SECTION 07 21 00

THERMAL INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Sections Includes: Provide R-Shield expanded 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. Expanded 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. R-Shield 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. R-Shield 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. R-Shield 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. R-Shield 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. R-Shield 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. R-Shield 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. Termite 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.

1. Big Sky Insulations, Inc. dba **Premier Building Systems**

15 Arden Dr, Belgrade, MT 59714. [rshieldinsulation.com](https://rshieldinsulation.com/)

PART 3 EXECUTION

3.1 INSTALLATION

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

END OF SECTION