

## **DIVISION 7 – THERMAL AND MOISTURE PROTECTION**

### **SECTION 07210**

#### **BUILDING INSULATION**

##### **PART 1: GENERAL**

###### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.
- B. Related Sections:
  - 1. 01001 - Basic Requirements

###### **1.02 SECTION INCLUDES**

- A. Sprayed Polyurethane Foam (SPF) for exterior walls.
- B. Sprayed Polyurethane Foam (SPF) for attic spaces.
- C. Sprayed Polyurethane Foam (SPF) for Interior Walls Indicated on Plans to have insulation.
- D. Intumescent Paint Ignition Barrier.
- E. Thermal Barrier tested with system applied.

##### **PART 2: PRODUCTS**

###### **2.01 INSULATION MATERIALS**

- A. Insulation Manufacturers: Equal to DEMILEC (USA) LLC, Arlington, TX – *SEALECTION 500*
  - 1. Sprayed Polyurethane Foam (SPF): Class 1 surface spread of flame rating. Open cell foam with core density of .4 to 1.2 pounds per sq. ft.. R-Values from 3.5 to 3.6 per inch. Required R Value for exterior walls and roof is R-21 Min..
  - 2. All foam insulation shall have an ignition barrier and a thermal barrier protecting it according to IBC building guidelines. Protection may be applied as follows:
    - a. Gypsum board finish (Concealed spaces)
    - b. Intumescent Paint Coating and thermal barrier (Exposed spaces)

###### **2.02 INTUMESCENT PAINT IGNITION BARRIER**

- A. An Intumescent Paint Ignition Barrier shall be applied to all exposed foam areas in walls, attics, & crawlspaces, etc.
  - 1. Apply according to manufactures instructions. Protect area from moisture and high humidity during the entire application and drying period, until it has completely dried and has been coated with any subsequent materials. Ambient air and surface temperatures must not be less than 50 degrees F (10 degrees C). Heat and moisture control may be required to maintain acceptable conditions.
  - 2. Do not apply any materials that have been frozen or have come into contact with contaminants prior to use.
  - 3. All surfaces to be coated must be clean, cured, firm, dry and free of dust, dirt, oil, wax, grease, mildew, loose flaking paint or other foreign matter that would impair bond of the intumescent coating.
  - 4. Manufacturers:
    - a. Flame Seal Products, Inc. 'Flame Seal' (TB)
    - b. TPR2, Corp. 'Fire Shell' (F10E)
    - c. Flame Control Systems, LLC (50-50A)

- d. International Fire Resistant Systems, Inc. 'Fire Free' (88)

PART 3: EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Verify that substrate, adjacent materials, and insulation boards are dry and ready to receive insulation and adhesive.

3.02 INSTALLATION

- A. Install insulation in accordance with insulation manufacturer's instructions.
- B. Install in exterior walls and ceiling spaces without gaps or voids.
- C. Fit insulation tight in spaces. Leave no gaps or voids.

3.03 SCHEDULES

- A. Interior Walls: Open Cell Spray foam minimum of 3.5 inches expandable foam between studs for mechanical room walls, offices, toilet rooms and all other walls as shown on plans. Sprayed Polyurethane Foam (SPF). R value to equal (R3.5 per inch X 3.5 inches = Total R-12). Extend walls of mechanical rooms up to bottom chord of roof trusses.
- B. Exterior Brick Veneer Walls: Spray minimum of 6 inches expandable Open Cell foam between studs. Sprayed Polyurethane Foam (SPF). R value to equal (R3.5 per inch X 6 inches = Total R-21)
- C. Attic Space: Spray minimum of 8 inches expandable Open Cell foam between top chord of wood trusses and roof deck. Sprayed Polyurethane Foam (SPF). R value to equal (R3.5 per inch X 8 inches = Total R-28) Apply ignition barrier and thermal barrier coating over all exposed insulation
- D. Insulation and insulation assemblies shall meet the requirements of Section 719, Standard Building Code, 1997 Edition.
1. Concealed insulation shall have a flame spread of 0-75 and a smoke developed of 0-450 except that in combustible (wood frame) construction, facing may comply with SBC 719.2.2.
  2. Exposed insulation shall have a flame spread of 0-25 and a smoke developed of 0-450.

END OF SECTION – 07210