SECTION 09 81 16 – acoustical blanket insulation

1. General
   1. SUMMARY
      1. This Section includes requirements for supply and installation of the following:

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

* + - 1. Sound absorptive batt insulation blanket in sound-rated wall construction.
      2. Acoustical putty pads for outlet boxes.
    1. Related sections:
       1. Section 09 22 16 – Non-Structural Metal Framing: Sound absorptive insulation.
       2. Section 09 29 00 – Gypsum Board: Sound absorptive insulation.
       3. Section 09 51 13 – Acoustical Panel Ceilings.
  1. REFERENCE Standards
     1. Underwriters Laboratories of Canada (ULC):
        1. CAN/ULC-S129-15 - Standard Method of Test for Smoulder Resistance of Insulation (Basket Method).
        2. CAN/ULC-S702-14 - Standard for Mineral Fibre Thermal Insulation for Buildings.
        3. CAN/ULC-S115 - Standard Method of Fire Tests of Firestop Systems (for Acoustical Putty Pads).
     2. American Society for Testing and Materials (ASTM):
        1. ASTM C423-17 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
        2. ASTM C665-12 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
        3. ASTM C795-08(2013) - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel.
        4. ASTM C1104/C1104M-13a - Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation.
        5. ASTM C1338-14 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.
        6. ASTM E136 - Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C (Non-combustibility).
        7. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems (for Acoustical Putty Pads).
        8. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
  2. system description
     1. Assembly of components includes materials providing:
        1. Continuity of acoustically-rated assemblies in conjunction with sealant materials in Section 07 92 00 – Joint Sealants.
        2. Non-combustibility of fire-resistant wall, floor, and ceiling assemblies.
        3. Maintaining acoustical performance at penetrations using acoustical putty pads around outlet boxes.
  3. administrative requirements
     1. According to Section 01 31 00 – Project Management and Coordination.
     2. Coordination:
        1. Coordinate with other work having a direct bearing on work of this section.
        2. Coordinate the work with Section 07 92 00 – Joint Sealants, for installation of acoustic seal materials.
        3. Coordinate placement of loose-laid acoustic blanket insulation with weight limitations of suspended ceiling assemblies at Section 09 51 13 – Acoustical Panel Ceilings.
     3. Coordinate placement of acoustical putty pads on electrical and communication outlet boxes to maintain acoustic isolation.
  4. action SUBMITTALS
     1. Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.
     2. Product Data: Provide data on product characteristics, performance criteria and limitations.
     3. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.
  5. informational submittals
     1. Installation Data: Manufacturer's special installation requirements, including special procedures, perimeter conditions requiring special attention.

Keep paragraphs bellow if the project has LEED requirements.

* + 1. Sustainable Design:
       1. Section 01 35 18: LEED documentation procedures.
       2. Provide required LEED documentation for Product [recycled content] [regional materials] [low-emitting materials].
  1. CLOSEOUT SUBMITTALS
     1. According to Section 01 77 19: Closeout Requirements.
     2. Sustainable Design Closeout Documentation.
  2. quality assurance
     1. Sustainability Standards Certifications:
        1. Insulation products shall comply with the requirements of the Cradle-to-Cradle Certified Product Standard, evidenced by a Bronze Material Health Certificate.
        2. The manufacturer shall disclose insulation product's environmental impacts determined in accordance with ISO 14025, evidenced by an Environmental Product Declaration.
  3. DELIVERY, STORAGE AND HANDLING
     1. According to Section 01 61 00 – Common Product Requirements.
     2. Deliver products in their original packages.
     3. Store products in weather protected environment, clear of ground and moisture and protected from direct exposure to sunlight.

1. Products
   1. MANUFACTURERS
      1. Manufacturer for Acoustic Blanket Insulation - Basis of Design:
         1. Thermafiber Inc.

1 Owens Corning Parkway

Toledo, OH, 43659

Toll Free: 1-800-GET-PINK

Website: www.thermfiber.ca

* + 1. Manufacturer for Putty Pads – Basis of Design:
       1. Yvon Building Supply

4331 Mainway, Burlington, ON

* 1. performance criteria
     1. Noise Reduction Coefficient (NRC): [0.95 at <50 mm><<2 inch>>][1.05 at <75 mm><<3 inch>>][1.20 at <102 mm><<4 inch>>][1.20 at <152 mm><<6 inch>>] thickness.
     2. Fire Resistance: Certified by ULC/UL for use in fire-resistant rated assemblies.
     3. Surface Burning Characteristics: CAN/ULC-S102.
        1. Flame Spread: 0.
        2. Smoke Developed: 0.
     4. Non-combustible when tested in accordance with [CAN/ULC-S114] [ASTM E136].
     5. Smoulder resistance: 0.02% to CAN/ULC S129.
     6. Moisture Absorption to ASTM C1104: < 0.03% by volume.
     7. Fungi resistant when tested in accordance with ASTM C1338.
     8. Non-corrosive when tested in accordance with ASTM C665 (steel, aluminum, and copper) and ASTM C795 (stainless steel).
     9. Recycled Content: Minimum 70%.
     10. **STC Rating**: Acoustical putty pads to maintain sound transmission class of wall assemblies.
  2. MATERIALS
     1. Mineral Wool Acoustic Batt Insulation: [CAN/ULC-S702] [ASTM C665] Type 1; preformed mineral fibre, friction fit, conforming to the following:
        1. Steel-framed applications:
           1. Thickness: [<25 mm><<1 inch>>][<38 mm><<1.5 inch>>][<50 mm><<2 inch>>][<64 mm><<2.5 inch>>][<75 mm><<3 inch>>][<89 mm><<3.5 inch>>][<102 mm><<4 inch>>][<125 mm><<5 inch>>] [<152 mm><<6 inch>>][<180 mm><<7 inch>>][<203 mm><<8 inch>>].
           2. Size: [<406 mm><<16 inch>>] [<610 mm><<24 inch>>] width x <1219 mm><<48 inch>> length.
        2. Facing: Unfaced.
        3. Acceptable Product: Thermafiber SAFB or equal.
     2. Acoustical Putty Pads:
        1. UL Classified for use in non-metallic and metallic outlet boxes to maintain sound and fire resistance in rated assemblies.
        2. Complies with CAN/ULC-S115 and ASTM E814 for fire-rated penetrations.
        3. Sound Transmission Class (STC) Rating: Suitable for maintaining STC ratings in sound-rated walls.
  3. ACCESSORIES
     1. Wire Mesh: Galvanized steel, hexagonal wire mesh.
     2. Wood Strapping: Refer to Section 06 10 00 – Rough Carpentry.

1. Execution
   1. EXAMINATION
      1. According to Section 01 70 00 – Execution and Closeout Requirements: Verify existing conditions before starting work.
      2. Examine installation conditions and ensure:
         1. Substrate, adjacent materials, and insulation are dry and ready to receive insulation.
         2. Acoustic sealants required at [steel][wood][stud framing][concrete masonry unit wall] junctions with adjacent building components or at mechanical, electrical and other services are installed.
      3. Ensure structural and firestop elements, mechanical and electrical services to be covered by the insulation have been inspected.
      4. Do not commence installation until base work has been corrected and inspections completed.
      5. Acoustic sealants and putty pads required at steel, wood, stud framing junctions and penetrations are installed.
   2. INSTALLATION
      1. Place acoustics blankets where indicated on drawings to [thickness indicated on drawings] [thickness indicated in acoustic assembly test report].
      2. Partitions, floors, and ceilings constructed of [steel studs] [wood studs] [furred concrete or concrete masonry]:
         1. Install blankets friction-fit between [framing][furring] of [wall][floor][and] [ceiling] spaces with tight fitting joints free of sags, folds, voids, or open joints. Do not compress insulation.
      3. Acoustic panel ceiling assembly:
         1. Lay acoustic blankets over acoustic panel ceiling assembly free of sags, folds, voids, or open joints.
         2. Overlap joints in multiple layer installations.
      4. Install acoustical putty pads at all outlet boxes located in acoustically-rated walls to prevent sound flanking through penetrations.
         1. Apply putty pads around the entire perimeter of outlet boxes ensuring complete coverage and seal.
         2. Do not compress or deform the pads during installation.
         3. Maintain fire-rating integrity around electrical boxes as per manufacturer’s recommendations.
      5. Cut and fit insulation tightly around mechanical and electrical services within the plane of insulation filling all voids. Cut insulation with a serrated knife for custom fitting. Do not compress insulation.
      6. Keep insulation minimum 75 mm from heat-emitting devices, such as recessed fixtures (which are not IC rated), and minimum 50 mm from sidewalls of CAN/ULC-S604 chimneys and CSA-B149.1 and CSA-B149.2 type B and L vents.
      7. Coordinate work of this section with construction of acoustic panel ceiling assemblies specified in Section 09 51 13 – Acoustical Panel Ceilings.
      8. Coordinate work of this section with construction of gypsum board specified in Section 09 29 00 – Gypsum Board.
   3. SCHEDULES
      1. Meeting Room Ceilings: [<75 mm><<3 inch>>] thickness, loose-laid over ceiling panels.
      2. Meeting Room Walls: [<64 mm><<2.5 inch>>] thickness [as required to fill depth of framing].

END OF SECTION