Standard Specification For

Installation of Smartboard™ Cement Board Panels For Roofs

SECTION 06100

1. GENERAL

1.01 SUMMARY OF WORK

1.01.1 Materials shall be Smartboard™ Cement Board as manufactured by Smartboard Building Products Inc., 615 Bowes Road, Unit 6, Concord, Ontario. L3K 1J5. Canada. and will be distributed by a Smartboard approved distributor.

1.01.2. All Smartboard™ cement boards shall be selected from the manufacturer's to carry the project live load design over a maximum of 24 inches on center support spacing while limiting deflection to a maximum of L/240 as determined by project architect & engineer.

1.01.3. Smartboard ™cement board to be of thickness 1/2" (12.7mm), 4'x8' (1220mm x 2440mm), and fabricated with tapered edges on both length and width dimension of panels.

1.01.4. Compliance with applicable building codes for wind, snow, seismic, uniformly distributed live-loads and other loading requirements shall be determined by the project architect and engineer.

1.01.5. Smartboard™cement board shall have the following minimum mechanical properties:

1. Density: ±75 lbs/ft3

2. Shear Strength: > 2000 psi

3. Tensile Strength (parallel to surface): > 1250 psi

4. Compressive Strength: > 3000 PSI

1.02 DESCRIPTION OF Smartboard™

1.02.1. Smartboard™cement board is a cement bonded board that is mechanically fastened to the top of roof framing members as a substrate.

1.03 PERFORMANCE REQUIREMENTS

1.03.1. Surface burning characteristics: Smartboard™ shall be Class A in accordance with ASTM E84 / UL 723 having achieved 0 flame spread and 0 smoke development indices in the UL sampled evaluation test.

1.03.2. Smartboard™ has passed the modified ASTM E136 for a minimum duration of ten minutes.

1.04 SUBMITTALS

1.04.1. Submit to the project architect or design professional a copy of Smartboard™ product and installation specifications and one product sample measuring 4” x 5” minimum.

1.05 QUALITY ASSURANCE

1.05.1. Contractor shall have successfully installed roof-sheathing products of a similar type as this project. These past projects shall have resulted in construction with a record of successful in-service performance.

1.05.2. At frequent intervals during construction, the job site will be visited by the owner’s representative, general contractor or construction manager to confirm that Smartboard™ is being installed per this specification.

1.06 DELIVERY, STORAGE, AND HANDLING

1.06.1. Smartboard™ as distributed by Smartboard approved distributor is normally delivered to site in factory pallets bound with plastic sheet protection, edge protection, and wooden pallet to facilitate forklift handling.

1.06.2. Smartboard™ shall be stored indoors on leveled area not exceeding 32” on centers. If temporarily stored outdoors boards must be elevated above ground and protected from the weather with waterproof covering. Stacking of pallets should always be on solid stable base and never be stacked higher than 5 pallets high. Acclimatize Smartboard™ by storing on site not less than three days prior to installation

1.06.3. All materials supplied by others shall be delivered and stored according to their instructions.

1.06.4. Deliver, store & handle materials to prevent breakage, warping or damage caused by moisture.

1. When transporting loose Smartboard™ panels by truck they must be laid flat and fully protected against edge damage and protected from weather with waterproof covering.

2. When hand carrying single Smartboard™ panels they must be carried on edge with the short side held vertically.

3. Damaged materials shall be removed from the premises.

4. Material Safety Data Sheets shall be available for all materials.

1.07 PROJECT CONDITIONS

1.07.1. Steel framing to receive Smartboard™ shall be structurally sound, free from bows, twists or other malformations and in general compliance with local building code requirements. Damaged framing shall be replaced before installation of Smartboard™panel.

1.07.2. During installation of Smartboard™ the temperature shall be at least 0º F during installation if mechanically fastened. If adhesive is being used temperature shall be at least 40º F and remain at this temperature or higher for at least 24 hours after installation, unless the adhesive manufacturer will permit the use of its product at a lower temperature. Finished roofing shall not be applied over Smartboard™ that is wet, frozen or contains frost. (Please refer to roofing manufacturer's placement requirements and specifications.)

1.08 SEQUENCE AND SCHEDULING

1.08.1. Sequence the installation of Smartboard™ with related work specified in other sections to ensure that the roof assemblies are protected against damage or abuse during and after construction.

1.08.2. Provide sufficient labor and equipment to properly install all materials.

1.09 PRODUCT WARRANTY

1.09.1. Smartboard™ is warranted by the manufacturer for a period of 20-years from date of material purchase to be free from defects in workmanship and materials under normal use. Refer to product warranty for complete terms.

2. PRODUCTS

2.01 MATERIALS

2.01.1. Roof Framing: Cold formed steel with minimum G-40 galvanized coating, minimum 20 gauge meeting AISI and ASTM specifications and requirements for use in a structural roof system. Follow steel framing manufacturer's installation instructions.

2.01.2. Roof Sheathing:

1. Adhesives: Use PEMCO 5100 non-flammable, solvent free, zero V.O.C., polyurethane adhesive. Available for purchase through Smartboard approved distributor. Follow manufacturer's installation instructions.

2. Fasteners: Use corrosion resistant self-countersinking head screws such as Grabber Part No. CHS8200JBW, or equal. Fasteners to be minimum #8 diameter with self-drilling points. Length of fastener to equal 2-1/2 times the board thickness. Available through purchase from approved Smartboard distributer.

3. EXECUTION

3.01 FRAMING

3.01.1. Roof trusses, joists and/or other roof framing components must be designed to meet the strength and deflection criteria as determined by project architect & engineer and specified in the contract documents.

3.01.3. Metal framing shall be spaced a maximum of 24" on centers.

3.01.4. All blocking or bridging must be installed prior to the installation of Smartboard™.

3.01.5. Framing must be of good quality, free of bows, twists or other malformations.

3.02 PANEL SHEATHING APPLICATION

3.02.1. Panels shall be cut to size with a circular saw equipped with cement cutting blade and a dry dust collection device or a water-dispensing device that limits the amount of airborne dust. Wear safety glasses and a NIOSH approved dust mask when cutting the panel. Collected dust shall be disposed in a safe manner and in compliance with local, provincial and federal ordinances.

3.02.2. Smartboard™ shall be installed with the long edges perpendicular to the framing. Panels may be installed with either surface against the framing.

3.02.3. Plan the layout so first and last panel rows are a minimum 24" wide. Place each panel across three or more supports. Cut panel to length as needed to ensure butt ends are centered on the framing member.

3.02.5 Fastener placement shall be a maximum of 12" on center along all supports at panel joints and edges.

3.02.6 Fastener placement shall be a maximum of 16" on center along all supports in the field of the panel.

3.02.7 Fastener placement shall be a minimum ¾” from all panel edges.

3.02.8 Fastener placement shall be a minimum 2” from all panel corners. Off-set fasteners to avoid 45 degree fastener placement at board corners.

3.02.9 Begin fastening at one end and fan out across the panel. Do not fasten all the corners first.

3.02.10 Drive fasteners so the heads are flush with the surface of the board.

3.02.11 After installing one complete row of panels begin the next row. Install all rows in a running bond pattern so that end joints fall over the center of the framing members and are staggered by at least two supports from where the end joints fall in the adjacent rows.

3.02.12 Cutouts in the panels should be made before installing the panel whenever possible. If a cutout is required after the panel is installed, set the depth of the saw blade to ensure that the framing is not scored. Continuous structural perimeter support such as blocking, bracing and bridging is required at all cutouts and/or penetrations larger than 4"in either direction.

3.03 CLEAN-UP

3.03.1. Left over material shall be removed from the job site.

3.03.2. Remove foreign material from roof surface, including dust.

3.04 SAFETY

3.04.1. Avoid concentrated point loads on Smartboard™ by referring to concentrated load tables and as determined by project architect & engineer. Pay close attention to stored building materials and/or equipment such as masonry units, hoists, framing members, sheet goods, ladders, scaffolding, etc.

3.04.2. Measures shall be taken to distribute concentrated and point loads on the deck system during construction such as the utilization of pallets, and/or structural building panels such as plywood or OSB laid over multiple spans.

3.04.3. Workers must take extra care to avoid impacts such as dropped masonry units, framing members, scrap material, tools, equipment, etc. Such impacts can cause deforming marks or even penetrations if dropped onto the sheathing surface of these panels and will need repair.

3.05 ROOF FINISH

3.05.1. Before the application of roof finish materials, ensure that all panels are properly installed with the fastener head driven flush or slightly below the surface of the panels. Fill all voids and depressions with compatible patching compounds.

3.05.2. Roofing underlayment(s) and accessories such as flashing, vents, etc. shall be installed in accordance with each manufacturer's installation instructions.

3.05.3. All materials coming into contact with Smartboard™, including finishes, fasteners, flashing, vents, clips, accessories, etc. must be compatible with Portland cement.

3.05.4 Weight of roof finishing products and accessories must be considered when designing your Smartboard™ application, as determined by an architect and/or engineer.

END OF SECTION