

## Division 07 – Thermal and Moisture Protection

### 07 10 00 Dampproofing and Waterproofing

1. Provide waterproofing membranes at floors and walls of below-grade spaces.
2. Specify dampproofing at exterior of below-grade walls that are not enclosing below-grade space.
3. Protect vertical waterproofing and dampproofing against damage during backfill with minimum 1-inch thick extruded polystyrene sheet with drainage grooves. Provide drainage at the bottom of below-grade walls, slabs, and foundation, sloped away from the building. See Division 33 for underslab drainage.

Acceptable Systems: Self-adhering HPDE sheet waterproofing and bentonite waterproofing are preferred.

### 07 19 00 Water Repellents

1. Generally, do not specify water repellents for exterior brick or masonry walls. Where required on existing buildings, use silane based water repellents such as one of the following:

Acceptable Products:

- Chem-Trete BSM 40 as manufactured by Huls Inc., Edison, New Jersey.
- SIL-ACT ATS-42 as manufactured by Advanced Chemical Technologies Co., Oklahoma City, OK.
- Stifel as manufactured by Nox-Crete Chemicals, Inc., Omaha, Nebraska.
- Klereseal 940-S as manufactured by Pecora Corporation, Harleysville, PA.

### 07 21 00 Thermal Insulation

1. When using fiberglass batt insulation in areas needing access for inspection and maintenance, specify foil-faced or paper-faced batts to facilitate removal.

### 07 24 00 Exterior Insulation and Finish Systems (EIFS)

1. EIFS may only be specified with the written approval of the University. Where used, specify only Class PM, Type A, heavy fiberglass mesh-reinforced high-abuse-resistant systems as defined by the Exterior Insulation Manufacturers Association (EIMA). Specify mechanical fastening of extruded polystyrene insulation and reinforcing mesh, and rigid acrylic modified cement plaster finish.
2. Locate control joints and detail the flashing and sealing at penetrations to ensure a properly designed and watertight installation. Provide weepholes at bottom of each panel. Specify the color of sealants to be used.

### 07 27 00 Air Barriers

1. Assure that a continuous moisture and air barrier is provided, including walls, slabs-on-grade, and roofs, with compatible joints between materials.

### 07 31 00 Steep Slope Roofing

1. See the Construction and Professional Services Manual (CPSM) Appendix A.
2. Specify minimum 2 layers of #30 asphalt-impregnated building paper underlayment at roof shingles. Specify factory-coated aluminum valleys extending a minimum of 10-inches up each slope. Specify

self-adhering sheet membrane waterproofing at eaves extending an additional 24-inches up the roof beyond the face of the exterior wall below.

3. Slate shingles shall be a minimum of 1/4-inch thick, weighing not less than 900 pounds per square and installed with no fewer than 2 nails per shingle.

#### **07 40 00 Roofing and Siding Panels**

1. Provide roof parapets on buildings greater than one story in height for safety purposes.
2. For metal panel exterior walls, specify construction of a mock-up panel. See Division 04 Masonry for details on extent of mock-up panel.

#### **07 50 00 Membrane (Low Slope) Roofing**

1. See the Construction and Professional Services Manual (CPSM) Appendix A.
2. Only 4-ply SBS-modified bitumen roofing or single-ply EPDM roofs are acceptable for low-slope roofing, except at vegetated roofs. Provide cold- or hot-fluid-applied roof membranes at vegetated roofs, and use modular planting trays where possible. Fully adhered systems are preferred. Ballasted systems must be approved in advance by the University. Mechanically fastened systems are not acceptable. Specify ballast (if approved) using clean, river-washed gravel meeting ASTM-C-136.
3. Specify a flood test for new roof installations prior to final acceptance. Test must be witnessed by the University's representative.
4. Require a full materials and labor warranty of roof systems for a minimum of 2 years.

#### **07 62 00 Sheet Metal Flashing and Trim**

1. Specify thin wall (0.05-inch) copper flashing between parapet walls and capstone.
2. Specify gutters and downspouts formed of minimum (0.05-inch) copper.
3. Downspouts shall drain directly into underground storm drainage system.
4. Do not specify lead or lead-coated flashing.

#### **07 72 00 Roof Accessories**

1. Specify walkway pads no less than 24-inches wide to and around all roof-mounted equipment and appurtenances requiring maintenance.
2. Specify snow guards on all roofs with a slope of 6 in 12 or greater over entrances and adjacent to walkways. Specify that snow guards are to be screwed **and** adhered to roof.
3. Smoke relief vents shall be accessible for maintenance using a maximum height 10-foot portable ladder.

#### **07 81 00 Applied Fireproofing**

1. Specify fireproofing materials and application methods that are compatible with factory-applied steel finishes.

#### **07 90 00 Joint Protection**

1. Specify 2-part polysulfide, 2-part polyurethane or silicone-synthetic rubber type sealants wherever possible and appropriate. Specify pourable urethane base sealants for construction joints in traffic-

bearing locations such as concrete walks, patios, and exterior stairs. Specify sealant for each individual application, and specify installation of sealants in accordance with manufacturers' recommendations.

**07 95 00 Expansion Control**

1. Specify manufactured interior and exterior covers for expansion joints. Specify interior joint covers that incorporate the finish material in public areas such that they are not apparent.