

# Division 07

## 07 00 00 THERMAL AND MOISTURE PROTECTION

### 07 00 01 Owner General Requirements and Design Intent

#### .01 General

- A. Design of building envelope for new or renewed facilities shall include selection of thermal and moisture protection systems, including insulation, weather barriers, air barriers, and light colored (high heat reflective and emissive) exterior wall and roof finishes in accordance with 01 80 00 PERFORMANCE REQUIREMENTS.

#### .02 Roofing Systems

- A. The University relies on proper design, materials selection, and rigid inspection for adequate performance of roofing systems. Roofing systems shall be installed according to manufacturer's recommended installation procedures.
- B. All roofing systems shall meet the appropriate FM Global criteria for wind loss prevention.
- C. All roofing systems shall have a class "A" rating as listed by Underwriters Laboratory, Inc., for fire resistance and all products shall bear the appropriate listing mark or classification marking and the company's name, trade name, trademark, or other recognized identification.
- D. Roofing systems will be reviewed with the Professional on a project-by-project basis, and the University reserves the right to change details as job conditions dictate.
- E. Newly installed~~All~~ roofs must have a minimum of 1/4" per foot slope. Existing roofs require positive drainage.
- F. Provide special surface treatment that does not block drainage, at roof areas subject to foot traffic.
- ~~G. The University discourages the use of APP (Atactic polypropylene) modified bitumen systems.~~
- H.G. Refer to 01 81 13 Sustainable Design Requirements related to roofing systems.
  1. Evaluate vegetated (green) and/or high SRI (cool) roof options and design for lowest life cycle cost.
  2. Coordinate design of green roofs with requirements in 33 40 00 STORM DRAINAGE UTILITIES.

## 07 10 00 DAMPPROOFING AND WATERPROOFING

### .01 Waterproofing--Dampproofing

- A. At all suspended interior floor areas where restrooms, toilets, showers, and similar type water-use facilities are located, a membrane waterproofing material shall be used.

- B. Below-grade foundation walls and all masonry work shall be dampproofed and/or waterproofed to meet design requirements and site conditions.
- C. Exterior slabs and/or deck areas which allow weather exposure to building interior shall be waterproofed by positive water stops of metal, plastic, and/or membrane waterproofing built into the work.

## **07 20 00 THERMAL PROTECTION**

### **.01 General**

- A. Typical design of building envelope assemblies for new or renewed facilities shall include selection of thermal materials with R-values that comply with the Prescriptive Envelope Requirements in the Energy Efficiency section of the High Performance Building Standard reference in 01 80 00 PERFORMANCE REQUIREMENTS.
  - 1. Exceptions:
    - a. Existing facilities in which it is not feasible to achieve due to general construction constraints. In those cases, add as much as possible.
    - b. If Performance Option is used for compliance path.

### **.02 Roof Insulation**

- A. The University discourages the use of vegetable or cane fiber-type board insulation.
- B. Expanded plastic can be installed unprotected on concrete roof decks. On metal decks, a base layer of 1/25/8" moisture resistant, fire-rated gypsum board and 1/2" gypsum coverboard is required~~may be used prior to installation of expanded plastic insulation or a combination expanded plastic and gypsum or perlite base layer type insulation may be used.~~
- C. All proposed roof insulation systems shall be reviewed by the University during the project design stage.

## **07 60 00 FLASHING AND SHEET METAL**

### **.01 Flashing**

- A. The specifications and details of the National Roofing Contractors Association shall be used as guidelines for all roof flashing systems.
- B. All flashing shall have a minimum height of ~~twelve~~eight inches (128") above finished roof membrane.

## **07 70 00 ROOF AND WALL SPECIALTIES AND ACCESSORIES**

### **.01 Roof Penetrations**

- A. Pitch pockets generally will not be permitted. If pitch pockets are to be used they must be reviewed by the Professional with the University. Design of all roof penetrations shall be in accordance with the recommendations and details of the National Roofing Contractors Association.
- B. All roof penetrations shall have a minimum 12" clear between penetrations, and all roof penetrations shall have a minimum 12" clear between penetrations and perimeter of roof.
- C. Mechanical equipment stands shall adhere to the following schedule:

**Minimum Height Standards**

**Width of Equipment Height of Legs**

|               |     |
|---------------|-----|
| Up to 24"     | 14" |
| 25" to 36"    | 18" |
| 37" to 48"    | 24" |
| 49" to 60"    | 30" |
| 61" and Wider | 48" |

**.02 Roof Drains**

- A. Roof inlets generally shall be of Dura-coated cast iron body, dome strainers, setting and clamping rings, extension sleeves, sump receivers, etc.
- B. Roof drains shall be installed at low points, or mid-span, and not at column locations, and preferably in a designed sump.
- C. Flexible connectors shall be used between drain bodies and rainwater conductors.
- ~~C.D.~~ 8' by 8' drain sumps are required.