SECTION 072100 - PRE-ENGINEERED BUILDING BLANKET INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Provide insulation system for pre-engineered metal buildings – new construction and existing construction.

1.2 REFERENCES

A. Materials shall meet the property requirements of one or more of the following specifications as applicable to the specific product or end use:

1. American Society for Testing of Materials (ASTM):
   a. ASTM C991 - Standard Specification for Flexible Fibrous Glass Insulation for Metal Buildings.
   b. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
   c. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
   d. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials in Sheet Form (Procedure A).
2. North American Insulation Manufacturers Association (NAIMA):
   a. NAIMA 202-96(R) (Rev. 2000) STANDARD For Flexible Fiberglass Insulation to be Laminated for Use in Metal Buildings
3. National Fire Protection Association (NFPA):
   a. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
4. Underwriters Laboratories (UL):
   a. UL 723 - Test for Surface Burning Characteristics of Building Materials.

1.3 DESIGN REQUIREMENTS

A. Insulation R-Value of 19 for installed roof system.

B. The installed roof and wall systems shall provide a continuous vapor barrier.

1.4 SUBMITTALS

A. Product Data: Provide manufacturer’s data for roof installation instructions.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Companies shall be familiar with the installation practices associated with banded liner systems.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products indoors or in a dry, covered area.

B. Do not open products until ready to use.

C. Protect products from potential construction site damage.

D. Use care when opening products as pallets may shift during shipment.

E. Banding has sharp edges. Wear cut proof gloves when handling.

F. Wear safety glasses when unpacking materials.

1.7 PROJECT CONDITIONS

A. For best results, do not install this system outside of the temperature, humidity, ventilation and environmental limits recommended by the manufacturer. Products should be kept covered and dry at temperatures less than 100˚F prior to installation.

PART 2 - PRODUCTS

2.1 METAL BUILDING ROOF INSULATION

A. MANUFACTURERS

1. Subject to compliance with requirements, provide products by one of the following:

a. Owens Corning Insulating Systems, LLC, Toledo, OH 43659; www.owenscorning.com.
b. Thermal Design
c. Bay Skyliner Insulation

2.2 MATERIALS

A. System consists of the following materials:

1. Unfaced light density fiberglass metal building insulation in the one of the following product categories:

a. Owens Corning Certified R Metal Building Insulation
1) Complies with ASTM C991 Type 1.
2) Complies with NAIMA 202-96-REV 2000.
3) Flame Spread Index <25 and Smoke Developed Index <50 when tested in accordance with ASTM E84, NFPA 255 and UL 723.
4) Thermal Resistance: Available R-Values = R10, R11, R13, R16, R19, R25 or R30.
5) Unfaced.

2. WFabric liner facing/vapor barrier composed of woven high-density polyethylene coated on both sides with polyethylene. Complies with the following:

a. ASTM C1136, Types I through Type VI
1) Type I-IV exception for dimensional stability (value is < 2.0%.)

b. Perm rating: d 0.02 when tested in accordance with ASTM E 96 Procedure A.
c. Flame Spread Index < 25 and Smoke Developed Index < 50 when tested in accordance with ASTM E 84.
d. Color:
1) White
2) Black

3. Vapor barrier adhesive. Complies with the following:

a. Application temperature 10˚F to 110˚ F

4. Double sided vapor barrier tape. Complies with the following:

a. Width 0.75”
b. Rubber based and free film

5. Patch tape. Complies with the following:

a. Adhesive added to one side
b. Installation temperature from 10˚F to 110˚F
c. 3" width

6. Metal Banding/Straps. Complies with the following:

a. Coated steel
b. 1.0" wide
c. Structural Steel Grade 50 per ASTM C 653
d. Exposed color to match vapor barrier
1) White
e. Backing – gray

7. Light gage steel fasteners
a. Zinc plated cold forged steel

b. Head color to match vapor barrier
1) White

c. Contain rubber sealing washer

8. Heavy gage steel fasteners
a. Zinc plated cold forged steel
b. Head color to match vapor barrier
1) White

c. Contain rubber sealing washer

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the areas and conditions under which work of this section will be installed. Verify that adjacent materials are dry and ready to receive insulation. Verify structure, bracing, and concealed building systems have been tested and inspected.

B. Provide written report listing conditions detrimental to performance of work in this section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install liner system in accordance with manufacturer's installation instructions and approved Shop Drawings.

B. Purlin and girt attachment surfaces should be clean and dry prior to attaching two-faced tape or sealing adhesive.

C. Installed fiberglass insulation should fit snugly against purlin and girt walls in the cavity space. Avoid gaps, voids and any excess compression.

3.3 CLEANING

A. Clean dirt from vapor barrier fabric using a soft cloth with soap and water or non-abrasive household cleaner. Solvent-based cleaners and abrasive pads should be avoided.

3.4 SAFETY PRECAUTIONS

A. Installation contractor must have a site-specific safety plan and comply with all OSHA applicable local rules and regulations when installing this system.

B. Workers must use OSHA required fall protection when installing the banded liner system at heights (see OSHA regulations at 29 CFR 1926, Subpart M).

C. Banding has sharp edges and cut proof gloves should be worn when handling.

END OF SECTION 072100