

SECTION 072119 - FOAMED-IN-PLACE INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Closed-cell spray polyurethane foam.
 - 2. Intumescent coating.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product including:
 - 1. Preparation instructions and recommendations
 - 2. Storage and handling requirements and recommendations
 - 3. Installation methods
 - 4. Appropriate Fire Resistance Assembly approval per Type Building Construction and Wall design (NFPA 285, ASTM E119, UL 263).

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Evaluation Reports: For spray-applied polyurethane foam-plastic insulation, from an independent product code evaluation agency certifying appropriate code compliance for the specified building application, **ICC-ES**.
- C. Product Test Reports: For each product, for tests performed by a qualified testing agency to demonstrate compliance with applicable building code requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A spray foam contractor who is an authorized representative trained and approved by manufacturer.

PART 2 - PRODUCTS

2.1 CLOSED-CELL SPRAY POLYURETHANE FOAM

- A. Closed-Cell Spray Polyurethane Foam: Spray applied polyurethane foam insulation using HFC as the blowing agent.

1. Basis-of-Design Product: Subject to compliance with requirements, provide SWD Urethane Company; 'Quick-Shield 112' or a comparable product by one of the following:
 - a. Gaco Western LLC.
 - b. Volatile Free, Inc.
2. Physical Properties:
 - a. Core Density: 2.0 lbs/cu. ft. (32.0 kg/cu. m) when tested in accordance with ASTM D 1622.
 - b. Compressive Strength: 25 psi (172 kPa) minimum when tested in accordance with ASTM D1621.
 - c. Water Vapor Transmission: Less than or equal to 0.93 perms at 1.2 inch 0.61metric perms at 30 mm) thick when tested in accordance with ASTM E 96.
 - d. Closed Cell Content: Greater than 96 percent when tested in accordance with ASTM D 6226.
 - e. Air Leakage: Infiltration/exfiltration, report foam thickness for air permeance equal to or less than 0.02 L/s/sq. m. at 75 Pa (0.04 cfm/min at 1.57 psf) tested in accordance with ASTM E 2178.
 - f. Water Resistance: No Failure when tested in accordance with AATCC 127 and ASTM E 331.
3. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less at 4 inch (102 mm) thickness.
 - b. Smoke-Developed Index: 450 or less at 4 inch (102 mm) thickness.
4. R-Value: R-Value when tested in accordance with ASTM C 518.
 - a. R-Value: 6.6 or greater at 1 inch (25 mm) average thickness.
 - b. R-Value: 22 or greater at 3-1/2 inches (89 mm) average thickness.

2.2 INTUMESCENT COATING

- A. Coating as required for specified application thickness, and as part of a tested assembly in accordance with NFPA 286.
 1. Basis-of-Design Product: International Fireproof Technology Inc.; 'DC315 Intumescent Coating'.

2.3 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by insulation manufacturer where required for adhesion of insulation to substrates.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify that substrates are clean, dry, and free of substances that may inhibit the adhesion of the foam material. Verify dryness of questionable substrates with MDP strips.
- B. Mask off areas not receiving spray foam with masking material appropriate for application.
- C. Verify all wall or decking penetrations have been completed by other trades.

- D. Cordon off the spray zone with appropriate signage and zoning materials to prevent entry by other trade personnel not wearing appropriate personal protective equipment (PPE).
- E. Set up and maintain appropriate air flow ventilation as dictated by the manufacturer or current industry standards.
- F. Priming: Prime substrates where recommended by insulation manufacturer. Apply primer to comply with insulation manufacturer's written instructions. Confine primers to areas to be insulated; do not allow spillage or migration onto adjoining surfaces.

3.2 INSTALLATION

- A. Comply with insulation manufacturer's written instructions applicable to products and applications.
- B. Spray insulation to envelop entire area to be insulated and fill voids.
- C. Apply in multiple passes to not exceed maximum thicknesses recommended by manufacturer. Do not spray into rising foam.
- D. Framed Construction: Install into cavities formed by framing members to achieve thickness indicated on Drawings.
- E. Miscellaneous Voids: Apply according to manufacturer's written instructions.
- F. Remove excess foam from framing members or areas that inhibit the installation of wall coverings.

3.3 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.
- B. Touch-up, repair damaged foam or remove and replace defective foam as needed to meet requirements.

END OF SECTION 072119