SECTION 07210 - BUILDING INSULATION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes thermal insulation in accordance with the Drawings and the following:

1. Foil faced rigid foam insulation in the furred space of exterior concrete masonry walls of air conditioned areas and elsewhere as indicated on the Drawings.
2. Blanket type building insulation in spaces above ceilings or under roof decks of air conditioned areas and elsewhere as indicated on the Drawings.
3. Blanket type acoustical insulation in fire rated partitions and elsewhere as indicated on the Drawings.

B. Related Sections:

1.	Section 04000 -	Unit Masonry System
2.	Section 03510 -	Fibrous Wood Cementitious Decking
3.	Section 06100 -	Rough Carpentry
4.	Section 09250 -	Gypsum Board Systems

1.02 SUBMITTALS

A. Product data: Manufacturer’s product literature including installation instructions for each type of insulation and vapor retarder material required.

B. Minimum 12 inch by 12 inch square sample of each type of insulation furnished with manufacturer’s label attached.

C. Certified Test Reports: With product data, submit copies of certified test reports showing compliance with specified performance values, including R values (aged values for plastic insulations), densities, compression strengths, fire performance characteristics, perm ratings, water absorption ratings and similar properties.

1.03 QUALITY ASSURANCE

A. Insulation shall be installed only by a firm which is approved by the insulation manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Protect insulations 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. Do not expose plastic insulation to sunlight, except to extent necessary for period of installation and concealment.

C. Protect plastic insulation against ignition at all times. Do not deliver plastic insulating materials to project site ahead of installation time.

D. Complete installation and concealment of plastic materials as rapidly as possible in each area of work.

PART 2 PRODUCTS

2.01 INSULATING MATERIALS

A. Faced Mineral Fiber Blanket/Batt Insulation:

1. Foil-Faced Blankets: Thermal insulation produced by combining mineral fibers of type described below with thermosetting resins with foil scrim vapor retarder membrane on one face.

    a. ASTM C665 for Type III, Class A (blankets with reflective vapor retarder membrane facing with flame spread of 25 or less).
    b. Fibers manufactured from glass or slag.
    c. Maximum flame spread and smoke developed values of 25 and 50, respectively.

2. Acceptable Manufacturers:

    a. CertainTeed.
    b. Pyro-fiber by Manville.
    c. Owens Corning.
    d. Thermal-Shield.
    e. Thermafiber Safing Insulation by United Stated Gypsum.

B. Foil Insulation:

1. Aluminum foil on kraft paper type AA-2 Vapor Shield as manufactured by Fi-Foil Co. or approved equal.

C. Rigid Foam Insulation:

1. Aluminum foil faced rigid foam insulation as manufactured by Owens Corning or approved equal. Thickness as required to achieve specified R Value.

2.02 MISCELLANEOUS MATERIALS

A. Mechanical Anchors: Type and size indicated or, if not indicated as recommended by insulation manufacturer for type of application and condition of substrate.

2.03 SCHEDULE

A. Insulation R-Values:

1. Attic Insulation in air conditioned spaces: R-30.
2. Wall Insulation in air conditioned spaces: See Drawings.

PART 3 EXECUTION

3.01 INSPECTION

A. Examine substrates and conditions under which insulation work is to be performed.

B. Do not proceed with the work until conditions detrimental to the proper and timely completion of the work have been corrected in an acceptable manner.

3.02 PREPARATION

A. Clean substrates of substances harmful to insulations or vapor retarders, including removal of projections which might puncture vapor retarders.

3.03 INSTALLATION, GENERAL

A. Comply with manufacturer's instructions for particular conditions of installation in each case. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work.

B. Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.

C. Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.

3.04 INSTALLATION OF BLANKET INSULATION

A. Apply insulation units to substrate by method indicated, complying with manufacturer's recommendations. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

B. Set vapor retarder faced units with vapor retarder to warm side of construction, except as otherwise indicated.
   1. Do not obstruct ventilation spaces, except for firestopping.
   2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.

C. Stuff loose glass fiber insulation into miscellaneous voids and cavity spaces. Compact to approximately 40 percent of normal maximum volume (to a density of approximately 2.5 lbs. per cu. ft.).

3.06 INSTALLATION OF VAPOR RETARDERS

A. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with adhesives or other anchorage system as indicated. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those which have been stuffed with loose fiber insulation.

B. Seal vertical joints in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end and bottom edges, at perimeter of wall openings and at lap joints; space fasteners 16 in. o.c.

C. Seal overlapping joints in vapor retarders with adhesives per vapor retarder manufacturer's printed directions.

D. Seal butt joints and fastener penetrations with tape of type recommended by vapor retarder manufacturer.

E. Seal joints caused by pipes, conduits, electrical boxes and similar items penetrating vapor retarders with cloth or aluminized tape of type recommended by vapor retarder manufacturer to create an airtight seal between penetrating objects and vapor retarder.

F. Repair any tears or punctures in vapor retarders immediately before concealment by other work. Cover with tape or another layer of vapor retarder.

3.07 PROTECTION

A. Protect installed insulation and vapor retarders from harmful weather exposures and from possible physical abuses, where possible by non-delayed installation of concealing work or, where that is not possible, by temporary covering or enclosure.

END OF SECTION