

SECTION 07220CPPR -- ROOF AND DECK INSULATION

PART 1 - GENERAL

- 1.01 This Section includes flat and tapered board insulation under membrane roofing.
- 1.02 Reference standards include the American Society for Testing of Materials (ASTM), the National Fire Protection Association (NFPA), Underwriter's Laboratory (UL) and Factory Mutual (FM) Engineering Corporation.
- 1.03 Where possible, slope structural decks to drain and minimize the quantity of tapered insulation needed.
- 1.04 A combination of flat and tapered insulation shall be used to achieve the required thermal performance. Pitches shall be in accordance with code requirements.
- 1.05 Data shall be provided on product characteristics, performance criteria, limitations and manufacturer's installation instructions indicating preparation, requirements and techniques.
- 1.06 Prior to installation, a Manufacturer's Certificate shall be provided certifying that products meet or exceed specified requirements.
- 1.07 Prior to installation, shop drawings shall be submitted for board insulation in conjunction with roofing installation.
- 1.08 All assemblies shall conform to Factory Mutual Engineering Corporation (FM): Roof Assembly Classification, FM Construction Bulletin 1-28, I-90 uplift, Class 1 Construction. Enhanced securements are required at 4' square perimeter areas.
- 1.09 Factory Mutual (FM) Engineering Corporation roof inspections shall be required at pre-construction and at 25% completion with approved reports.
- 1.10 RELATED WORK¹
 - A. Section 00100 General Conditions for as-built samples
 - B. Section 07500 Roofing

¹ Listing of related sections is for convenience and is not all-inclusive. Affected sections or drawings where specific design requirements are to be specified, or related sections where applicable Brown Guidelines may appear, are indicated. 00100 sections means all related 00100 sections including any sections from 00100 through 00199.

PART 2 - PRODUCTS

- 2.01 Roof insulation shall be used which meets current performance requirements and which, at a minimum, provides the insulating value required by all applicable building and energy codes. No R-value per inch must be specified; instead, all current energy codes shall be met as well as specific Brown University energy requirements.
- 2.02 The following manufacturers for roof and deck insulation systems shall be used unless otherwise approved by a Brown University Project Manager:
DOW CHEMICAL
OWENS-CORNING
JOHNS MANVILLE
- 2.03 Environmental Considerations:
- A. Do not use or specify and roof insulation that is produced with CFC (chlorofluorocarbon) blowing agents.
- B. Consider the potential for recyclability when choosing roof insulation for any application where the roof insulation may need to be discarded in the future.
- 2.04 Fire-resistive or fire-retardant insulation shall be used.
- 2.05 Two layers of insulation shall be provided with joints staggered each way between layers with a minimum 6" lap.
- 2.06 Fully adhered insulation shall be used wherever possible.
- 2.07 Whenever codes or other conditions require mechanically fastened insulation, fasteners shall be non-corrosive Phillips-head self-tapping screw-type with 2-1/2 diameter 24 gauge tin-plated steel discs in screw length approved for conditions respectively to penetrate the existing structural deck a minimum of 3/4" in depth of metal decking and 1-1/2" in depth of wood decking
- 2.08 INSULATION MATERIALS:
- A. Flat and tapered Polyisocyanurate foam: Johns Manville brand E "NRG" Y-2 or an approved equal.
- B. A protection board shall be used. It shall be premolded, semirigid asphalt/fiber composition board, 1/4 inch thick, formed under heat and pressure.

PART 3 - EXECUTION

3.01 ENVIRONMENTAL REQUIREMENTS:

- A. Comply with manufacturer's environmental requirements for storage, handling and installation.

3.02 Fastener layout shall conform to FM Class (I-90).

3.03 Refer to Roofing Section 07500 for installation.

END OF SECTION