SECTION  – sprayed acoustic insulation

1. General
   1. SUMMARY

SPEC NOTE: Edit the following to reflect what is required on the Project. Delete paragraphs that are not required on this Project.

* + 1. Provide all labor, materials, and equipment necessary to provide a complete installed application of sprayed thermal insulation applied to the following areas:
       1. Acoustic Spray Insulation.
       2. Acoustic Spray Insulation overtop of Fireproofing.
  1. REFERENCE STANDARDS
     1. Underwriters Laboratories of Canada (ULC):
        1. CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of building Materials and Assemblies.
     2. American Society for Testing and Materials (ASTM):
        1. ASTM E136-19, Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 deg C.
  2. Administrative Requirements
     1. Coordination: Coordinate the Work of this Section with the installation of applied fireproofing; Sequence work so that installation of acoustic spray insulating coincides with installation of applied fireproofing, mechanical and electrical services, and adjacent ceiling systems, without causing delay to the Work.
     2. Pre-Installation Conference: Conduct on site pre-installation conference in accordance with Section 01 31 19 – Project Meetings, before installing acoustic spray insulation to:
        1. Review methods and procedures related to installation, including manufacturer's written instructions.
        2. Examine substrate conditions for compliance with manufacturers installation requirements.
        3. Review temporary protection measures required during and after installation.
  3. SUBMITTALS
     1. Provide required information in accordance with Section 01 33 00 – Submittal Procedures.
     2. Action Submittals: Provide the following submittals before starting any work of this Section:
        1. Provide samples, minimum 305mm x 305mm (12” x 12”) of acoustic spray insulation bonded to a piece of rigid board.
        2. Manufacturers Literature: Copies of the manufacturer's literature, clearly indicating conditions of acceptance and methods of applications shall be available on site before, and during, period of application of Work of this Section.
        3. Safety Data Sheets: Submit WHMIS safety data sheets for inclusion with project record documents. Keep one copy of WHMIS safety data sheets on site for reference by workers.
        4. Maintenance Instructions: On completion of work of this section, supply maintenance instructions for insertion into the Operating and Maintenance Manual.
  4. Project Closeout Submissions
     1. Operation and Maintenance Data: Submit manufacturer’s written instructions for cleaning solutions, materials and procedures, include name of original installer and contact information in accordance with Section 01 33 00 – Submittal Procedures.
  5. QUALITY ASSURANCE
     1. Qualifications: Provide proof of qualifications when requested by Consultant:
        1. Manufacturer: Having a minimum of five (5) years experience with projects of similar extent and complexity.
        2. Installer: Use installers having experience with projects of similar extent and complexity and that have experience laminating film to glass on site for a minimum of five (5) years.
  6. Mock-ups
     1. Provide required Sample Installation in accordance with Section 01 45 00 – Quality Control.
     2. Sample Installation: Install a sample on site using materials representative of the actual materials being installed:
        1. Sample will be reviewed by the Consultant; Acceptable installation shall form a permanent part of the Work and will form the basis for acceptance for the remainder of the project.
        2. Remove and replace materials found not acceptable at no cost to Owner or Consultant.
  7. DELIVERY, STORAGE AND HANDLING
     1. Delivery and Acceptance Requirements: Deliver and store packaged materials in their original containers with manufacturer's labels and seals intact.
     2. Store as recommended by manufacturer in a weatherproof enclosure.
  8. Site Conditions
     1. Ambient Conditions: Proceed with installation when ambient and substrate temperature conditions are within limits permitted by manufacturer.
     2. Sufficient heat and ventilation must be provided at all times during installation and drying of spray insulation according to manufacturer’s printed instructions.
     3. Provide safe and adequate equipment on the site to execute the work of this section, including scaffolding, staging, hoisting, safety protection equipment, tools, plant, and other equipment required for the completion of the work of this section.
  9. PATCHING
     1. All patching and repairing of sprayed thermal insulation due to cutting by other trades shall be performed under this Section and paid for by the trade performing the cutting.
  10. PROTECTION
      1. Provide adequate protection to adjacent surfaces from being sprayed by means of drop cloths, polyethylene sheets, with necessary taping.
      2. Close off and seal any ductwork in areas where sprayed insulation is being applied.
  11. WARRANTY
      1. Warrant work of this section against any defects in materials and workmanship in accordance with the General Conditions but for an extended period of five (5) years and agree to promptly and without cost to Owner make good defects which become evident during warranty period.
      2. Without restricting the generality of the warranty, defects shall include delamination to substrate / applied fireproofing, and discolouration of finishes.

1. Products
   1. manufacturers
      1. Basis-of-Design products are named in this Section; additional manufacturers offering similar acoustic spray insulation systems may be incorporated into the work provided they meet the performance requirements established by the named products.
      2. Acceptable Materials Manufacturers: Subject to compliance with requirements specified in this Section and as established by the Basis-of-Design Materials, manufacturers offering products that may be incorporated into the Work include but are not limited to, the following:
         1. Monoglass Incorporated.
         2. International Cellulose Corporation.
   2. materials
      1. Spray-Applied Materials: Conforming to CAN/ULC S102-18 and ASTM E136 using manufacturers recommended liquid bonding adhesive.
         1. Thermal /acoustic insulation shall not contain asbestos, free crystalline silica or combustible fibers.
         2. Bonding Adhesive: Mixed with fresh, clean water to the exact proportions recommended by the manufacturer to ensure compatibility.
            1. Cohesion/Adhesion - Bond Strength Bond Strength >100psf

SPEC NOTE: Edit the following paragraph to reflect either the location of the colour and texture or identify what the colour and texture is.

* + - 1. Colour and Texture: [As selected by the Consultant from the manufacturers standard product line] [As indicated in Section 09 06 05 – Product and Finish Schedule].
      2. Acoustic spray insulation shall exhibit the minimum following properties:

|  |  |  |
| --- | --- | --- |
| **PROPERTY** | **TEST METHOD** | **RESULTS** |
| Fire Hazard Classification | CAN/ULC S102-10 | Flame Spread = 0 Smoke Developed = 0 |
| Air Erosion | ASTM E859 | 0.11 gram mass loss |
| Dry Density | ASTM D-1622-83 | 3.0 pounds/cubic foot |
| Thermal Conductivity | ASTM C-518 | R-Value 3.73/inch |
| Noise Reduction Coefficient | ASTM C-423 | NRC = 1.00 @ 1.7” on solid backing  NRC = 0.75 @ 0.8” on solid backing |

SPEC NOTE: Edit the following paragraph to reflect what is needed on the Project. Delete the material that is not required on the Project.

* + - 1. Basis of Design Materials – Acoustic Spray Insulation onto Substrate:
         1. SONOGLASS Acoustical Treatment by Monoglass Incorporated.
         2. K-13 Spray-On-Systems by International Cellulose Corporation.
      2. Basis of Design Materials – Acoustic Spray Insulation over Fireproofing:
         1. MONOGLASS Spray-On Insulation by Monoglass Incorporated.
         2. K-13 Spray-On-Systems by International Cellulose Corporation.

1. Execution
   1. Examination
      1. Examine all surfaces and conditions to which the work of this section is to be applied.
      2. Ensure they are adequate to provide a satisfactory application of the specified materials.
      3. Report any deficiencies to the Consultant prior to starting any work of this Section.
   2. PREPARATION
      1. Remove any dust, dirt, foreign material, loose paint etc. on surfaces to which the work is to be applied, which could otherwise create a false bond or staining of insulation. Clean and seal as required.
      2. Verify bond requirements and compatibility of all surfaces to receive thermal insulation materials.
      3. Ensure that all ducts, piping, equipment, or other items, which would interfere with application of acoustic spray insulation, are installed prior to acoustic spray insulation is started.
   3. APPLICATION
      1. Mix and apply acoustic spray insulation in strict accordance with manufacturer's recommendations.
      2. Apply acoustic spray insulation to the substrate as specified in the site drawings.
      3. Apply acoustic spray insulation to substrate in sufficient thickness to achieve required thermal and acoustic values, when indicated above.
      4. Board tamps acoustic spray insulation surface and apply bonding adhesive to seal the tamped insulation surface, in accordance with manufacturer’s written instructions.
      5. Sites apply paint finish to visible acoustic spray insulation substrates, as recommended by the manufacturer.
   4. CLEAN-UP
      1. Remove acoustic spray insulation from material and surfaces not specifically required to be insulated.
      2. Broom clean work areas affected by the Work of this Section.

END OF SECTION