

SECTION 07 50 00: ROOFING

1. GENERAL

- A. Specifications must include workmanship guarantee for interior damage caused by roof leaks during removal and installation of new roof to be repaired at no additional cost to Brown.
- B. Discuss proposed roof access with Brown FM Operations and EHS regarding OSHA and Brown University compliant roof access to all roofs.
- C. Post warranty information at all roof access points
- D. All roof accessories should be of non-corrodible materials
- E. Durability of all roof accessories should match or exceed the expected life of the roofing system

2. SINGLE-PLY MEMBRANE

- A. Provide manufacturers recommended walkway pads from roof access points to and around all mechanical equipment
- B. Acceptable material is 60 mil non-reinforced EPDM. Use polyisochloroprene or Sarnafil PVC membrane around mechanical equipment or grease exhaust where oils or grease may contaminate the membrane.
- C. Manufacturers:
 - 1. Sarnafil
 - 2. Carlisle Syntec Systems
 - 3. Firestone Building Products
- D. Warranty:
 - 1. Acceptable warranty period is a minimum of 15 years from date of substantial completion.
 - 2. Warranty to include roofing membrane, base flashings, roofing accessories, roof insulation, fasteners, cover boards, roof pavers, walkway products and other components of membrane roofing system.
 - 3. Provide manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period; failure includes roof leaks.
- E. Provide submittals indicating location of mechanical equipment supports, penetrations, and edge details.
- F. Provide flood testing when required by the Brown University Project Manager.
- G. Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to the Brown University Project Manager, who must be notified 48 hours in advance of date and time of inspection.
- H. All work done after final inspection must be re-inspected and certified by the roofing system manufacturer's technical personnel.

3. ROOF & DECK INSULATION

- A. Use a protection board between the insulation and the roofing membrane

4. ASPHALT & SLATE SHINGLE SLOPED SYSTEMS

- A. Fiberglass shingle manufacturers:
 - 1. Certaineed
 - 2. GAF
- B. Performance level standard to be a minimum of 30 years for asphalt shingles
- C. Artificial slate is not allowed.
- D. Slate roofing manufacturers:
 - 1. Evergreen
 - 2. Vermont Structural
- E. Installation warranty for roofs not to be less than 2 years

5. SNOW PROTECTION

- A. For any snow guard installation, review the need with Brown University Project Manager
- B. Install snow guards or snow rails on all sloped roofs, except asphalt shingles, that could deposit snow and ice on pedestrian walkways, entrances, exits, and parking lots
- C. Snow guards and snow fences on slate roofs shall be copper, bronze, or stainless steel
- D. For roofs with long slopes and heavy snow, loads consider using two rows of snow fences or snow guards in combination with a snow fence. Verify the structural adequacy of the deck and supporting structure to resist the snow loads. Consult with a structural engineer for design of snow guards and snow fences. Carry all snow fence loads back to structural elements such as rafters or purlins. Do not rely on the deck to carry concentrated loads unless structurally designed to do so.

6. GUTTERS & DOWNSPOUTS

- A. Where gutters are required, hung gutters are preferable to built-in gutters. Follow the procedures and recommendations in Revere's "Copper and Common Sense" for design, to allow for thermal movement, safe overflow and protection from ice damage. Provide cleanouts at the base of downspouts for maintenance of the drainage system. Where existing built-in gutters are to be re-lined, use lead coated copper soldered watertight, with expansion provisions.
- B. For any gutter installation, the need for leaf guards will be reviewed with Brown University Project Manager.

7. FALL PROTECTION

- A. All projects shall be designed in accordance with current OSHA standards for engineering controls for fall protection such as: guardrails and anchorage points, or occupant use and maintenance work as required. For specific details refer to Brown University's EH&S Section 01_17_00