

Section 07200
Exterior Wall Thermal
Insulation

Part 1 General

1.01 Summary

- A. Provide glass fiber thermal insulation for exterior walls as indicated in building plans.

1.02 Materials Provided in Other Sections

- A. Section 03400- Precast Concrete
- B. Section 04200- Unit Masonry
- C. Section 04235- Preassembled Masonry Panels
- D. Section 04400- Stone
- E. Section 07240- Exterior Insulation and Finish Systems
- F. Section 07410- Preformed Roof and Wall Panels
- G. Section 07420- Composite Building Panels
- H. Section 07920- Sealants, Caulking and Seals
- I. Section 08400- Entrances and Storefronts
- J. Section 08500- Metal Windows
- K. Section 08810- Glass
- L. Section 08900- Glazed Curtain Walls
- M. Section 09300- Tile

1.03 References

- A. American Society for Testing and Materials (ASTM).
 - 1. E 84 Test Method for Surface Burning Characteristics of Building Materials
 - 2. E 96 Test Method for Water Vapor Transmission of Materials
 - 3. E 136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 °C.
 - 4. C 177 Test Method for Steady-State Thermal Transmission Properties by means of the Guarded Hot Plate
 - 5. C 423 Test Method for Sound Absorption and the Sound Absorption Coefficient by the Reverberation Room Method
 - 6. C 518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter
 - 7. C 553 Standard Specification for Mineral Fiber Blanket and Felt Insulations
 - 8. C 612 Standard Specification for Mineral Fiber Block and Board Thermal Insulation
 - 9. C 665 Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

1.04 Submittals

- A. Product Data: Submit Owens-Corning product literature, samples and installation instructions for specified insulation.

1.05 Delivery, Storage and Handling

- A. Protect insulation from physical damage and from becoming wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.
- B. Label insulation packages to include material name, production date and/or product code.
- C. Deliver and store materials under provision of Section (01600) (01620).

1.06 Limitations

- A. Do not use unfaced insulation in exposed applications where there is potential for skin contact and irritation.
- B. Kraft and standard foil facings will burn and must not be left exposed. The facing must be installed in substantial contact with the unexposed surface of the ceiling, wall or floor finish. Protect facing from any open flame or heat source.

Part 2 Products

2.01 Manufacturer

- A. Owens-Corning.

2.02 Curtainwall CW225 Insulation

- A. Type: Unfaced or FRK (foil) faced glass fiber thermal insulation complying with ASTM C 612, Type 1A and 1B.
- B. Size: R-value _____
When tested in accordance with ASTM C 518.
Thickness _____ Width _____ Length _____
- C. Vapor Retarder Perm Rating:
FRK-facing Perms Maximum 0.02
When tested in accordance with ASTM E 96.
- D. Surface Burning Characteristics:
 - 1. Unfaced Insulation
Maximum flame spread: 20
Maximum smoke developed: 20
 - 2. FRK-faced Insulation
Maximum flame spread: 25
Maximum smoke developed: 50
When tested in accordance with ASTM E 84.
- E. Noise Reduction Coefficient:
 - 1. Unfaced 2" NRC 1.00
 - 2. FRK-faced 2" NRC 0.80
When tested in accordance with ASTM C 423
on a Type E-405 mounting.
- F. Dimensional Stability:

Linear shrinkage less than 0.1%

2.03 700 Series Insulation

- A. Type: 701 Unfaced glass fiber thermal insulation
complying with ASTM C 553, Type III and ASTM C 665, Type I.
- B. Type: 711 Unfaced glass fiber thermal insulation
complying with ASTM C 553, Type III and ASTM C 665, Type I.
- C. Type: 703 Unfaced, FRK (foil) faced and ASJ (white) faced glass fiber
thermal insulation complying with ASTM C 612, Type 1A and 1B.
- D. Type: 705 Unfaced, FRK-faced and ASJ-faced glass fiber
thermal insulation complying with ASTM C 612, Type 1A and 1B.
- E. Size: R-value _____
When tested in accordance with ASTM C 518.
Thickness_____ Width_____ Length _____
- F. Vapor Retarder Perm Rating:
 - 1. FRK (foil) facing Perms Maximum 0.02
 - 2. ASJ (white) facing Perms Maximum 0.02When tested in accordance with ASTM C 1136.

G. Surface Burning Characteristics:

Maximum flame spread: 25

Maximum smoke developed: 50

When tested in accordance with ASTM E 84.

H. Noise Reduction Coefficient: NRC _____

When tested in accordance with ASTM C 423 on a Type A mounting.

I. Dimensional Stability

Linear shrinkage less than 0.1%

2.04 Flame Spread 25 Insulation

A. Type: FRK (foil) and PSK (white) faced glass fiber thermal insulation complying with ASTM C 665, Type III for FRK (foil) and Type II for PSK (white), Class A.

B. Size:

Metal Frame Insulation

R-value _____

When tested in accordance with ASTM C 518.

Thickness_____ Width_____ Length _____

Wood Frame Insulation

R-value _____

When tested in accordance with ASTM C 518.

Thickness_____ Width_____ Length _____

Special Application Insulation

R-value _____

When tested in accordance with ASTM C 518.

Thickness_____ Width_____ Length _____

C. Vapor Retarder Perm Rating:

FRK facing Perms Maximum 0.10

PSK facing Perms Maximum 0.10

When tested in accordance with ASTM E 96.

D. Surface Burning Characteristics for FRK and PSK faced product:

Maximum flame spread: 25

Maximum smoke developed: 50

When tested in accordance with ASTM E 84.

E. Combustion Characteristics:

Classified non-combustible by model building codes.

Not required to be covered. May be left exposed.

F. Dimensional Stability:

Linear shrinkage less than 0.1%

2.05 Thermal Batt Insulation

A. Type: Unfaced glass fiber thermal insulation complying with ASTM C 665, Type I and ASTM E 136.

B. Type: Kraft-faced glass fiber insulation complying with ASTM C 665, Type II, Class C.

C. Type: Foil-faced glass fiber thermal insulation complying with ASTM C 665, Type III, Class B and C.

D. Size:

Metal Frame Insulation

R-value _____

When tested in accordance with ASTM C 518.

Thickness_____ Width_____ Length _____

Wood Frame Insulation

R-value _____

When tested in accordance with ASTM C 518.

Thickness_____ Width_____ Length _____

E. Vapor Retarder Perm Rating:

1. Foil-facing Perms Maximum 0.50

2. Kraft-facing Perms Maximum 1.00

When tested in accordance with ASTM E 96.

F. Surface Burning Characteristics:

1. Unfaced Insulation

Maximum flame spread: 10

Maximum smoke developed: 10

2. Foil-Faced Insulation

Maximum flame spread: 75

Maximum smoke developed: 150

3. Kraft-Faced Insulation

Maximum flame spread: Not Rated

Maximum smoke Developed: Not Rated

When tested in accordance with ASTM E 84.

Kraft and standard foil facings on this insulation will burn and must not be left exposed. The facing must be installed in substantial contact with the unexposed surface of the ceiling, wall or floor finish. Protect facing from any open flame or heat source.

G. Combustion Characteristics:

Unfaced insulation passes ASTM E 136 test.

H. Dimensional Stability:

Linear shrinkage less than 0.1%

2.06 Other Materials

Provide materials, not specifically described but required for a complete and proper installation of the work in this section.

Part 3 Execution

3.01 Inspection and Preparation

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 mechanical and electrical services within walls 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.

3.02 Installation - General

A. Comply with manufacturer's instruction for particular conditions of installation in each case.

B. Mechanical Fasteners

Apply insulation directly to the interior surface of the exterior wall with appropriate spindle or prong-type anchors.

◇ Fasten anchors to wall by welding the pin to metal and then impale the insulation, or by using pre-attached heads and welding them through the insulation.

◇ Fasten anchors to wall with adhesive. Follow manufacturer's recommendations for surface preparation and adhesive pattern.

◇ Impale insulation on anchor and secure with washer. Select pin lengths to ensure tight fit. Protect pin tips where subject to human contact. See manufacturer's diagram for impaling pin pattern.

C. Adhesive Fastening

Apply insulation with adhesives. Follow adhesive manufacturer's recommendations for surface preparation and adhesive pattern.

D. Furring Strips

◇ Install insulation between furring strips, hat channels, or Z-shaped furring in areas where finish surface will be applied.

◇ Contact the furring strip manufacturer for recommendations on the appropriate fastener system to use.

E. Between Metal Studs

Friction-fit insulation between studs after cover material has been installed on one side of the cavity. When unfaced insulation is used, and in applications without a cover material or where the stud depth is larger than the insulation thickness, use wire or metal straps to hold insulation in place. When faced insulation is used, the attachment

flanges may be taped to the face of metal stud prior to applying the interior finish.

◇ Provide supplementary support to hold the product in place until finish surface is applied when insulation is installed in heights over 8 feet.

F. Between Wood Studs

Friction-fit unfaced insulation between studs after cover material has been installed on one side of the cavity. When unfaced insulation is used, and in applications without a cover material, use wire or metal straps to hold insulation in place. When faced insulation is used staple attachment flanges to face or side of stud every 8 to 12 inches to prevent gaps along the edge of the vapor retarding facing.

3.03 Installation - Vapor Retarders

Maintain vapor retarder integrity by tightly abutting adjacent insulation. Repair punctures or tears in vapor retarder facing by taping. Follow tape manufacturer's application recommendations.

3.04 Material Storage and Protection

Protect insulation from damage and from becoming wet before, during and after installation.

END OF SECTION

