

Technical Guide and Installation Instructions



Manufacturer

Southern Cross Technologies
 3461 High Ridge Road
 Boynton Beach, FL 33426
 Information: 561.932.0300

Product Description

GreenEboard™: A building panel manufactured from a proprietary formula including Magnesium OxyChloride blends, perlite, reinforcing mesh, and recycled wood dust. Product contains no silica dust.

Uses

Product is suitable for use as a tile backer on countertops, walls and floors, where a durable, environmentally friendly installation is required.

Product can also be used as a wall board in limited applications, replacing products that are susceptible to the growth of mold and mildew. It is successfully used in homes for individuals with MCS (multiple chemical sensitivities).

Sizes

NOMINAL DIMENSIONS

Width	Length	Thickness	Weight
36"	60"	¼" (6 mil)	1.2 lbs/SF
48"	48"	¼" (6 mil)	1.2 lbs/SF
48"	96"	¼" (6 mil)	1.2 lbs/SF
36"	60"	½" (12 mil)	2.3 lbs/SF
48"	48"	½" (12 mil)	2.3 lbs/SF
48"	96"	½" (12 mil)	2.3 lbs/SF
48"	96"	1/8" (3 mil)	.60 lbs/SF

Property	Method		Result
Mold/Fungus	ASTM D3273	Best Rating	0
Flame	ASTM E84	Class 1 Class A	0
Smoke	ASTM E84	Class 1 Class A	0
Combustibility	BS EN1182	Class1A	0
Combustibility	ASTM E1354-09	Pass	Class 1 Class A*
Combustibility	CAN UL S135	Pass	Class1A*
Formaldehyde	EN120	0	0
Asbestos	NIOSH9002	0	0
Weight/SF	(nominal)	½"	2.3 lbs
		¼"	1.2 lbs
½" building panel characteristics	Standard	Result	
Squareness	CCMC 6.4.3	0 mm deviation	Requirement
Length Tolerance			≤ 2
Width Tolerance	CCMC 6.4.2	-3 -1	
Humidified Deflection	CAN/CSA-A82.20.3.M91	1 mm	
Flexural Strength, Wet	ASTM C947-89	3.14 MPa	
Thickness tolerance mm	CCMC 6.4.1	.6	± 3
Hardness, N	CAN3-0188.0-M78	2674 2483 2438	≤4
Max. Moisture Absorption	ASTM C 1185	27%/24 hrs 29%/48 hrs	
Fastener Pull Through	CAN/CSA-A82.20.3-M91	958	≤1.6
Fastener Lateral Resistance	ASTM D 1037-93	720 dry 558 wet 481 aged	≥2200
Humidified Deflection	CAN/CSA-A82.20.3-M91	1mm	
Impact-Fracture point	CCMC 5.1.2	5 ft.lb. load	≥320
Impact-Indentation	CCMC 5.1.2	.66 indentation dry	≥400
Impact-Indentation	CCMC 5.1.2	.71 indentation wet	≤4mm

INSTALLATION GUIDELINES

Materials Needed:

For tub and shower applications, apply ½" GreenEboard™ directly to studs, either over a vapor barrier, or use a surface applied waterproofing membrane.

Fastener Schedule:

Location	Structure	Type/Length	Spacing
Wall or Ceiling	Steel Framing	Corrosion resistant 1-1/4" bugle head tapping screw	6" O.C. on wall frame 6" O.C. on ceiling joist
Wall or Ceiling	Wood Framing	Corrosion resistant 1-1/4" bugle head, coarse thread, self-drilling screw	6" O.C. on wall frame 6" O.C. on ceiling joist
Wall or Ceiling	Wood Framing	Galvanized 7 d or 8 d framing nails	6" O.C. on wall frame 6" O.C. on ceiling joist
Floor Counter-top*	Wood Framing L/360 structural rating	Corrosion resistant 1-1/4" wallboard or backer screw, galvanized nail or wide crown staple	8" OC in both directions throughout field

*For Countertops, follow floor fastener spacing schedule using minimum 1" length screws or 5d galvanized nails.

Installing GreenEboard™ on Walls and Ceilings

For Walls and Ceilings which will be receiving a ceramic, porcelain, or stone tile finish, stud spacing shall be no more than 16" O.C. If ceiling joists are at 24" O.C. provide blocking between joists.

GreenEboard™ has a smooth face and a rough face. Apply with the rough face out for tile installation. If some area of GreenEboard™ will not be covered with tile, apply with the smooth face out. Adhesives and latex modified mortars will bond effectively with either face.

In wet locations, apply a vapor barrier over the framing members.

Measure and mark GreenEboard™ to fit the space to be covered. Using a straight edge or T square, score the board with a conventional utility knife. Snap the board along the cut, and then score the back side with the utility knife. Reverse snap if necessary.

Fasten GreenEboard™ with recommended fasteners as described in the fastener chart. Drive fastener heads flush with surface of board.

Fill all joints between boards and in corners with material to be used as adhesive. Embed 2" wide alkali resistant mesh joint tape in the adhesive or mortar over all joints. Allow joints to cure before applying tile.

Caulk joints at tub or shower edge with a mold-resistant caulk.

Installing GreenEboard™ on Floors

For the strongest installation, rated "Extra Heavy" under ASTM C-627, use ½" GreenEboard™. ¼" GreenEboard™ is suitable for use in residential bathrooms and kitchens where heavy equipment is not regularly moved across the floor.

For both ½" and ¼" GreenEboard™ follow the fastener schedule on the previous page. Fasteners should be no closer to the edge of GreenEboard™ than ¾" for floor installation.

Ensure plywood subfloor and floor structure is sound. Replace any loose, warped, uneven or damaged sections of floor. Use minimum 5/8" exterior grade plywood or 23/32" exterior grade OSB, complying with local building codes and ANSI A108.11.

Ensure that floor is clean, flat, and level. The floor must be engineered not to exceed the L/360 deflection criteria, including live and dead design loads for the specific joist spacing used. Review local building codes for specifications on structural strength of floors.

Spread with a ¼" x ¼" notched trowel a bed of firm mixed, latex modified, dry set mortar between sub-floor and GreenEboard™. (Mortar should comply with ANSI A118.1)

Score and snap GreenEboard™ to fit the installation space. Lay GreenEboard™ over mortar bed, staggering joints. Avoid placing GreenEboard joints directly over plywood joints. Leave ⅛" to ¼" gap at all perimeter edges.

Fasten GreenEboard following the fastener schedule for floor installation.

Fill completely all joints except perimeter with the same mortar used as the setting bed. Spread a 4 " wide bed of mortar over the joints and embed 2" wide alkali resistant fiberglass tape in the mortar. Allow mortar to dry before installing tile. Tile must be installed with latex modified mortar.

Installing GreenEboard™ on Countertops

Install minimum ½" exterior grade plywood or OSB board over cabinets. Provide blocking supports under joints and every 16". If using ¾" plywood, provide supports every 24".

For both ½" and ¼" GreenEboard™ follow the fastener schedule on the previous page. Fasteners should be no closer to the edge of GreenEboard™ than ¾" for countertop installation.

Spread with a ¼" x ¼" notched trowel a bed of firm mixed, latex modified mortar between plywood and GreenEboard™ OR use the same tile-setting adhesive to be used for the tile installation. (Mortar should comply with ANSI A118.1)

Score and snap GreenEboard™ to fit the installation space. Lay GreenEboard™ over mortar bed, staggering joints. Avoid placing GreenEboard joints directly over plywood joints. Leave ⅛" gap where countertop meets vertical surfaces.

Fasten GreenEboard following the fastener schedule for countertops.

Fill completely all joints except where countertop meets vertical surfaces with the same mortar used as the setting bed. Spread a 4 " wide bed of mortar or adhesive over the joints and embed 2" wide alkali resistant fiberglass tape. Allow mortar or adhesive to dry before installing tile.

INSTALLING GREENEBOARD AS A WALLBOARD

Tools Needed for installation:

- Utility knife with conventional blades
- Saber Saw with hardened blade for curves and cutouts
- 48" wallboard T square and/or other straightedge
- Electric screw driver with depth collar
- Dust mask
- Safety goggles or glasses meeting ANSI Z87.1 standard for construction

Tools needed for finishing:

- Mixing buckets for powder joint compound
- Mixing tools
- Standard joint compound application trowels and accessories
- Standard sanding tools

Installing GreenEboard™

Use fasteners appropriate for application:

- For steel studs, use Type "S" corrosion resistant self-tapping screws, minimum length 1-¼"
- For wood studs, use Type "W" bugle head corrosion resistant self-drilling screws, minimum length 1-⅝"

Apply screws at minimum spacing of 6" O.C. on edges and 8" O.C. in field of GreenEboard™

Screw heads should be slightly countersunk, providing space for a flush bed of joint compound to cover the screw head. Use depth gauge on electric screwdriver to control depth of countersink.

Joints between panels should be minimum ⅛" and maximum ¼".

Cutting GreenEboard™

Mark GreenEboard™ to be cut to fit when less than a full sheet is needed. Using the wall board square or other straightedge, score the GreenEboard™ with one firm pass of a utility blade.

Snap the GreenEboard™ along the cut, and back score to complete the cut.

For special curve cuts or cutouts, use a saber saw with a hardened blade. Support GreenEboard™ firmly when cutting with a saw. Provide adequate ventilation to prevent accumulation of airborne dust. GreenEboard™ dust is not toxic, but may be an irritant to eyes and mucous membranes. Use safety equipment to protect eyes and breathing passages.

Finishing GreenEboard™

GreenEboard™ is a permeable, or "breathing" material. To prevent excess moisture absorption during application of finishes, apply a low-VOC or zero-VOC penetrating sealer to GreenEboard™ before applying joint compounds or finishing plasters. This will prevent uneven drying.

Fill all joints between boards completely with a non-shrinking, quick drying joint filler. Allow to dry completely, then apply paper joint tape embedded in joint compound. Joint tape may be applied with quick drying or standard joint compound, or with earth plaster joint compounds.

If applying light texture or no texture, continue applying finish coats to the joints to achieve a smooth, flat surface throughout the installation. Sand lightly between coats. Because GreenEboard™ has no paper face, joint compounds can be feathered in, and sanding can be kept to a minimum.

If applying earth plasters, use manufacturer's instructions for application of these plasters.

Earth plasters may appear dry on the surface and still retain moisture underneath. Provide adequate ventilation and air movement to completely dry earth plasters before continuing construction process. Use moisture meters to determine when plaster is completely dry.

If painting, apply a primer and finish coat according to paint manufacturer's instructions.

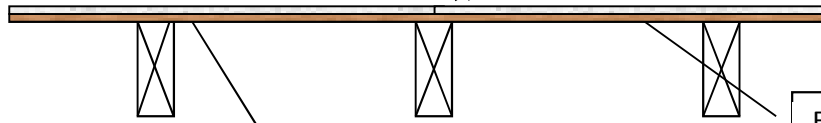
INSTALLATION DIAGRAMS FOR TILE INSTALLATION

Not to scale

FLOOR INSTALLATION

GreenEboard fastened over subfloor per instructions in this guide. Use latex modified mortar only. Install tile with latex modified mortar

Fill joints with mortar, embed 2" backer board mesh tape in mortar



Floor structure
Minimum L/360

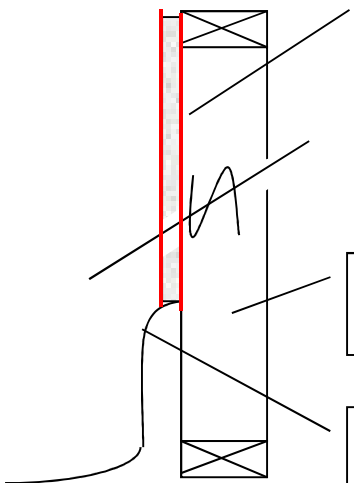
Embed
GreenEboard™ in
latex modified mortar

WALL INSTALLATION

GreenEboard™ applied per instructions, with vapor barrier behind or surface applied

Wood or steel
frame wall

Tub or Shower
ledge



COUNTERTOP INSTALLATION

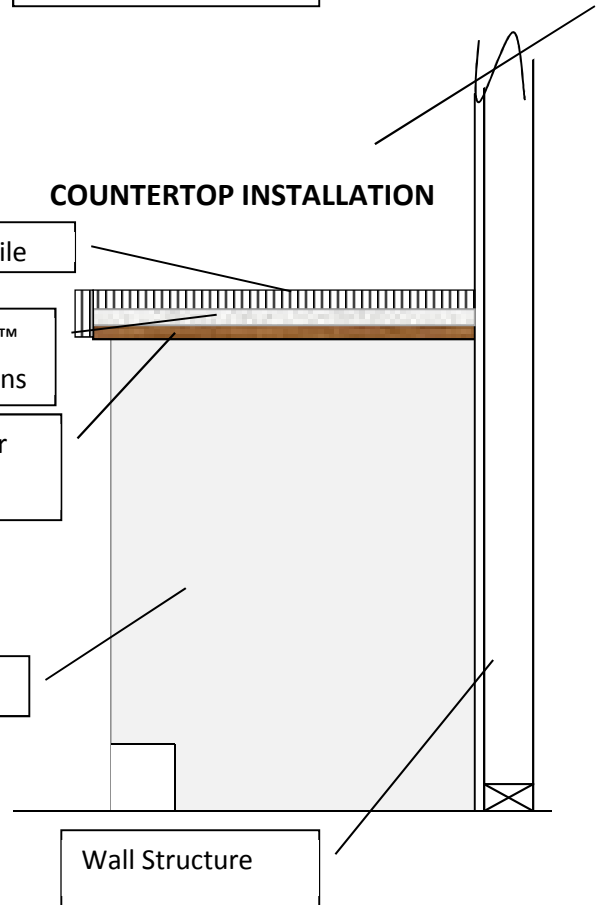
Countertop tile

GreenEboard™
per instructions

Plywood per
instructions

Cabinet

Wall Structure



SPECIAL APPLICATIONS

Exterior Stone and Tile Backer:

GreenEboard™ may be used as a tile and facing stone backer on exterior walls. The installation should not extend from the exposed wall surface through the grade line. If it is used at or below grade, a control joint must be installed between the materials above and below grade, and an exterior grade waterproofing membrane must be applied to fully cover all surface areas and exposed edges, and the membrane must extend 8" above the finish grade line. Follow the guidelines for installation as an interior wall tile backer. In exterior applications **only a surface applied waterproofing membrane will fully satisfy the warranty**. A vapor barrier behind GreenEboard™ is not warranted in exterior applications.

Tile Backer for Fireplace Inserts and Wood Stoves

ASTM C-518 method

R-value at 1" = 0.493 °F·ft²·h / Btu

K-value = 1 / R = 2.03 Btu / °F·ft²·h

GreenEboard™ is rated non-combustible and is suitable as a tile backer for fireplace inserts and wood stoves. Follow installation guidelines provided here for interior installation, and provided by the stove or insert manufacturer, and local building codes. Framing around fireplace inserts must be constructed to withstand the expansion and contraction of the appliance, and must be flat and true.

GreenEboard™ must not be fastened to the heat shield of the appliance. Control joints must be provided at the corners of the appliance.

GreenEboard™ is not recommended as a finish material behind wood stoves or around fireplaces. Porcelain tile, stone, or other non-combustible finish materials should be installed over GreenEboard™ in compliance with local building codes.

STORAGE AND HANDLING

GreenEboard™ may be stored indoors or outdoors. When storing outdoors, a waterproof cover is required. Store flat and level, on pallets that fully support the entire sheet. If GreenEboard™ is exposed to rain or snow, dry the sheets of material before installation.

GreenEboard™ contains no harmful toxins. However, all construction dust is an irritant to mucous membranes and eyes. Use proper dust protection equipment when cutting and fastening GreenEboard™. See the MSDS at <http://www.GreenEboard.com> for more details.

WARRANTY

GreenEboard™ has a transferrable warranty. Contractors should record and provide to building owners the purchase date and other pertinent information to obtain full warranty coverage. No other warranties, expressed or implied, apply to GreenEboard™. Improper handling or improper installation procedures will void the warranty. Details of the warranty may be found at <http://www.GreenEboard.com> and <http://www.GreenEboard.ca>