



SECTION 07 21 13  
CONTINUOUS INSULATION  
(Addressing Rmax® Below Grade Insulation)

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**\*\* NOTE TO SPECIFIER \*\* Rmax, A Business Unit of Sika Corporation; Roof and Wall Insulation.**  
 This section is based on the products of Rmax, A Business Unit of Sika Corporation, which is headquartered at:  
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 Lewisville, TX 75056  
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[\[Click Here\]](#) for additional information.  
**The Leader in Building Insulation Solutions Since 1978.**  
 For more than 30 years, Rmax has been creating insulation solutions based on the latest building science. Our full line of high-quality, polyisocyanurate-based roof, wall, and specialty insulation products for commercial, industrial, and residential applications deliver maximum R-values and minimum environmental impact, with efficiency in installation, cost, and design. As new developments in building science emerge, rest assured that Rmax will remain on the forefront, manufacturing tested, engineered solutions that serve architects, builders, owners, and occupants alike. Our people understand the diverse markets our products are used in. Their integrity and responsiveness work to your advantage. Our manufacturing plants in Dallas, TX, Greer, SC, and Fernley, NV, with sales offices coast-to-coast, stand ready to serve you. As one of the founding organizations behind the Polyisocyanurate Insulation Manufacturers Association (PIMA), Rmax has led the way in introducing environmentally acceptable polyisocyanurate products and solutions for all manner of building applications.

PART 1 GENERAL

1.1 SECTION INCLUDES

**\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.**

- A. Polymeric faced, below grade polyisocyanurate foam insulation for foundation walls and slab-on-grade insulation:
  - 1. Rmax® Below Grade.

1.2 RELATED SECTIONS

**\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to project; add others as required.**

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 07 10 00 - Dampproofing and Waterproofing.

### 1.3 REFERENCES

**\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not required by the text of the edited section.**

- A. ASTM International (ASTM):
1. ASTM C203 - Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation.
  2. ASTM C272 - Standard Test Method for Water Absorption of Core Materials for Sandwich Construction.
  3. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
  4. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
  5. ASTM C1763 - Standard Test Method for Water Absorption by Immersion of Thermal Insulation Materials.
  6. ASTM D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
  7. ASTM D1622 - Standard Test Method for Apparent Density of Rigid Cellular Plastics.
  8. ASTM D2126 - Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
  9. ASTM D3237 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
  10. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  11. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
  12. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials.

### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.

**\*\* NOTE TO SPECIFIER \*\* Delete individual items below if not required.**

- C. Shop Drawings: Show fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
1. Accessories: Include details of all integral panel components and their interface with adjacent materials.
  2. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Verification Samples: For each finish product specified, two samples, minimum size 4 x 6 inches (102 x 150 mm).
- E. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.

**\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

- F. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  - 3. Remodel mock-up area as required to produce acceptable work.
- G. Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, foundation/structural system/substrate conditions, and insulation manufacturer's installation instructions.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store and handle products per manufacturer's instructions until ready for installation.

## 1.6 SEQUENCING

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

## 1.7 PROJECT CONDITIONS

- A. 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.

## 1.8 WARRANTY

- A. Insulation Warranty: 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.
  - 1. Limited 15 Year Thermal Warranty: Warranting that for a period of fifteen (15) years, the actual thermal resistance of the Rmax Below Grade insulation product will not vary by more than ten percent (10%) from its published R-value as of the date of manufacture.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Rmax, A Business Unit of Sika Corporation, which is located at 2075 Midway Road, Lewisville TX 75056; Tel: 800-527-0890; Email: [rmax@rmax.com](mailto:rmax@rmax.com). Technical Support: Tel: 972-850-3604; Email: [technical@rmax.com](mailto:technical@rmax.com); Web: [www.rmax.com](http://www.rmax.com).
  - 1. Manufacturing plant locations in Dallas, TX, Greer, SC, and Fernley, NV, to serve multiple regions.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

### 2.2 BELOW GRADE INSULATION

**\*\* NOTE TO SPECIFIER \*\* Rmax® Below Grade is an energy-efficient thermal insulation board composed of a closed-cell polyisocyanurate foam core bonded to reinforced polymeric facers on each side. Delete if not required.**

- A. Below Grade Polyisocyanurate-Foam Insulation: ASTM C1289, Type I, Class 1 or Class 2, rigid, cellular, polyisocyanurate thermal insulation, bonded to reinforced polymeric facers on both sides.
1. Basis of Design: Rmax® Below Grade from Rmax, A Business Unit of Sika Corporation.
  2. Flame Spread Index and Smoke Developed 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. Water Absorption:
    - a. Per ASTM C209, 0.2 percent by volume maximum.
    - b. Per ASTM C272, 0.3% maximum.
  5. Air Permeability per ASTM E2178: 0.004 cfm per sq ft (1.2192 L per min per sq m) or less.
  6. Compressive Strength per ASTM D1621:
    - a. 25 psi (172 kPa).

**\*\* NOTE TO SPECIFIER \*\* Revise value above to reflect one or more of the higher compressive values below when required for the specific project.**

Optional Compressive Strength: 30 psi (206 kPa), 40 psi (275 kPa) or 60 psi (413 kPa). *Revise standard 25 psi compressive value above to reflect one or more of the higher compressive values when required for the specific project.*

**\*\* NOTE TO SPECIFIER \*\* Retain one or more of the R-Values below as appropriate to the project, in the specifications or the drawings. Delete if not required.**

7. Aged R-Value per ASTM C518:
  - a. R-5.0 minimum at thickness of 0.75 inch (19 mm).
  - b. R-6.0 minimum at thickness of 1 inch (25 mm).
  - c. R-10.0 minimum at thickness of 1.5 inches (39 mm).
  - d. R-13.1 minimum at thickness of 2 inches (51 mm).
  - e. R-15.3 minimum at thickness of 2.3 inches (58 mm).
  - f. R-20.3 minimum at thickness of 3 inches (76 mm).
  - g. Required Insulation R-value and Thickness as indicated on the Drawings.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 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.

### 3.3 INSTALLATION, GENERAL

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

### 3.4 PROTECTION

- A. Protect installed products until completion of project.

- B. Touch-up, repair, or replace damaged products before Substantial Completion.

END OF SECTION