 1/2" Dens-Shield
3. Georgia-Pacific Corporation, 5/8" Dens-Shield Fireguard®.

B. Characteristics:

1. Size:
 - a. 1/4" Dens-Shield: 1/4 thick by 4' 0" by 4' 0".
 - b. 1/2" Dens-Shield: 1/2 thick by 32" by 5' 0", 4' 0" by 5' 0" and 4' 0" by 8' 0".
 - c. 5/8" Dens-Shield Fireguard: 5/8" thick by 4' 0" by 8' 0".
2. Composition: Treated core conforming to C 1178 glass mat water resistant and inorganic gypsum board glass mats, both sides. The face side is surfaced with heat cured, copolymer water and vapor retardant coating.
3. Fire resistance, Dens-Shield Fireguard: Type X when tested in accordance with ASTM E 119.

2.2 - Accessories:

A. Trim:

Sheet steel zinc-coated by hot-dip process.

B. Wood framing:

Nails: 11 ga. galvanized nails with 7/16" head, hot dipped.
Screws: Type W or Type S, Hi-Lo, bugle head, rust resistant.

C. Metal framing:

Light gauge metal framing: Type S, Hi-Lo, bugle or water head, self-tapping, rust resistant.
Heavy gauge metal framing: Type S-12, bugle or water head, self-tapping, rust resistant.

2.3 - Joint treatment materials:

A. Joint tape:

1. Joint tape: 2" wide, 10 by 10 glass mesh tape, G-P Dens-Shield or comparable tape.
2. Reinforcing Fabric: Balanced, alkali-resistant open-weave glass fiber fabric, made from continuous multiend strands with tensile strength of not less than 120 lbs. and 140 lbs. in warp and fill directions, respectively, per ASTM D 1682 and complying with ASTM D 578, and of 4.30 oz/sq. yd. minimum weight:

B. Setting-type joint compound: untiled, nonwet areas. G-P Gypsum, Speed Set®

C. Tile setting material: mastic or organic adhesive ANSI A 136 dryset ANSI A 118.1, Latex Portland cement mortar ANSI A118.1, ANSI A 1184 only for floors specified.

2.4 - High humidity and wet area untiled finish system materials:

A. Acceptable manufacturers: Sto or Dryvit

Dryvit Systems: Genesis or comparable
Sto Industries: Flexyl or comparable

B. Ground coat:

Job-mixed formulation of Portland cement complying with ASTM C 150, Type I, white or natural color; and system manufacturer's standard polymer-based adhesive designed for use indicated.

C. Primer:

System manufacturer's standard primer.

D. Finish coat for high humidity areas:

System manufacturer's standard mixture, factory-mixed formulation of polymer emulsion admixture, colorfast mineral pigments, sound stone particles, and fillers.

E. Finish coat for wet areas: Water reducible epoxy coating system specified for wet areas.

Part 3 - Execution

3.0 - General:

- A.** Provide Dens-Shield where indicated on drawings using fastening systems specified.
- B.** Use maximum lengths possible to minimize number and of joints. Locate edge joints parallel to and located on framing. Stagger intermediate end joints of adjacent lengths of Dens-Shield. Attach Dens-Shield to framing with fasteners recommended by tile backer manufacturer, spaced 6" o.c. Butt ends and edges.
- C.** Locate control and expansion joints at same locations as substrate, and where required by finishes.
Expansion joints for tile and non-tile applications:
Walls - Expansion joints not to exceed every 30 lineal feet of continuous wall or as specified by designing authority.
Ceilings - Not to exceed every 30 feet of continuous ceiling surface without perimeter relief or a maximum of 900 sq. feet.
- Not to exceed every 50 feet of continuous ceiling surface with perimeter relief or a

maximum of 2500 sq. feet. - or, as specified by designing authority.

3.1 - Tile backer:

A. Wall and ceiling installations:

1. On walls, install Dens-Shield vertically or horizontally.
2. On ceilings, install Dens-Shield either parallel or perpendicular to framing.
3. Install tile backer in accordance with manufacturer's recommendations.

B. Residential floors:

Install Dens-Shield in accordance with manufacturer's recommendations and TCA "Handbook for Ceramic Tile Installation, Method F144."

C. Countertops:

Install Dens-Shield in accordance with manufacturer's recommendations and TCA "Handbook for Ceramic Tile Installation, Method C513."

D. Bathtubs:

Install Dens-Shield in accordance with manufacturer's recommendations and TCA "Handbook for Ceramic Tile Installation, Methods W244 and B412."

E. Showers:

Install Dens-Shield in accordance with manufacturer's recommendations and TCA "Handbook for Ceramic Tile Installation, Methods W244 and B415" for thin-set installation and mastic installation.

F. Finishing:

1. Substrate for tile:
Apply glass mesh joint tape over joints. Embed tape in setting material indicated for specified tile finishes. Allow joints to dry prior to installing tile systems. Fill joints in accordance with tile backer and tile manufacturer's recommendations.
2. Substrate for paint and wall coverings (untiled):
Apply glass mesh joint tape over joints. Embed tape in setting type joint compound over surface of the tile backer for smooth finish.
Apply skim coat of setting type joint compound over surface of tile backer for smooth finish.
3. Substrate for high humidity finish systems (untiled):
Apply 6" wide reinforcing fabric over joints. Embed fabric in ground coat. Skim coat tile backer surface for smooth finish with primer. Apply finish coat in accordance with finish coat manufacturer's instructions.
4. Substrate for wet area, water reducible epoxy coating finish (untiled):
Apply 6" wide reinforcing fabric over joints. Embed fabric in finishing compound compatible with epoxy coating system specified.

3.2 - Accessories:

Install accessories where indicated and in accordance with tile backer manufacturer's instructions.