

## SECTION 07 21 00

### THERMAL INSULATION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. This Section describes the requirements for furnishing and installing thermal insulation at all exterior walls and light court walls.
- B. Related Sections:
  - 1. Firestopping insulation is specified in Section 07 84 00.
  - 2. Acoustic insulation is specified in Section 09 81 00.

##### 1.02 SUBMITTALS

- A. Product Data: Manufacturer's specifications for each type of insulation required.

##### 1.03 QUALITY ASSURANCE

- A. Thermal Conductivity: Where insulation is indicated by "R" value, provide thickness required to achieve indicated value. Use aged and settled values for thermal resistance factors (R-values), tested in accordance with ASTM C518 at 75-deg. F. and 50-percent relative humidity for at least 6-months.
- B. Fire Ratings: Comply with fire-resistance and flammability ratings specified.
- C. Insulation shall be certified by the manufacturer to comply with California standards for insulating materials.

##### 1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation from physical damage and from becoming wet or soiled. Comply with manufacturer's recommendations for handling, storage and protection during installation.

##### 1.05 TESTING AND INSPECTIONS

- A. Inspect insulation for proper installation. Correct defects such as voids, gaps or insulation compressed behind pipes before accepting work.

##### 1.06 INDOOR AIR QUALITY

- A. Protect ducts and HVAC system from loose insulation particulates.
- B. Provide temporary ventilation of building areas where building insulation is being installed.

#### PART 2 - PRODUCTS

##### 2.01 BATT AND BLANKET INSULATION

- A. Unfaced Formaldehyde-Free Thermal Batt/Blanket Insulation:
  - 1. Approved Manufacturers: Johns Manville "Formaldehyde-free Unfaced" or approved equal.
  - 2. Material: Thermal fiberglass insulation made from resilient glass fibers bonded with a formaldehyde-free acrylic thermosetting binder, complying with ASTM C665, Type I.
  - 3. Surface Burning Characteristics: Flame spread 25 or less; smoke developed 50 or less, when tested in accordance with ASTM E84.
  - 4. Thickness: As required for R-19 at all exterior walls. Size batts to fill framing cavity.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

#### A. General:

1. Comply with manufacturer's instructions for installation conditions.
2. Do not install insulation until building is sufficiently enclosed or protected against absorption of moisture by the insulation, and do not install insulation unless supporting framing and construction is in a thoroughly dry condition.
3. Install snugly between framing members with ends snugly fitted between units and against adjacent construction.
4. Carefully cut and fit insulation around pipes, conduit, and other obstructions and penetrations.
5. Where door, window and skylight frames occur in framing, cut additional strips of insulation and hand-pack as required to fill voids in and around such frames.
6. Use insulation free of ripped backs and edges.

#### B. Thermal Insulation: Install to completely fill typical and odd spaces in framing where required.

### 3.02 PROTECTION

#### A. Protect installed insulation and vapor barriers from harmful exposures and from physical damage.

### 3.03 WASTE MANAGEMENT

#### A. General: Comply with Section 01 74 19.

#### B. Plan and coordinate the insulation work to minimize the generation of offcuts and waste. Remove insulation scraps to the maximum extent feasible.

#### C. Separate and recycle waste materials to the maximum extent possible.

END OF SECTION