

# 1/2" WONDERBOARD® CEMENT BACKERBOARD

- Excellent for places where tile meets carpet or cabinets
- Dimensionally stable — can be used in wet areas
- Perfect for floors, exterior decks or countertops
- Patented open-mesh edges for tapeless installation
- Lifetime Warranty
- Pre-printed dots for fastener spacing

## PRODUCT DESCRIPTION

1/2" (13 mm) WonderBoard is a glass-mesh reinforced cement backerboard. Remains stable while increasing in strength, even when exposed to continuous moisture, reducing potential damage from moisture penetration. Matches up with surrounding 1/2" (13 mm) drywall installations without the need to use shims or spacers on wall studs. Tapeless installation on open-mesh edges provides superior edge bond strength. Easy to score, snap, cutout and nail.

## USES

1/2" WonderBoard is designed for use as an interior or exterior substrate for ceramic tile, stone, slate, thin-brick veneers, stucco, E.I.F.S. or other similar surface systems.

## COMPOSITION

**Cementitious Backer Unit (CBU):** A nailable, screwable backerboard or underlayment panel which is composed of stable Portland cement, aggregates and reinforcements. WonderBoard has a significant ability to remain unaffected by prolonged exposure to moisture.

## MATERIALS & ACCESSORIES

**Bonding Materials:** A polymer-modified mortar meeting ANSI A118.4 such as FlexBond® Fortified Thin-Set Mortar should be used for the leveling bed and joint treatment. For installation of tile or stone, mortars meeting ANSI A118.1, A118.4 or A118.11 or a Type I ceramic tile adhesive meeting ANSI A136.1 can be used. Follow the installation recommendations for each mortar or adhesive. For best performance, a polymer-modified mortar is recommended.

**Fasteners:** Galvanized roofing nails, 1 1/2" (38 mm) long or SuperiorBilt® Cement Backerboard Screws (1 1/4" [32 mm] long). Nails should meet Federal Specification #FF-N105B/type 2 style 20, or equivalent.

## LIMITATIONS

- 1/2" WonderBoard should not be used as a structural load-bearing member.
- 1/2" WonderBoard is unaffected by water but it is not waterproof. If the area behind the backerboard must be kept dry, a moisture barrier or waterproof membrane such as RedGard® Waterproofing and Crack Prevention Membrane must be used.
- 1/2" WonderBoard should not be used on exterior surfaces where imposed wind loads exceed 30 lbs. per sq. ft. (1.46 kg /m<sup>2</sup>).
- Do not use drywall fiberglass tape.

## APPLICATIONS

### Interior Applications

**General:** All framing should comply with local building code requirements and be designed to provide support with a maximum allowable deflection of L/360 of the span under all intended loads. When setting dimensional stone larger than 12" x 12" (30 cm x 30 cm), contact Technical Support for recommendations regarding subfloor deflection requirements.

### Control Joints

Tiled surfaces exceeding 24' - 36' (7.3 m - 11 m) in a continuous plane or surfaces abutting a dissimilar structure should be protected from structural movement with control (expansion) joints. Location width and details of control joints should follow sound architectural practices. See TCA Handbook EJ171.

### Walls & Ceilings

**Wall Framing:** Edges of backerboard parallel to framing should be continuously supported. Studs above a shower floor should be either notched or furred to accommodate the thickness of the waterproof membrane or pan. The surround opening for a tub or precast shower receptor should not be more than 1/4" (6 mm) longer than unit to be installed.

**Ceiling Framing:** The complete ceiling assembly allowable deflection due to dead load should not exceed L/360 of the span. Framing members in ceiling should not exceed 16" (40.6 cm) o.c. The weight applied to the ceiling frame (including insulation, backerboard, bonding material and facing material) should not exceed 15 lbs. per sq. ft. (6.8 per 0.9 m<sup>2</sup>). The edges of backerboard parallel to framing should be continuously supported. Provide additional blocking when necessary to permit proper backerboard attachment.



**Installation:** Install backerboard, leaving a 1/8" - 3/16" (3 mm - 5 mm) space at all joints and corners. Stagger board joints with those of adjacent rows. Fasten backerboard every 8" (20.3 cm) o.c. in field and perimeter and within 1/2" - 2" (1.3 - 5 cm) of edges around backerboard perimeter. Where open mesh wrapped edges meet, fill the gap completely with bonding material. On all other joints and corners, prefill the gap with bonding material, then embed 2" (5 cm) wide alkali-resistant mesh tape and smooth material over joints and corners.

#### Floors

**Subfloor Requirements:** 5/8" (16 mm) exterior grade plywood or OSB panels (PRP-108) should be securely glued and fastened to floor joists. Floor joists framing should be spaced a maximum of 16" (40.6 cm) o.c. 3/4" (19 mm) exterior grade plywood or OSB subfloor framed with I-joists spaced a maximum of 19.2" (48.7 cm) o.c. or I-joists or truss system spaced a maximum of 24" (61 cm) o.c. are also acceptable. When setting dimensional stone larger than 12" x 12" (30 cm x 30 cm), a 3/4" (19 mm) subfloor must be used for all installations. All plywood or OSB subfloor sheets must be gapped 1/8" (3 mm).

**Installation:** Using a 1/4" (6 mm) square-notch trowel, apply a setting bed of latex-modified mortar to the subfloor or base. Immediately laminate 1/2" WonderBoard to subfloor base, leaving a 1/8" - 3/16" (3 - 5 mm) space between boards at all joints and corners. Stagger joints so they do not line up with underlying substrate joints. Fasten backerboard every 6" - 8" (15.2 - 20.3 cm) o.c. throughout board field and around all edges while setting bed mortar is still workable. Around perimeter of each board, locate fasteners within 1/2" - 2" (1.3 - 5 cm) of edge. Fill all joints and corners solid with latex-modified mortar. Taping of floor joints are not required.

#### Wood Counters

**Installation:** 3/4" (19 mm) exterior grade plywood should be securely fastened to the cabinet. Maximum variation in plywood surface should be no more than 1/8" in 10' (3.2 mm in 3 M) from the required plane. It is also recommended that the plywood be cut in a dot dash fashion with a circular saw. Apply a moisture barrier of 15 lb. roofing felt or 4 mil polyethylene film between plywood and WonderBoard. Secure WonderBoard with 3/4" (19 mm) galvanized roofing nails or SuperiorBilt Cement Backerboard Screws. Place fasteners every 6" - 8" (15.2 cm - 20.3 cm) throughout panel field and around perimeter. Fill all joints between panels with a polymer-modified thin-set mortar. Taping of joints is not required. All change of plane such as joints where counter tile and wall tile meet must be caulked with a flexible sealant.

#### Exterior Applications

**General:** All framing should comply with local building code requirements and be designed to provide support with a maximum allowable deflection of L/360 of the span under all intended live (including wind and rain) and dead loads.

**Control Joints:** Finished surfaces exceeding 12' - 16' (3.6 - 4.8 m) in a continuous plane or surfaces abutting a dissimilar structure should be protected from structural movement with control (expansion) joints. Location, width and details of control joints should be specified to local building code and specific application requirements. See TCA handbook EJ171.

#### Decks

**Subfloor Requirements:** Plywood should be securely glued and fastened to floor joists spaced a maximum of 16" (40.6 cm) o.c. Subfloor should be sloped at a minimum pitch of 1/4" (6 mm) per foot. The floor surface should be true to plane within 1/8" in 10' (3 mm in 30 M).

**Installation:** Using a 1/4" x 1/4" x 1/4" (6 mm x 6 mm x 6 mm) square-notch trowel, apply a setting bed of latex-modified mortar to the subfloor. Install 1/2" WonderBoard to subfloor, leaving a 1/8" - 3/16" (3 - 5 mm) space between boards at all joints and corners. Fasten backerboard every 6" - 8" (15 - 20 cm) o.c. throughout board field and around all edges while setting bed mortar is still workable. Around the perimeter of each board, locate fasteners within 1/2" - 2" (1.3 - 5 cm) of edge. Fill all joints and corners solid with polymer-modified mortar. Taping of floor joints is not required.

**Waterproof Membrane:** Apply RedGard Waterproofing and Crack Prevention Membrane to the entire surface of the WonderBoard, following membrane installation instructions.

#### Walls

**Framing:** Studs should be spaced a maximum of 16" (40 cm) o.c. (Edges/ends of backerboard parallel to framing should be continuously supported. Provide additional blocking when necessary to permit proper backerboard attachment.) Do not install backerboard directly over protrusions from stud plane such as heavy brackets or fastener heads.

**Moisture Barrier:** While 1/2" WonderBoard is unaffected by moisture, a moisture barrier must be installed to protect the wall cavity for wet area installations. Nail or staple 15 lb. roofing felt or 4 mil. Polyethylene sheeting to the studs.

**Installation:** Precut 1/2" WonderBoard panels and make necessary cutouts. Install backerboard leaving a 1/8" - 3/16" (3 - 5 mm) space at all joints and corners. Stagger board joints with those of adjacent rows. Fasten backerboard every 8" (20.3 cm) o.c. along studs. At all joints and corners prefill gap with polymer-modified mortar, then embed 2" (5 cm) alkali-resistant fiberglass mesh tape and smooth material over joint and corner. Any shelf, ledge or horizontal surface subjected to water exposure needs to have a slight downward slope for water run-off. These areas also require proper waterproofing. Apply RedGard according to directions.

**Installation of Tile or Natural Stone:** Installation of tile or similar material should comply with ANSI A108 standard specifications. See installation instructions on corresponding mortar data sheets.

#### WARRANTY

1/2" WonderBoard is part of the Custom Building Products' Lifetime Backerboard Systems Warranty For details, call Technical Services at 800-282-8786.

#### SAFETY

AVOID BREATHING SILICA DUST. This product when cut, drilled, or abraded produces dust containing Free Silica which may cause cancer or delayed lung injury (Silicosis) if inhaled. Work outdoors, in well ventilated area, or use mechanical ventilation. Please wear safety glasses and dust mask. If in dusty areas or where airborne dust exceeds PEL wear NIOSH/MSHA approved respirator. This product contains one or more chemicals known to the State of California to cause cancer. See Material Safety Data Sheet for detailed information.

#### ORDERING INFORMATION

ITEM CODE	SIZE
GCB60	36" x 60" x 1/2" (91 cm x 153 cm x 13 mm)
GCB96	36" x 96" x 1/2" (91 cm x 244 cm x 13 mm)

#### TECHNICAL DATA

Fire Resistance Ratings UL Rated Report No. 7L30 for floor protector and wall shield. One-hour rated — non-load-bearing WHI 6510381.01 7-10-91. Exceeds ANSI A118.9 specifications. CABO/NES Report NER #447.

	ASTM TEST	1/2" WONDERBOARD BACKERBOARD
Weight:		3 lbs. per sq. ft. (1.36 kg/m <sup>2</sup> )
Compression Indentation:	D 2394	<0.050 @ 2500 psi (175.8 kg/cm <sup>2</sup> )
Flexural Strength Wet/Dry:	C 947	>900 psi (62.9 kg/cm <sup>2</sup> )
Fastener Holding:	D 1037	>140 lb. (63.5 kg)
Linear Variation with Moisture Change:	D 1037	<.07%
Flame Spread Smoke Development:	E 84	0/0
Wind Load:	E 330	30 lbs. per sq. ft. (13.6 kg/m <sup>2</sup> )

