

SECTION 07 21 00
THERMAL INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Sections Includes: Provide Tru-R molded polystyrene foam insulation.

1.2 REFERENCES

- A. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. Third Party Documents. Manufacturer literature/technical data not acceptable for submittal:
 - 1. Third party inspection agency certificate demonstrating physical properties in compliance with ASTM C578 Type specified.
 - 2. Third party inspection agency certificate with flame spread and smoke developed indexes.
 - 3. UL evaluation report covering ASTM C578 Type specified.

Note to Specifier The following item is option. Coordinate with Section 2.1

- 4. UL evaluation report covering termite resistance in accordance with ICC-ES AC 239, Acceptance Criteria for Termite -Resistant Foam Plastics.

- B. 50-year R-value warranty.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain insulation through one source from a single manufacturer.
- B. Each insulation board must be labeled with manufacturer's name, product brand name, ASTM C578 Type, and identification of the third party inspection agency.

1.5 DELIVERY, STORAGE & HANDLING

- A. Deliver insulation labeled with ASTM C578 Type and R-value.
- B. Store in original unopened packaging above ground, and protected from moisture and sunlight prior to installation.
- C. Product should not be exposed to open flame or other ignition sources.

1.6 WARRANTY

- A. Provide 50-year R-value warranty.

PART 2 PRODUCTS

2.1 FOAM PLASTIC BOARD INSULATION

Note to Specifier Select one or more of the following Type paragraphs and delete those not required.

- A. Molded Polystyrene Foam Insulation: ASTM C578 Type, compressive strength and R-value indicated below and with flame spread index less than 25 and smoke developed index less than 450 per ASTM E84/UL723.
 - 1. Tru-R 100
 - a. ASTM C578 Type I
 - b. 10 psi Compressive Strength
 - c. R-value per inch of 3.9 at 75F and 4.2 at 40F
 - 2. Tru-R 130
 - a. ASTM C578 Type VIII
 - b. 13 psi Compressive Strength
 - c. R-value per inch of 3.9 at 75F and 4.3 at 40F
 - 3. Tru-R 150
 - a. ASTM C578 Type II
 - b. 15 psi Compressive Strength
 - c. R-value per inch of 4.2 at 75F and 4.6 at 40F
 - 4. Tru-R 250
 - a. ASTM C578 Type IX
 - b. 25 psi Compressive Strength
 - c. R-value per inch of 4.4 at 75F and 4.8 at 40F
 - 5. Tru-R 400
 - a. ASTM C578 Type XIV
 - b. 40 psi Compressive Strength
 - c. R-value per inch of 4.4 at 75F and 4.8 at 40F
 - 6. Tru-R 600
 - a. ASTM C578 Type XV
 - b. 60 psi Compressive Strength
 - c. R-value per inch of 4.5 at 75F and 4.9 at 40F

Note to Specifier Select the insulation board size.

7. Size
 - a. 4 foot by 8 foot.
 - b. 4 foot by 4 foot.
 - c. Custom sizes as indicated on drawings

Note to Specifier Select the R-value or thickness.

8. R-value or Thickness
 - a. R-value of [specify]
 - b. Thickness [specify] inch.
 - c. Thickness as indicated on drawings

Note to Specifier Optional, include this section for tapered insulation.

9. Tapered Insulation Thickness
 - a. Minimum Thickness of [specify]
 - b. Slope of [specify]
 - c. Average R-value of [specify]
 - d. Custom sizes as indicated on drawings

Note to Specifier Optional, include this section for termite resistant insulation. Coordinate with Section 1.3

10. Termite Resistance
 - a. Borate treatment
 - b. Compliance with ICC-ES AC239, Acceptance Criteria for Termite-Resistant Foam Plastics

2.2 MANUFACTURER

Note to Specifier Select the name and address of the local manufacturers.

- A. Thermal Foams, Inc., 2101 Kenmore Avenue, Buffalo, NY 14207
- B. Thermal Foams/Syracuse, Inc., 6173 South Bay Road, Cicero, NY 13039

PART 3 EXECUTION

3.1 INSTALLATION

- A. Installation: [Specify instructions to suit project requirements or applications].

END OF SECTION