SECTION 07210

BUILDING INSULATION

PART 1 - GENERAL

1.01 SUMMARY

A. Provide building insulation where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

C. Codes: Materials and work shall conform to the governing Building Code. In case of conflict between these specifications, the standard specifications, and the Building Code, the more stringent shall govern.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Upon completion of this portion of the Work, complete and post a certificate of insulation compliance in accordance with pertinent requirements of governmental agencies having jurisdiction.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01600.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide the following building insulation where shown on the Drawings or otherwise needed to achieve the degree of insulation required under pertinent regulations of governmental agencies having jurisdiction.
   1. Thermal insulation: Owens-Corning Fiberglas Corp. Thermal Batts. Provide with foil facing and flanges one side.
      a. Material at exterior stud walls shall be R-19.
      b. Material at underside of roof sheathing shall be R-30.
   2. Provide Owens-Corning Fiberglas Corp. Sound Attenuation Batt Insulation, 3-1/2" thick, unfaced, at interior stud walls designated on drawings.
   3. Install with foil in direction and spacing as recommended by the manufacturer for the material and surfaces to which it is applied.

2.02 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

B. Remove, or protect against, projections in construction framing which may damage or prevent proper insulation.

3.02 INSTALLATION

A. Install the work of this Section in strict accordance with the original design, requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved by the Architect, anchoring all components firmly into position.

END OF SECTION - 07210

SECTION 07275

BREATHABLE UNDERLAYMENT

PART 1 - GENERAL

1.1 SUMMARY

A. This Section provides for the exterior wall, breathable underlayment.

B. Related Sections include the following:
   1. Section 07411: Section for Preformed Metal Siding.
   2. Section 09250: Section for Gypsum Wallboard Systems

1.2 REFERENCES

A. AATCC Test Method 127 - Water Resistance: Hydrostatic Pressure Test; 1998

B. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.

C. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials; Compliant with Procedure B (Water Method) for interior to exterior testing.

1.3 SUBMITTALS

A. Product Data: Include manufacturer's written instructions, technical data, and tested physical and performance properties of breathable underlayment.

B. Shop Drawings: Provide 1-1/2" scale drawings (or larger) showing relationship of underlayment to:
   1. Framing or blocking members.
   2. Girts.
   3. Thermal Insulation.
   4. Sheathing.
   5. All exterior cladding and corner conditions.
   6. Door or window frames.
      a. Sill pans.
   7. Through-Wall Metal Flashing.
   8. Structural Tieback Penetrations.
   9. Pipe, Conduit and Duct penetrations.
      a. Include actual manufactured "weather-heads."

C. Samples:
   1. 8-1/2-x-11-inch square of breathable underlayment sheet.
   2. Tapes (Single & Double-Sided).
   3. Factory fabricated window-opening corners.
   4. Provide materials and fasteners for mock-up.

D. Manufacturer's Instructions: Provide manufacturer's instructions showing the recommended procedures and sequence of installation of breathable underlayment in Rainscreen installations.

1.4 QUALITY ASSURANCE

A. Underlayment manufacturer shall have an on-going quality control program with inspections by a nationally recognized independent organization and shall be so labeled.

B. Source Limitations: Obtain all breathable underlayment through one source from a single manufacturer.

C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Coordination." Review requirements for underlayment, including surface preparation specified under other Sections, substrate condition and pretreatment, temporary weather protection, forecasted weather conditions, special details and sheet flashings, installation procedures, testing and inspection procedures, and protection and repairs.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original containers with seals unbroken, wrapped in a polythene sleeve, labeled with manufacturer's name, and product brand name.

B. Store rolls under cover, on a clean, level surface, either flat or upright.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the following products:
   1. Spun Bonded Polypropylene: Underlayment shall be furnished in standard rolls of 59" high (1-1/2 meters) and 164 feet (50 meters) long.
      a. WallShield™ by VaproShield™ L.L.C., distributed by W.H. Steele Co., phone (626) 303-3831. www.VaproShield.com
      b. Equal products of other manufacturers when approved in advance by the Architect.

2.2 UNDERLAYMENT PHYSICAL PROPERTIES

A. Thickness and Weight: 0.023 inches thick and 5.161 oz./ sq. yd.

B. Water Vapor Transmission: 212 perms per ASTM E 96-00, Method B (as tested by CNRC).

C. Water Penetration Resistance: 68 cm per ATTCC-127.

D. Surface Burning Characteristics: ASTM E 84-97A
   1. Flame Spread: Class A
   2. Smoke Developed: Class A

2.3 AUXILIARY MATERIALS

A. Underlayment Flashing Rolls: VaproFlashing and VaproFlashing Factory Formed Corners for use in wrapping openings, distributed by VaproShield L.L.C.
   1. Factory Formed Corners
      a. VaproFlashing Factory Formed Corners 18" x 18", distributed by VaproShield L.L.C
      b. Equal products by other manufacturers when approved in advance by the Architect.

2. Small Penetration Flashing
   a. As manufactured by Quick-Flash Inc., www.quickflashproducts.com
   b. Equal products by other manufacturers when approved in advance by the Architect.
3. Open Joint Flashing
   a. 6" Black flashing with no lettering is to be installed behind any open vertical or horizontal joint to hide the colored Wall Shield, and to increase the Ultra Violet protection through the Open Joint.

B. Tape
1. Single-Sided Tape:
   a. 3" VaproTape (Seam-Seal) for use to secure WallShield™ to itself and to substrates, distributed by VaproShield L.L.C. Manufactured by Eternabond. This Tape is available in Grey and Black.
   b. Equal products by other manufacturers when approved in advance by the Architect.
2. Double-Sided Sealing Tape
   a. 1" VaproTape (Double-Sided) for use to seal WallShield™ to itself and to substrates, distributed by VaproShield L.L.C. Manufactured by Eternabond.
   b. One-inch wide butyl rubber tape, subject to approval of the Architect.
   c. Equal products by other manufacturers when approved in advance by the Architect.

C. Fasteners
1. Fasteners: Minimum No. 12-gage corrosion-resistant steel or stainless steel nails having a minimum 3/8-inch diameter head, or minimum No. 14 gage [0.083-inch-shank-diameter corrosion-resistant steel or stainless steel nails having a 1-inch-diameter caps, or minimum No. 16 gage stainless steel staples having minimum 7/16-inch crowns.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements and other conditions affecting performance.

3.2 SURFACE PREPARATION

A. Clean and prepare substrate according to manufacturer's written recommendations. Provide clean, and dry substrate for breathable underlayment application.

3.3 PENETRATIONS

A. Pipes and Conduit: Install manufactured penetration sleeves sized for the penetration and installed as recommended by the manufacturer.

B. Windows, Doors and Open Joints:

1. Install the approved flashing, underlayment, preformed corners, and tapes in strict accordance with the manufacturer's recommendations as approved by the Architect.

3.4 BREATHABLE UNDERLAYMENT APPLICATION

A. Install membranes in accordance with manufacturer's instructions over exterior sheathing. Secure the underlayment so that the subsurface is protected from weather until cladding can be installed.

3.5 FIELD QUALITY CONTROL

A. Owner will engage an independent inspector to observe substrate and installation, per Section 01421. Inspector shall provide a written sign-off log on all penetrations before the underlayment is placed against them. Architect shall approve form of log before contract with inspection service is approved.

3.6 PROTECTING AND CLEANING

A. Protect installed breathable underlayment from damage due to harmful weather exposures, physical abuse, and other causes.
   1. Repair tom breathable underlayment as follows:
      a. Insert a full height piece of underlayment extending 12 inches horizontally beyond the damage and extend up and under the underlayment above. Mechanically attach underlayment to substrate top and bottom.

B. Remove mud and similar marks with a water scrub. If chemicals have been spilled on underlayment, treat as a tear and repair as stated above.

END OF SECTION - 07275