

ROOFING

PART 1 – GENERAL

- 1.01 **Summary:** This section describes University specific requirements for roofing, flashings, and roofing accessories. Information in this section is intended to guide and supplement specifications provided by the Architect and Engineer of Record.
- 1.02 **Related work** located elsewhere in these specifications includes: waterproofing, air and vapor barriers, sealants and caulks.
- 1.03 **Quality Control:**
- A. Utilize qualified installers who are authorized, approved, or licensed by the manufacturer to install the specific product.
 - B. **Pre-installation conference:** Conduct pre-installation conference at the Project site to review site specific conditions and clarify project requirements.
 - C. **Single source:** Obtain materials from a single source with documented experience providing acceptable roofing work.
 - D. **Protect** all stored roofing materials such that they are maintained in a dry condition and remain free of cracks, penetrations, tears, perforations, UV or other damage prior to installation.
 - E. **Moisture scan:** For existing roofs to be re-roofed, obtain a copy of the latest moisture scan for information relating to roof performance and/or anticipated failure.
 - F. Comply with the following standards:
 - ASTM requirements
 - UL requirements
 - Factory Mutual Approval Standard for wind uplift
 - ABAA: Air Barrier Association of America
 - RTI/WSRCA's "Concrete and Clay Roof Tile Design Criteria Installation Manual for Moderate Climate Regions"
 - NRCA Roofing and Waterproofing Manual
 - SMACNA, Sheet Metal & Air Conditioning Contractor's National Association, latest edition.
 - Aluminum Association (AA) "Designation System for Aluminum Finishes"
 - CDA's "Copper in Architecture Handbook"
 - USGBC requirements for LEED certification
 - G. The A/E shall provide full-time roofing inspection service and post-installation moisture testing. The proposed inspector shall be approved by the Facilities Project Manager prior to commencing work on the roof.

PART 2 – MATERIALS

- 2.01 **Clay Tile Roofing:** In keeping with the preference for sloped roofing and University aesthetic, preference is given to clay tile roofing assemblies. Tile profile and color should match that of surrounding facilities.
- 2.02 **Concrete Tile Roofing:** Concrete tile roofing may be an acceptable substitute for clay tile roofing under specific conditions. Due to the increased tendency for cracking and increased difficulty in maintaining the surface free of dirt, staining, mold, and mildew, this system should be discussed with the Facilities Project Manager prior to including in the project design.
- 2.03 **Low slope roofs:** will be accepted only where provision of greater slope is not feasible. **Subject to proven past-performance and available warranties, products may include:** built-up roofing and modified bitumen membranes.
- 2.04 **Roof Membranes:** Where utilized, provide a roof membrane capable of developing a solar reflectance value (SRI) compliant w/USGBC LEED requirements. SRI value should be indicated on the 100% CD Roof Plan.
- 2.05 **Flashings and Roof Accessories, Including Gutters and Downspouts:** Copper or other non-corrosive flashings and accessories are preferred. Galvanized flashings should not be utilized. Provide flashings and trim in accordance with the current Architectural Sheet Metal Manual, as published by SMACNA.
- 2.06 **Scuppers:** Provide emergency overflow scuppers in parapet walls to prevent water building up if the roof drains clog.
- 2.07 **Roof Drains:** Comply with Florida Building Code requirements for number and size of drains. Provide strainers at inlets to prevent debris from entering the drain system.
- 2.08 **Gravel Stops:** Provide high gravel stops to prevent staining by water on the building wall.
- 2.09 **Skylight Structures:** The University prefers clerestory structures, in lieu of, skylights. If skylights are used in the building design or a building repair, the A/E MUST include only the highest quality unit capable of meeting the daylighting requirements. The installation must be thoroughly detailed and reviewed with the FSU Project Manager prior to inclusion in the construction documents. The skylight shall become a portion of the roofing assembly and subject to the identical terms of the warranty for the entire roofing system.
- 2.10 **Minimum roof system warranty shall be (20) years unlimited with no dollar limit.** Warranties from roofing manufacturers shall include coverage for installation, as well as, materials. In the event of roofing material failure, the roofing manufacturer shall warrant all costs of roofing repairs, including labor, at no cost to the University. Labor warranty shall be in effect for as long as the material warranty is in effect.

PART 3 - EXECUTION

- 3.01** Roofs shall be maximized, but in no case less than ¼” per horizontal foot. The slope of the roof can be obtained either through the structural design or tapered insulation. The design and workmanship of the finished roof shall be such that no water shall pond on the roof surface more than 24 hours after a rainfall.
- 3.02** The A/E shall specify a minimum of three manufacturers of roofing systems and shall obtain notarized letters from each factory technical representative that the type of roofing system specified will perform in this locality and that all materials delivered to the job site and used by the contractor complies with the specifications.
- 3.03** If pre-stressed concrete structural members are used to support flat roofs or roofs with minimum pitch (with or without a light-weight concrete topping poured on the structural members), an expansion joint shall be provided at the ends of each pre-stressed section where the structural members butt together to allow for proper expansion. The roof insulation shall be applied in two layers with no bonding applied between the two layers. Regardless of the thickness required to obtain required pitch or “R” rating, the thickness shall be enough to prevent expansion and contraction of the pre-stressed members. The bottom layer of insulation shall be bonded to the felt layer above. Care shall be taken to avoid coincident placement of joints.
- 3.04** Make provisions to prevent staining of the building envelope from flashing materials.
- 3.05** Roof drains shall be unobstructed, properly connected to storm drains and designed and installed as per the Florida Building Code.
- 3.06** Emergency overflow scuppers shall be constructed below the flashing and not more than one inch above the roof surface.
- 3.07** On all built-up or membrane roofs, roof walkways shall be provided from roof access point(s) to and around all roof installed mechanical or electrical equipment.
- 3.08** An interior means of gaining access to the roof shall be provided with locking capability. Access to the roof should not occur via student spaces.
- 3.09** Do not install rooftop A/C units or exposed ductwork.
- 3.10** Parapet walls and caps (or coping) shall have through the wall flashing. If limestone caps are used, they shall have a lead “T” shaped cap embedded in caulking between each piece of stone cap. Mortar shall not serve this purpose.
- 3.11** For existing roofs which are to be re-roofed, the A/E shall physically verify dimensions where critical to the project design, such as roof areas, parapet heights, etc.
- 3.12** The completed roof installation must meet current wind load design standards and be documented as such by the manufacturer.
- 3.13** Annual roof scans are executed by the University. Should the routine scan following roof completion reveal moisture, the contractor shall be responsible for

the roof repair and the cost of a repeat scan demonstrating that the roof has been established as “dry”.

END OF SECTION