



SECTION 09252

CEMENTITIOUS BACKER BOARD

Display hidden notes to specifier by using "tools"/"options"/"view"/"hidden text".
**** NOTE TO SPECIFIER ** Smartboard Building Products Inc. cementitious backer board.**

This section based on products of Smartboard Building Products Inc., which is located at:

**615 Bowes Road, Unit 6
Concord, Ontario, Canada L4K 1J5
Tel: 905-761-1999
Fax: 905-761-7693
Email: info@smartbrd.com
Web: www.smartbrd.com**

We have designed Smartboard's unique formula to produce high quality with excellent handling characteristics, making our products the premier choice for new construction or renovation. Smartboard provides a superior alternative to wood-based construction products.

Smartboard is a light weight cementitious backer board designed for use in the construction of exterior and interior wall systems, as an underlayment for ceramic tile in wet or dry areas and for a wide variety of construction applications involving floors, walls, hearth protectors, countertops and any areas where extra protection or reinforcement is needed.

Made of 50% light weight waste by-products and recycled materials, alkali-resistant woven fiberglass mesh and other additives, Smartboard results in superior installed performance on wall systems. Our product is the best substrate for ceramic tile in wet areas - wood, plywood, particleboard and drywall underlayments deteriorate when exposed to water. Other applications include exterior cavity walls, roofing underlayment, and interior high-impact-resistant locations.

SECTION 09252 - CEMENTITIOUS BACKER BOARD, Copyright 2006, ARCAT, 1nc.

PART 1 PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Cementitious backer board, including attachment and joint treatment.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any section below not relevant to this project; add others as required.**

- A. Section 06100 - Rough Carpentry: Wood framing members.
- B. Section 09220 - Metal Support Systems: Steel framing members.
- C. Section 07130 - Sheet Waterproofing: Backer board in sheet waterproofing applications.
- D. Section 07270 - Air Barriers: Backer board in air and vapor barrier assemblies.

- E. Section 07500 - Membrane Roofing: Backer board in roofing assemblies.
- F. Section 07900 - Joint Sealants: Sealing shower receptors.
- G. Section 09300 - Tile: Tile and setting materials over board.

1.3 DESIGN LIMITATIONS

**** NOTE TO SPECIFIER ** Maximum allowable substrate system deflection, normal to plane of wall: L/360. Steel framing shall be G60 galvanized and be 20 gauge 0.027 inch (0.7 mm) minimum. Framing shall be spaced at 16 inches (400 mm) o.c. typical and 24 inch (610 mm) o.c. acceptable provided structural requirements are met.**

- A. Provide expansion and control joints in system where they exist in substrate, and where boards adjoin dissimilar construction or every 40 square feet of continuous surface area.

1.4 REFERENCES

**** NOTE TO SPECIFIER ** Delete reference below if board not attached to wood framing.**

- A. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 1999.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. [[[Product Data](#)]]: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials supplied by system manufacturer in original, unopened and undamaged packaging with legible manufacturer's identification and labels intact.

1.7 SITE CONDITIONS

- A. Maintain temperatures within range of 45 deg. F to 100 deg. F (7⁰ C to 38⁰ C).

- B. Provide adequate ventilation to carry away excess moisture.

**** NOTE TO SPECIFIER ** Delete paragraph below of board not attached to wood framing.**

- C. Wood framing shall be of moisture content as per service condition. Do not install wet cement backer board.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Smartboard™ Building Products Inc., which is located at: 615 Bowes Rd. Unit 6 ; Concord, ON, Canada L4K 1J5; Tel: 905-761-1999; Fax: 905-761-7693; Email: info@smartbrd.com; Web: www.smartbrd.com

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MATERIALS

- A. Cementitious Backer Board: Cement board, 1/2 inch (12.7 mm) thick by 48 inches (1200 mm) wide by 96 inches (2400 mm) long, . Board shall be made of 42 percent light weight waste by-products and recycled materials, alkali-resistant woven fiberglass mesh and other additives. Board size as follows:
- B. Tape for joint reinforcement: 3 inches (50 mm) wide alkali-resistant tape. Standard drywall tape is not allowed.
- C. Fasteners:

**** NOTE TO SPECIFIER ** Delete paragraph below if board only attached to wood framing.**

- 1. Screws; Steel Framing: Steel, Type S waferhead, 1-1/4 inch (32 mm), with corrosion inhibitor coating.

**** NOTE TO SPECIFIER ** Delete following paragraph if board only attached to steel framing. Delete one of the following paragraphs, unless option to left up to the contractor as to which to use.**

- 2. Screws; Wood Framing: Steel, waferhead, 2 inch (50 mm), corrosion resistant coated.

**** NOTE TO SPECIFIER **** When design walls, ceilings and floors for deflection the deflection shall not exceed L/360 of span including live and dead loads. Secure studs of free standing furred walls to the exterior wall with wall furring brackets, or brace laterally with horizontal studs or runners spaced 48 inches (220 mm) on center.

**** NOTE TO SPECIFIER **** Delete Paragraph below if not required. If board is installed as flooring underlayment, the subfloor shall be a minimum of 5/8 inch (15.5 mm) thick exterior grade plywood.

- D. Adhesive for Sub-Flooring: ASTM C 557: Multi-purpose adhesive.

**** NOTE TO SPECIFIER ** When preparing tile setting specifications coordinate the following setting and mortar materials: Ceramic Tile Adhesive: ANSI A136.1 Type 1. Latex Fortified Mortar: ANSI A118.4. Thin-Set Mortar: ANSI A118.1. Thin-set mortar (can be mixed with acrylic latex adhesive). Grout: ANSI A118.6 Latex fortified grout, commercial dry-set, mixed with acrylic latex grout adhesive.**

PART 3 EXECUTION

3.1 PREPARATION

- A. Substrate shall be of a type approved by Smartboard Building Products Inc.

- B. Substrate shall be dry and free of dust, dirt, and compatible with adhesive where applicable.
- C. Report unsatisfactory conditions to Contractor for correction by substrate installer before application of system.

3.2 PREPARATION

- A. Adhesive and Joint Compound: Remix as received from manufacturer prior to beginning application. Mix in accordance with package instructions.

3.3 EXTERIOR FRAMING

**** NOTE TO SPECIFIER ** Delete one of the following paragraphs as applicable.**

- A. Refer to Section 06100 - Rough Carpentry for wood support framing.
- B. Refer to Section 09220 - Metal Support Systems for metal support framing.
**** NOTE TO SPECIFIER ** Ensure that wood and steel framing for Smartboard is spaced a maximum of 16 inches (406 mm) o.c. For Exterior Insulation and Finish Systems (E.I.F.S.) a maximum of 24 inches (610 mm) o.c. Ensure that adequate diagonal bracing meets design requirements and is installed prior to application of boards. Lateral bracing of steel framed curtain walls is required prior to finishing exterior walls. Drywall or metal framing spaced a maximum of 48 inches (1.22 m) o.c. is acceptable. The studs of freestanding furred walls must be secured to exterior wall with wall furring brackets or laterally braced with horizontal studs or runners spaced 48 inches (1.22 m) o.c. maximum. Properly locate control joints and building control joints.**

3.4 SHEATHING INSTALLATION

- A. Use standard board construction practices such as staggering joints and L-cutting panels around openings.
**** NOTE TO SPECIFIER ** Delete one of the following paragraphs. First is for steel framing. Second is for wood framing**
- B. Steel Framing: Apply 1/2 inch (12.7 mm) by 4 feet (1.22 m) by 8 feet (2.44 m) board sheathing horizontally with face side out (Tapered edge out). Place edge up to prevent water penetration at joints. Use diagonal bracing where necessary. Space 1-1/4 inch 11-gauge galvanized screws 8 inches (203 mm) o.c. at each stud.
- C. Wood Framing: Apply 1/2 inch (12.7 mm) by 4 feet (1.22 m) by 8 feet (2.44 m) board sheathing vertically with face side out (Tapered edge out). Space screws 8 inches (203 mm) o.c. on framing members.
**** NOTE TO SPECIFIER ** Corner braces for exterior wood stud construction: When required ensure that 1 inch by 4 inches (25 by 102 mm) diagonal corner braces are installed at all external corners, recessed into face of studs, corner posts, sill and plates, or as required by applicable code prior to the application of the board. Corner braces for steel framing: When required ensure that steel strap bracing has been securely attached to the steel studs before the installation of the board.**

3.5 WATER BARRIER

**** NOTE TO SPECIFIER ** An approved water barrier should be installed over SmartBoard sheathing prior to exterior surfacing application in weeped and flashed systems. Consult SmartBoard and manufacturer of exterior surfacing system for recommendations.**

3.6 EXTERIOR SURFACING APPLICATION

**** NOTE TO SPECIFIER **** The following paragraphs are suggested methods of installing surfacing materials over the board. It is suggested that the applicable text be added to the specification sections dealing with the materials to be installed. Use the following paragraph for flexible stucco wall coating wood, vinyl or aluminum siding.

- A. Drive fasteners through sheathing and into studs for min. penetration of 1-1/4 inches (32 mm) into studs. Butt end joints of siding over centers of studs.

Flexible stucco wall coating. Consult SmartBoard for details on mesh adhesive, reinforcing fabric, base coat and texture coat application. Exterior Insulation and Finish System (E,I.F.S.) systems should follow manufactures directions.

Wood shingles. Apply treated or decay-resistant 3/8 inch (9.5 mm) by 1-5/8 inches (41.3 mm) lath strips to SmartBoard sheathing. Nail lath through sheathing with 8d nails penetrating into studs. Space shingles according to their intended exposure. Nail outer course of shingles to lath with small-headed, corrosion-resistant shank nails. Project butts of outer course 1/2 inch (13 mm) below lath.

Masonry veneer. Provide clear space of at least 1 inch (mm) between back of masonry and face of sheathing. Attach masonry ties to wood studs with nail driven through sheathing and into studs. Use nails penetrating at least 1-1/4 (32 mm) into studs (at least 6d common nails). Anchor brick with approved brick ties, screw-attached to each steel stud using 1-1/4 (32 mm) Type S-12 Pancake Head Corrosion-Resistant Screws. Anchor other masonry units to each stud in a similar manner, 16 Inches (400 mm) o.c. max, or as recommended by Brick institute of America.

Other exterior surfacing. Apply with mechanical fasteners through sheathing into the framing. Consult exterior surfacing manufacturer for other details.

**** NOTE TO SPECIFIER **** Delete paragraph below if board not used as flooring underlayment.

3.7 INTERIOR FLOOR APPLICATION

**** NOTE TO SPECIFIER **** Delete below if no board used for subflooring. Delete one of the two following paragraphs based on application with adhesive and nails, or application with screw nails. For subfloors, apply 1/4 inch (6.4 mm) of multi-purpose adhesive to center of top flange of joists. Place 5/8 inch (15.5 mm) exterior grade plywood sheets with long dimension across or parallel to wood or steel joists spaced 16 inches (400 mm) on center. Fasten plywood to wood joists with adhesive and suitable nails or screws spaced 12 inches (305 mm) on center. Fasten plywood to steel joists with S-12 screws placed 16 inches (400 mm) on center.

- A. Board Panel Application: Laminate 1/2 inch (12.8 mm) board to subfloor using ceramic tile adhesive, latex fortified mortar or thin-set mortar mixed with acrylic latex additive. Use 1/4 (6.4 mm) square-notched trowel for thin-set, 5/32 inch (4 mm) V-notched trowel for adhesive. Place board with joints staggered from subfloor joints, then fasten to subfloor with wood screws or galvanized roofing nails spaced 6 to 8 inches (152 to 203 mm) o.c., both length and width over the entire area, allowing 1/8 inch (3.2 mm) wide space between panels to be filled solid with dry-set or latex-portland cement mortar. Joints should be taped for best results.
- B. Board Panel Application: Place board with joints staggered from subfloor joints, then fasten to subfloor with screw nails spaced 8 inches (203 mm) o.c., both length and width over the entire area, allowing 1/8 inch (3.2 mm) wide space between panels to be filled solid with dry-set or latex-portland cement mortar. Joints should be taped for best results.

**** NOTE TO SPECIFIER **** Delete paragraph below if board not used as interior wall backing board.

3.8 INTERIOR WALL APPLICATION

**** NOTE TO SPECIFIER ** Wood and steel framing shall be spaced at a maximum of 16 inches (400 mm) on center. Delete reference to "wood" or "steel" in the following paragraph as applicable to the project.**

- A. Score and snap board from rough side to desired dimensions. If applying board over solid backing (ie. plaster, gypsum board or plywood), use fasteners of sufficient length to achieve typical penetration through backing to anchor into [wood] [steel] studs.

**** NOTE TO SPECIFIER ** Set tile in dry-set or latex-portland cement mortar or other approved setting materials.**

**** NOTE TO SPECIFIER ** Delete paragraph below if board not installed as perimeter of bathtub.**

3.9 BATHTUB WALL APPLICATION

**** NOTE TO SPECIFIER ** Install tub level, and support with metal hangers. The opening for the recessed tub is not to exceed 12.7 mm (1/2") more than the total length of the tub.**

- A. Pre-cut board to required sizes and make necessary cut-outs. Fit ends and edges closely but do not force together. Stagger end joints in successive courses.

**** NOTE TO SPECIFIER ** Delete one of the following paragraphs depending on project conditions. Ensure that studs are placed at a maximum spacing of 16 inches (400 mm).**

- B. Wood Studs: Fasten board to wood studs with 1-1/4 inches (32 mm) wood screws or 1-1/2inch (38 mm) galvanized nails spaced 8 inches (210 mm) on center.

- C. Metal Studs: Fasten board to steel studs with 32 mm (1-1/4") steel screws spaced 210 mm (8 inches) on center. In double layer walls where board is installed over base-layer gypsum board, use a water barrier over the gypsum board.

**** NOTE TO SPECIFIER ** Delete paragraph below if board not installed as perimeter of a shower.**

3.10 SHOWER RECEPTOR WALL APPLICATION

**** NOTE TO SPECIFIER ** Delete one of the following paragraphs depending on project conditions.**

- A. Steel studs: Fasten board to steel studs in a straight plane to within 1 inch (25 mm) of shower pan bottom or waterproof membrane. When using a molded or precast shower receptor, install so that the edge of the board sits on the lip of the receptor. Fur out steel studs with 1 inch (25 mm) or thicker furring strips, starting at least 5 inches (125 mm) above the high point of the shower floor. Fill the space between the edge of the board and the receptor with flexible sealant.

- B. Wood Studs: Fasten board to wood studs in a straight plane to within 1 inch (25 mm) of shower pan bottom or waterproof membrane. When using a molded or precast shower receptor, install so that the edge of the board sits on the lip of the receptor. When ceramic tile of the shower floor is to be installed, notch wood studs a minimum of 1 inch (25 mm) deep and at least 5 inches (125 mm) above the high point of the shower floor, to accommodate the required waterproof membrane.

**** NOTE TO SPECIFIER ** Delete paragraphs below if board not installed as a wall shield or hearth protector.**

3.11 SHIELDS/HEARTH PROTECTOR WALL APPLICATION

**** NOTE TO SPECIFIER ** Add the following to the Rough Carpentry Section: Attach a double layer of furring strips to wall framing with 2-1/4 inches (56 mm) wood screws or 2-1/2 inches mm (56) galvanized roofing nails.**

- A. Wall Shield Protector: Cut board wall shield to panel and furring strip sizes with scoring tool. Attach to wall framing with 2-1/2 inches (56 mm) galvanized roofing nails.

**** NOTE TO SPECIFIER ** Delete below if not applicable. Add the following to the Tile section: To a solid surface, apply 1/4 inch (6 mm) thick latex-fortified portland cement.**

- B. Floor Protector: Attach board with wood screws or galvanized roofing nails at 8 inches (210 mm) on center.

**** NOTE TO SPECIFIER ** Hearth Extension Designs: To use SmartBoard in Hearth Extension Designs, use guidance specified by local Building Code and the fireplace manufacturer.**

**** NOTE TO SPECIFIER ** Delete paragraphs below if board not installed as countertop underlayment.**

3.12 COUNTERTOP APPLICATION

**** NOTE TO SPECIFIER ** Add the following Statement to the Rough Carpentry Specification Section: Install 12.7 mm (1/2") minimum plywood across unit supports spaced at a minimum of 400 mm (16") on center.**

- A. Fasten Smartboard to plywood with galvanized fasteners spaced 4 inches (100 mm) on center in both directions and around edges.

**** NOTE TO SPECIFIER ** Delete below if board not installed under tile.**

3.13 JOINT TREATMENT

**** NOTE TO SPECIFIER ****

- A. Tiled Areas: Pre-fill all board panel joints and joints where board panels abut other panels or surfaces such as gypsum board, with tile setting mortar or adhesive. Immediately embed tape and level the joints.

**** NOTE TO SPECIFIER ** Delete paragraph below if board not carried above tile areas.**

- B. Non Tiled Areas: Seal board with thinned ceramic tile adhesive and embed joint tape over joints.

END OF SECTION