07 05 00  STANDARDS FOR THERMAL & MOISTURE PROTECTION

A. **Standards:** The design shall conform to the current National Roofing Contractor’s Association roofing and waterproofing manual.

B. **Testing:** For all new buildings and significant remodels, an independent envelope consultant will be used to ensure compliance with state building requirements for energy efficiency.

C. **Drainage:** Positive drainage of at least 2% (1/4”/foot) shall be provided on all roofs. Use interior drain pipes whenever possible and penetrate through the building on interior walls. If exterior drainage is necessary, steps to ensure effective drainage must be taken such as; heat cable, ice and water shield, gutters, ice and snow guards, etc. A quality cast metal roof drain, Zurn or equal, shall be specified. Scuppers shall not be approved. Roof drain pipes shall be located to allow anticipated roof deflection. Cap all parapet walls with metal copings using standing seam joints. Limit caulking as a water-proofing to a minimum.

D. **Air Tight Construction:** All designs require details ensuring total building envelope air-tight construction.

E. **Access:** All roof surfaces shall be accessible. Mount low HVAC, walking decks and patios, etc., high enough for roof membrane to be accessible (8” minimum). Provide a minimum of thirty by forty-eight inch (30”x48”) roof hatch, access doors and ladders to all levels of the roof. Provide grab bars above roof hatches with telescoping safety rails. Provide elevator access to any roof that contains a mechanical room or penthouse.

F. **Thermal and Moisture Barrier Pre-Construction Conference:** Hold a pre-construction conference with all concerned parties in attendance.

07 50 00  ROOFING

A. **Standards:** USU complies with DFCM Standards and LEED requirements for new roofing systems.

B. **Roofing System:** The preferred roofing system on new building projects at USU is a 60 mil, PVC roof membrane with a 25 year warranty (minimum).
C. Protection Board: An impact-resistant board (Dens Dek type) is preferred between the insulation and the roofing membrane to protect the surface sheet from damage.

D. Walk Off Areas: Identify specific walk-off areas with supplemental roofing material designed for the application. Contrasting color at walk-off areas is preferred.

E. Roof Fastening: Mechanically fastened or fully-adhered roofing membranes are permitted. Roof membranes, when installed per manufacturer recommendations, must meet or exceed the USU General Design Requirements, see Division 0.

F. Metal Coping: Roofing caps should be 22 gauge (Kylar Finished) metal with standing seams at the connections.

G. Roof Drains: Roof drain bowl covers shall be cast metal.

H. Safety: Roofing tie-offs are required for all roofs over 2 stories above grade. Engineering of the tie-off system is required prior to installation.

I. Skylights: Shall have double pane safety glass at a minimum. Skylights shall have a minimum 8" tall curb constructed of materials similar to the roof surface.

J. Roof Glazing: Roof glass is discouraged for any area larger than can be provided by a typical skylight.

K. Patch & Repair of Existing Roofs: Patch and repair of older built-up roofing systems may require the use of a 4 ply ballasted, modified asphalt roofing system which is also acceptable if necessary to match an existing condition.

07 51 00 INSULATION

A. Materials: Insulation may be from whatever materials, designed for the specific application, which meet project requirements to achieve an energy efficient building envelope. All materials shall be installed per manufacturer’s specifications.

B. Cavity Insulation: Where possible for a concealed location, (ex. between floors in curtain walls) cavities shall be filled with expanding foam cavity insulation (Icynene or equivalent).

END OF SECTION