

SECTION 07 21 13
CONTINUOUS INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Aluminum Faced, Coated Glass Mat Faced and Polymeric Faced Insulation and associated fasteners and flashing
- B. Related Sections:
 - 1. Section 03 30 00- Cast-in-place Concrete
 - 2. Section 04 21 3 – Brick Masonry
 - 3. Section 04 22 00 – Concrete Unit Masonry
 - 4. Section 05 40 00 – Cold-Formed Metal Framing
 - 5. Section 06 10 00 – Rough Carpentry
 - 6. Section 07 21 00 - Insulation
 - 7. Section 07 27 26- Fluid-Applied Weather Barrier System

1.2 REFERENCES

- A. AAMA 711 - Voluntary Specification for Self-Adhering Flashing Used for Installation of Exterior Wall Fenestration Products.
- B. AAMA 714 - Voluntary Specification for Liquid Applied Flashing Used to Create a Water-Resistive Seal around Exterior Wall Openings in Buildings.
- C. AATCC Test Method 127 - Water Resistance: Hydrostatic Pressure Test.
- D. ANSI/SBCA FS 100-2012 - Standard Requirements for Wind Pressure Resistance of Foam Plastic Insulating Sheathing Used in Exterior Wall Covering Assemblies.
- E. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
- F. ASTM C272 - Standard Test Method for Water Absorption of Core Materials for Sandwich Construction.
- G. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- H. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
- I. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- J. ASTM C1763 - Standard Test Method for Water Absorption by Immersion of Thermal Insulation Materials.
- K. ASTM D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
- L. ASTM E72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
- M. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- N. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.

- O. ASTM E2126 - Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings.
- P. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials.
- Q. ASTM E2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- R. ICC-ES AC71 - Acceptance Criteria for Foam Plastic Sheathing Panels Used as Weather-resistive Barriers.
- S. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.
- T. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and 07 21 13 -4 Ceiling Interior Finish to Room Fire Growth.
- U. UL 263 - Fire Tests of Building Construction and Materials.
- V. UL 723 - Standard for Test for surface Burning Characteristics of Building Materials.
- W. UL 1715 - Fire Test of Interior Finish Material.

1.3 SUBMITTALS

- A. Product Data: Submit product data including manufacturer's literature for insulation, including preparation instructions and recommendations, installation methods, and storage and handling requirements.
- B. Third-Party Documentation, including Technical Evaluation Reports and Engineering Judgements relative to NFPA Wall Assemblies, including, but not limited to, reference to various cladding types and wall construction
- C. Verification Samples: Submit sample of insulation in thickness used on Project.
- D. Manufacturer Qualifications: All primary products specified in this section shall be supplied by a single manufacturer with a minimum ten years' experience.
- E. Installer Qualifications: All products listed in this section shall be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of similar type and scope as specified.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials and accessories in manufacturer's original packaging with identification labels intact and in sizes to suit project.
- B. Storage and Handling: Store materials off ground in dry location and protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacture. Store in original packaging until installed.
- C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.5 WARRANTY

- A. At project closeout, provide to Owner an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Rmax, A Business Unit of Sika Corporation, located at 2075 Midway Road, Lewisville, TX 75056; Tel: 800-527-0890; Email: rmax@rmax.com; Technical Support Tel: 972-850-3604; Technical Support Email: rmax.technical@us.sika.com; Web: www.rmax.com.
- B. Substitutions: Comply with Section 01 60 00.

2.2 MATERIALS

- A. Aluminum Faced, Polyisocyanurate Foam Insulating Sheathing: ASTM C1289, Type I, Class 1 and Class 2, rigid, cellular, polyisocyanurate thermal insulation, bonded to reinforced aluminum facers on both sides
 - 1. Basis of Design: Thermasheath from Rmax
 - 2. Flame Spread Index and Smoke Contribution Index per ASTM E84:
 - a. Flame: 75 or less.
 - b. Smoke: 450 or less.
 - 3. Water Vapor Permeability per ASTM E96 desiccant method: 0.1 perm or less
 - 4. Air Permeability per ASTM E2178: 0.004 cfm per sq ft (1.2192 L per min per sq m) or less.
 - 5. Aged R-Value per ASTM C518: R-6.0 minimum at thickness of 1 inch, R-9.6 minimum at thickness of 1.5 inches
 - 6. Required Insulation Thickness and R-Value: As indicated on the Drawings.
 - 7. Exterior Usage in NFPA 285 Wall Assemblies: Acceptable for inclusion in NFPA 285 exterior wall assemblies that include 1/2" minimum exterior gypsum sheathing or 1/2" minimum fire treated plywood sheathing. Insulation at rough openings to be covered by 0.08" minimum aluminum, 20 ga. sheet metal, or 3/4" minimum thick fire treated wood blocking.

2.3 ACCESSORIES

- A. Insulation Fastener Components:
 - 1. Fasteners for Fastening Polyisocyanurate Wall Insulation to Concrete or Masonry Wall Surfaces:
 - a. One-piece plastic washer and stem, installed by a power actuated pinner tool, into concrete or masonry surfaces without pre-drilling and 12 to 18 gauge

steel studs. Basis of Design is Thermal-Grip Insulation Pin as manufactured by TRUFAST Walls. Washer head of 2.25 inch diameter, and anchor lengths of 1 inch to 6 inches.

B. Insulation Joint and Flashing Components:

1. General - Joint Treatment and Flashing Components as recommended by manufacturer
 - a. Material Standards: AAMA 714: For liquid applied flashing and joint materials
 - b. Components for use at static joints, joining adjacent aluminum faced insulation panels include liquid flashing, adhered joint tape, and adhered flashing and transition tape. R-Seal Products...
 - c. Components for use at static joints, joining aluminum faced insulation and adjacent elements, including window and wall openings and items penetrating the insulation include liquid flashing and adhered flashing and transition tape. R-Seal Products...
2. Liquid Flashing for Stationary Joint Treatment of Foil Faced Polyisocyanurate Insulation:
 - a. Product: R-SEAL 2000 LF sealant from Rmax. One-component flexible flashing and water-resistive barrier sealant.
 - b. ASTM C920, Type S, Grade NS, Class 12.5, use NT, G, A, O, M.
 - c. Application Temperature Range: 40 to 104 degrees F (4 to 40 degrees C).
 - d. Service Range: -40 to 170 degrees F (-40 to 77 degrees C).
 - e. Curing Rate: Skin Formation Time: 60 to 90 minutes. Cure Depth: 0.16 inch (4 mm) in 24 hours
3. Joint Sealant Tape for Stationary Joint Treatment of Foil Faced Polyisocyanurate Insulation:
 - a. Product: R-SEAL 3000 tape from Rmax,
 - b. Dead soft aluminum foil coated with acrylic pressure-sensitive adhesive.
 - c. Width: 4 inches

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the areas and conditions under which work of this section will be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction.

3.3 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION