

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
- B. ASTM C272 – Standard Test Methods for Water Absorption of Core Materials for Structural Sandwich Construction
- C. ASTM C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- D. ASTM C578, Type IV - Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation
- E. ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- F. ASTM E96 – Test Methods for Water Vapor Transmission Rate of Materials
- G. Florida Energy Efficiency Code for Building Construction (FEEC)
- H. ASTM E84 - Surface Burning Characteristics of Building Materials.
- 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.

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

- 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