

SECTION 07223

METAL BUILDING ROOF INSULATION

PART GENERAL

SECTION INCLUDES

Insulation Batts.

Thermal Blocking.

RELATED SECTIONS

Section 07220 - Roof and Deck Insulation.

Section 13120 - Metal Building Systems.

REFERENCES

ASTM C 236 - Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box.

ASTM C 553 - Standard Specification for Mineral Fiber Blanket and Thermal Insulation for Commercial and Industrial Applications.

ASTM C 578 - Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation.

ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.

FS HH-I-558B - Insulation, Blocks, Boards, Blankets, Felts, Sleeving, (Pipe and Tube Covering), and Pipe Fitting Covering, Thermal (Mineral Fiber, Industrial Type).

SYSTEM DESCRIPTION

Minimum tested thermal transmittance of insulating assembly for nominal R-13 material, in accordance with ASTM C 236: R-value 9.91 (1.61 metric equivalent); U-

value 0.101 (0.573 metric equivalent).

Minimum tested thermal transmittance of insulating assembly for nominal R-13 material with thermal blocking, in accordance with ASTM C 236: R-value 10.57 (1.86 metric equivalent); U-value 0.095 (0.539 metric equivalent).

Minimum tested thermal transmittance of insulating assembly for nominal R-19 material, in accordance with ASTM C 236: R-value 12.08 (2.12 metric equivalent); U-value 0.083 (0.471 metric equivalent).

Minimum tested thermal transmittance of insulating assembly for nominal R-19 material with thermal blocking, in accordance with ASTM C 236: R-value 16.08 (2.83 metric equivalent); U-value 0.062 (0.352 metric equivalent).

SUBMITTALS

Submit under provisions of Section 01300.

Product Data: Manufacturer's descriptive literature for insulation batts.

Verification Samples: Two (2) lengths of insulation batt, of specified thickness, minimum length 2 feet (609 mm).

Quality Assurance Submittals:

Test reports: Certified reports from independent testing laboratory supporting compliance of insulating assembly to specified requirements.

Manufacturer's instructions: Printed installation instructions, including product storage requirements.

DELIVERY, STORAGE, AND HANDLING

Store products of this section in manufacturer's unopened packaging until installation.

Maintain storage area conditions for products of this section in accordance with manufacturer's instructions until installation.

PROJECT CONDITIONS

Specified product requires right to left installation; examine project conditions, and order opposite side rolls for left to right installations.

PART PRODUCTS

MANUFACTURERS

Acceptable Manufacturer: Therm-All, Inc.; 31387 Industrial Parkway, North Olmsted OH 44070; ASD. Tel: (888) 2INSUL8, Fax: (216) 734-5282.

Requests for substitution will be considered in accordance with provisions of Section 01600.

Substitutions: Not permitted.

MATERIALS

Insulation Batts:

Acceptable product: Therm-All ConSealTab.

Batt: Glass-fiber batt insulation conforming to ASTM C 553 and FS HH-I-558B, and bearing approval stamp of the following:

NAIMA 202-96 (North American Insulation Manufacturers Association).

NIA 404 (National Insulation Association).

Facing: White polypropylene scrim kraft, standard duty metallized, adhered to one face of batt to form nominal 6 inches (152 mm) wide continuous exposed tab along one long edge, and nominal 6 inches (152 mm) wide continuous non-adhered flap along other long edge.

Flame spread rating, in accordance with ASTM E 84: 25, maximum.

Water vapor transmission, in accordance with ASTM E 96: 0.141 grains per hour per square foot (0.098 grams per hour per square meter).

Thickness: 4 inches (101 mm), nominal, having nominal R-value 13 (2.28 metric equivalent) in accordance with ASTM C 236.

Thickness: 6 inches (152 mm), nominal, having nominal R-value 19 (3.34 metric equivalent) in accordance with ASTM C 236.

Batt width: Nominal 48 inches (1.2 m).

Batt width: Nominal 72 inches (1.8 m).

Roll length: 150 feet (45.7 m).

Thermal Blocking: Extruded polystyrene sheet conforming to ASTM C 578; thickness 1 inch (25 mm) nominal.

PART EXECUTION

INSTALLATION

Install insulation in accordance with manufacturer's instructions.

Field-forming of pockets in insulation is not permitted.

Install insulation, parallel to roof slope and perpendicular to purlins, progressing from eave to ridge.

Install insulation rows beginning from right to left.

Roll out insulation using pipe or other device inserted through cardboard core of insulation roll as spindle; ensure that exposed tab trails direction of progress.

Place thermal blocks at end-to-end butt joints, covering joint a minimum of 4 inches (101 mm) each side of joint.

Adjust each row of insulation to lay flat across purlins.

As each successive row of insulation is placed, snug roll against previous row, pulling up exposed tab between the two rows.

Beginning at end of row, pull back long edge of batt on previous row, allowing exposed tab to fall into place; smooth exposed tab down against facing from previous row, ensuring that tab lays flat, then drop batt from previous row back into place, ensuring that batts are snug against each other.

PROTECTION OF INSTALLED PRODUCTS

Do not allow exposure of installed insulation to moisture; install only the quantity of insulation in a single period of construction activity that will be covered by roofing in that period.

END OF SECTION