SECTION 07212
EXTRUDED POLYSTYRENE BOARD INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the general Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section.

1.2 SECTION INCLUDES:

A. Gypsum Underlayment System
B. Furred and Cavity Wall Masonry Wall
C. Exterior Sheathing System

1.3 REFERENCES

A. ASHRAE Handbook 2001
D. ASTM C578, Type IV - Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation
F. ASTM E96 – Test Methods for Water Vapor Transmission Rate of Materials
G. Florida Energy Efficiency Code for Building Construction (FEEC)
I. Florida Building Code.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver to the job site in the original manufacturer's wrapping or individual sheets clearly marked to identify contents.
B. Protect all material from exposure to direct sunlight using an opaque, light-colored tarp or the original manufacturer's packaging.
   1. Protect any unwrapped material using an opaque, light-colored tarp or packaging.
   2. Follow manufacturers requirements.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Install only when surfaces are dry and inclement weather is not prevalent.

1.6 WARRANTY

A. Provide written warranty from the manufacturer that the actual thermal resistance of the extruded polystyrene insulation will not vary by more than 10% from its published thermal resistance.
B. Warranty period is 15-years from the date of Substantial Completion.
PART 2 PRODUCTS

2.1 MATERIALS

A. Insulation: Rigid closed cell extruded polystyrene thermal board insulation conforming to the properties shown in the following table.

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST</th>
<th>@1” Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness: Refer to drawings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Value (F-ft-h/Btu)</td>
<td>ASTM C518</td>
<td>5.00</td>
</tr>
<tr>
<td>at 75°F Mean Temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at 40°F Mean Temperature</td>
<td></td>
<td>5.40</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>ASTM D1621</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>40/276</td>
</tr>
<tr>
<td>Minimum</td>
<td></td>
<td>30/207</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>ASTM C272</td>
<td>0.1%</td>
</tr>
<tr>
<td>Water Vapor Transmission Rate (perm)</td>
<td>ASTM E96</td>
<td>0.8/0.2</td>
</tr>
<tr>
<td>Fire characteristics</td>
<td>ASTM E84</td>
<td></td>
</tr>
<tr>
<td>Flame Spread</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Smoke Developed</td>
<td></td>
<td>60-200</td>
</tr>
<tr>
<td>Maximum Recommended Use Temperature</td>
<td></td>
<td>165/347</td>
</tr>
</tbody>
</table>

B. Vapor Retarder: Minimum 6 mil.

2.2 ADHESIVE

A. Adhesive: Type recommended by insulation manufacturer.

2.3 FASTENERS

A. Type as recommended by the insulation manufacturer.

PART 1 EXECUTION

3.1 EXAMINATION

A. Verify that substrate is flat, dry and free of honeycombs, fins, or foreign material that will impede adhesive bond or damage the insulation board.

B. Beginning of installation means installer accepts the existing conditions.

3.2 INSTALLATION-GYPSUM UNDERLAYMENT SYSTEM

A. Install vertically with seams located on studs using fasteners. Fasteners should be of sufficient length to penetrate the studs a minimum of ½”.

3.3 INSTALLATION-MASONRY WALL-FURRED

A. Attach to the masonry wall using a compatible adhesive, carefully following the manufacturer's installation instructions.

B. Use a compatible joint sealant or tape to seal all joints.
C. Attach metal furring strips or treated wood furring strips over insulation using common masonry fasteners which are long enough to penetrate the masonry wall a minimum of 1”.
D. Attach gypsum wallboard to the furring strips.

3.4 INSTALLATION-MASONRY WALL-CAVITY WALL

A. Install boards horizontally beginning at the bottom of the wythe.
B. Secure between joint reinforcement and the wall ties. Install subsequent courses with staggered joints.
C. Install the brick wall.

3.5 INSTALLATION-EXTERIOR SHEATHING-FRAME SYSTEM

A. Install diagonal corner bracing that complies with code requirements for racking resistance.
B. Apply insulation vertically with seams located on framing members using galvanized roofing nails or staples.
   1. Provide fasteners long enough to penetrate studs a minimum of ½” and space 6” o.c. around the perimeter and 12” o.c. at intermediate framing members.
   2. If using staples, apply with the crown parallel to the framing members.
   3. Do not overdrive nail heads or staples this will damage the insulation.

END OF SECTION