

## 1 GENERAL

### 1.1 GENERAL REQUIREMENTS

- .1 The General Conditions of the Contract as supplemented in Section 00810 [00 81 00], and the General Requirements of Division 1 form part of this section, and must be read in conjunction with the requirements of this section, and all related sections.

### 1.2 SECTION INCLUDES

- .1 Provide all labour, materials, and equipment, necessary for the supply and installation of Prefabricated Sheathing & Air/Vapour Barrier Panels including the following:
  - .1 Panel material,
  - .2 Fasteners,
  - .3 Joint tape,
  - .4 Transition membranes,
  - .5 Primers and sealants.

### 1.3 RELATED SECTIONS

- .1 Masonry Anchorage Section [04080] [04 08 00] [04200] [04 20 00]
- .2 Load-bearing Steel Stud Systems Section 05410[05 41 00]
- .3 Wood framing Section 06100[06 10 00]
- .4 Building Insulation Section 07210[07 21 00]
- .5 Exterior Insulation & Finish Systems Section 07240[07 24 00]
- .6 [\_\_\_] Siding Section [07410] [07 41 00]
- .7 Gypsum Board Assemblies Section [09250] [09 25 00] [09260] [09 26 00]

### 1.4 QUALITY ASSURANCE

- .1 Qualifications
  - .1 Installers shall have a minimum of [three] years documented experience in the installation of gypsum board sheathing, self-adhesive membrane bitumen and related products specified herein. Submit documentation to Consultant.
- .2 Pre-installation Meeting
  - .1 Convene a pre-installation meeting for the Products specified in this section. Attendees must include, as a minimum, representatives of the following:
    - .1 Contractor (Site Superintendent & Project Manager),
    - .2 Installation Subcontractors (Site Foreman & Project Manager),
    - .3 Product Manufacturers and/or Distributors (Technical Representatives),
    - .4 Related Subcontractors, and
    - .5 Consultant.

- .3 Mock-up
  - .1 Construct minimum <2440mm x 2440mm><<8'-0" x 8'-0">> mock-up of Prefabricated Sheathing & Air/Vapour Barrier Panels installed, for review by the Consultant. Installation shall include minimum 2 panels, fasteners, joint tape, and transition membrane.
  - .2 Mock-up shall remain in place for minimum [5][10] days. If approved by the Consultant, mock-up may become part of the completed Work. If rejected, remove mock-up panels and repeat mock-up procedure until approved.
- 1.5 SUBMITTALS
  - .1 Samples
    - .1 Submit samples in accordance with Section [01300].
    - .2 Submit duplicate <100 x 150mm><<4" x 6">> samples of Prefabricated Sheathing & Air/Vapour Barrier Panel, with specified core, for review by the Consultant.
- 1.6 DELIVERY, STORAGE, AND HANDLING
  - .1 Deliver material to site promptly without undue exposure to weather.
  - .2 Deliver materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade.
  - .3 Protect materials, and store above ground in dry, ventilated space away from exposure to weathering.
  - .4 Keep materials in heated storage at minimum <10°C><<50°F>> during winter. Keep material away from open flame or welding sparks. Remove from storage only as much material as can be used in a single working day.
- 1.7 WARRANTY
  - .1 Provide a written warranty certificate from the Product manufacturer, issued to the Owner, certifying that the specified products will conform to the physical properties listed herein, and remain free of defects in material or manufacture, for a period of five (5) years from Date of Substantial Performance.
  - .2 Provide a written warranty from the installation subcontractor, issued to the Owner, certifying that the Prefabricated Sheathing & Air/Vapour Barrier Panels have been installed and sealed in accordance with the

recent up 'day manufacturer's printed instructions, referenced standards, and these specifications, and that the installation work will stay in place, free of leakage for a period of five (5) years from Date of Substantial Performance.

## 2 PRODUCTS

### 2.1 ACCEPTABLE PRODUCTS

- .1 Assembly performance conform to A.S.T.M. E-96 : 0,08 Ng/Pa-S-M2 and ASTM E-283 : 0,022 L / sec. – m2, as VapAirB'ORD, from TopB'ORD Systems Inc, [www.topbord.com](http://www.topbord.com)

### 2.2 MATERIALS

- .1 Prefabricated Sheathing & Air/Vapour Barrier Panels: <1220mm><<48">> wide x <2440mm><<96">> long; VapAir B'ORD :

- .1 Core:

- .1 Type "TCG": treated gypsum board to ASTM-C79, with exterior grade paper facing; 13 mm (1/2 in.), 16 mm (5/8 in.) type X, thick.
- .2 Type "D": treated gypsum board to ASTM-C1177, with glass mat acing; <[13][16]mm><<[1/2"][5/8"]>> thick.
- .3 Type "FAT" treated gypsum / cellulose board to ASTM – C1278 . 13 – 16 mm ( 1/2" – 5/8 " ) thick.
- .4 Type "SPW" exterior grade, select quality, Douglas Fir Plywood (DFP) to CSA-O121, <16mm><<5/8">> thick.
- .5 Type "LC": Ultra lightweight concrete board: fibreglass-reinforced cement board to ANSI A118, using 40% recycle material.<12mm><<1/2">> thick.

- .2 Air/Vapour Barrier Membrane: <1.0mm><<40mils>> thick modified SBS bituminous membrane, factory heat welded, covered by a High Density Polyethylene (HDPE) fabric laminated with two High Density Polyethylene (HDPE) film layers;

- .1 Adhesion (to ASTM-D1876): <2,000 N/m><<1475 lbf>>.
- .2 Static Puncture Surface Resistance (to ASTM-D5602): <400N><<90 lbf>>.
- .3 Tear Resistance of Surface Film L/T (to ASTM-D5601): <375/400N><<84/90 lbf>>.
- .4 Water Absorption (Top surface) to ASTM-D5147: 0.1% Max.
- .5 Peel Resistance (to ASTM-D903): <1,200 N/m><<885 lb/ft>>.

- .6 Air Permeability (system assembly) at  $<75\text{Pa}><<1.566\text{ lbf/ft}^2>>$  to ASTM-E283:  $<0.022\text{ L/s.m}^2><<0.0001\text{ CFM/ft}^2>>$ .
- .7 Vapour Permeability (system assembly) to ASTM-E96 :  $<0.08\text{ Ng/Pa.s.m}^2><<0.0015\text{ Perm ( in - lb )}>>$ .
- .2 Bituminous Primer: primer composed of synthetic resins and bitumen, to supplement adhesion of self-adhesive tape to all surfaces; VapAir-Stick, by TopB'ORD Systems Inc;
  - .1 Specific gravity at 20C.; 0.79 kg/L
  - .2 Solid by weight; 20 %
  - .3 Viscosity Brookfield; 200 cP,25C.
- .3 Joint Tape & Transition Membranes: Self-adhesive SBS modified bitumen tape,  $<1\text{mm}><<40\text{ mils}>>$  thick, with inner face covered with siliconized sheet, top face covered with a HDPE fabric laminated with two HDPE film layers;  $<150\text{mm}><<6\text{''}>>$  minimum width for board joints;  $<[75][152][225][305][450][914]\text{mm}><<[3][6][9][12][18][36]\text{''}>>$  width of transition membranes (as required for width of surfaces to cover); VapAir-TAPE, by TopB'ORD Systems Inc.;
  - .1 Adhesion (to ASTM-D1876):  $<2,000\text{ N/m}><<1475\text{ lbf}>>$ .
  - .2 Static Puncture Surface Resistance (to ASTM-D5602):  $<400\text{N}><<90\text{ lbf}>>$ .
  - .3 Tear Resistance of Surface Film L/T (to ASTM-D5601):  $<375/400\text{N}><<84/90\text{ lbf}>>$ .
  - .4 Water Absorption (Top surface) to ASTM-D5147: 0.1% Max.
  - .5 Peel Resistance (to ASTM-D903):  $<1,200\text{ N/m}><<885\text{ lb/ft}>>$ .
  - .6 Air Permeability (installed) at  $<75\text{Pa}><<1.566\text{ lbf/ft}^2>>$  to ASTM-E283:  $<0.005\text{L/s.m}^2><<0.001\text{cfm/ft}^2>>$ .
  - .7 Water Vapour Permeability (to ASTM-E96):  $<0.01\text{ Ng/Pa.s.m}^2><<0.0002\text{ perms}>>$ .
- .4 Fasteners:  $<11.5\text{mm}><<0.45\text{''}>>$  flat head, zinc-treated, self-drilling screws; VapAir-SCREW, by TopB'ORD Systems Inc.
- .5 Waterproof Sealant: Bituminous modified synthetic rubber sealant, to CAN/CGSB-37.29 and ASTM-D4586; VapAir Mastic, by TopB'ORD Systems Inc.

### 3 EXECUTION

#### 3.1 EXAMINATION

- .1 Confirm that wall assembly framing system is completed.
- .2 Before commencing work, examine the framing system and indicate to the Consultant any conditions that would adversely affect the installation of the Prefabricated Sheathing & Air/Vapour Barrier Panels.
- .3 Commencement of work shall imply acceptance of substrate conditions.

#### 3.2 INSTALLATION

- .1 Do not apply materials during rain, snow, or other inclement weather conditions.
- .2 Install panels horizontally across structural support framing. Offset vertical joints by minimum <400mm><<16" >>. Butt panels tightly together, but do not over-force panels and potentially fracture a board.
- .3 Secure panels with specified screws at <200mm><<8" >> on centre around panel perimeter and at every <200mm><<8" >> on centre over all intermediate support framing. Drive head screws sufficiently on top film surface without smash in it.
- .4 Primer
  - .1 Wipe surfaces to be primed before applying VapAir-STICK primer ensuring that no dust or residue remains on the surface.
  - .2 Treat all joints surfaces on boards, and any areas where joint tape or transition membrane is to be used with specified primer at a rate of <0.30 liters/m<sup>2</sup>><<0.02 gal/ft<sup>2</sup>>>. Allow primer to dry to touch (tack-over). Use primer at ambient temperatures of <-10°C><<14°F >> and above.
- .5 Joint Treatments
  - .1 Commence joint tape application at bottom of panels, working up upward towards top of wall. Tape all horizontal joints continuously first, then tape vertical joints. Vertical taping shall be continuous and overlap horizontal taping. Seal joints within reasonable delay. Use appropriate tape grade depending on application temperature during installation.

- .2 Apply minimum <150mm><<6">> wide VapAir-TAPE over board joints. Remove protective paper from tape and press tape firmly into primed surface. Roll entire surface of tape using a hand roller to maximize adhesion.
  - .3 Repair holes, tears, and screw damage with primer and appropriate size tape required to repair damaged area. Tape shall extend a minimum of <75mm><<3">> in all directions from damaged area.
  - .4 Treat all wall penetrations through the VapAir B'ORD with VapAir-MASTIC sealant to maintain continuity of the air/vapour seal.
  - .6 Transition Membranes
    - .1 Provide VapAir-TAPE of appropriate width at perimeter of all openings in wall assemblies, between panel assembly and all adjacent building elements, to prevent air leakage and ensure continuity between air/vapour barrier and other building elements.
    - .2 Apply minimum <225mm><<9">> wide VapAir-TAPE over all transitions between panels and adjacent surfaces. Remove protective paper from tape and press tape firmly into primed surface. Roll entire surface of tape using a hand roller to maximize adhesion.
    - .3 Provide maximum width tape at areas where membrane is unsupported such as door and window perimeter, under beams, etc.
  - .7 Cover within seven days with insulation zone completed. Must be inspected and approved system installation before.
- 3.2 FIELD QUALITY CONTROL (OPTION)
- .1 [Thermographic Testing]
    - .1 Upon completion of the installation of the Prefabricated Sheathing & Air/Vapour Barrier Panels, perform a complete thermographic evaluation of the exterior sheathing and building envelope to identify any defects in the installation. Issue a complete report in the Owner's name, to the Consultant for review.
    - .2 Thermographic evaluation shall be performed by a company with at least three (3) years experience in performing such tests. If air-leakage is found in the surface tested, correct all deficiencies to the satisfaction of the Consultant, and have the surface re-tested.

**PROJECT NAME**  
**PROJECT NUMBER**  
**26/02/2006**

**PREFACBRICATED SHEATHING &  
AIR/VAPOUR BARRIER PANELS**  
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.2 The initial cost of inspections and testing shall be paid for by the Owner [from a cash allowance]. Subsequent re-testing shall be paid for by the Contractor.

**3.3 PROTECTION**

.1 Protect all top work at day's end, when rain is imminent, or where application will not continue for more than one day.

**END OF SECTION**