

070000 Thermal and Moisture Protection

Sections Included in this Standard:

- 1.1 General
- 1.2 Below Grade
- 1.3 Above Grade
- 1.4 Flashing
- 1.5 Wall Joint Sealant
- 1.6 Building Insulation
- 1.7 Air and Vapor Barriers
- 1.8 Exterior Insulation and Finish Systems
- 1.9 Fire and Smoke Protection
- 1.10 Metal Wall Panel System
- 1.11 Quality Control

1: GENERAL

- A: Follow all applicable manufacturer requirements & recommendations for a fully warrantable system installation, including substrate preparation.
- B: Contractor Qualifications: All waterproofing contractors shall have a minimum of five years' experience installing the type of system specified. This experience shall have been earned by the firm proposing the work, not by individual employees. In addition, the job site superintendent shall have a minimum of five years of experience installing the type of system specified.

2: BELOW GRADE

- A: Exterior surfaces of walls constructed below finish grade shall be waterproofed, not damp proofed. Walls with stone or brick veneer constructed below grade shall have the cavities grouted to a line approximately 12-inches above finish grade. Flashing and weeps shall be installed approximately 12-inches above finish grade. Attention should be paid to termination of below grade waterproofing and its incorporation into the building envelope.
- B: Bentonite panel waterproofing is not preferred due to the soil conditions on campus.
- C: Liquid Applied Sealants
 - 1: All liquid applied sealants should be installed over manufacturer approved substrate to allow full enforcement of the warranty
 - 2: Cracks greater than 1/16" shall be routed out and caulked with a manufacturer approved sealant.
 - 3: Depressions greater than 3/16" shall be filled in a manufacturer approved manor.
 - 4: All liquid applied waterproofing shall be minimum 50 mils dry
- D: Warranty
 - 1: Minimum 10-year manufacturer labor and material warranty on all waterproofing systems.
 - 2: Contractor's Warranties: Contractor shall provide a guarantee against defects in materials and/or workmanship for a period of two years from the date of overall project substantial completion
- E: Quality Control
 - 1: All below grade waterproofing systems shall have a preconstruction compatibility and adhesion test performed.

3: ABOVE GRADE

- A: Above grade wall surfaces that are concealed by masonry wall panels, brick veneer, metal wall panels or other similar exterior panel systems shall be damp proofed or water proofed to resist water intrusion.
- B: All liquid applied damp proofing shall be minimum 30 mils dry
- C: Warranty
 - 1: Minimum 10-year manufacturer labor and material warranty on water and damp proofing systems

4: FLASHING

- A: Flashing shall be fabricated and installed so that all water is collected and discharged to the exterior of the building. Membrane or sheet metal flashing systems shall be used.
- B: For cavity wall construction like brick masonry veneer, through wall flashing shall be specified and detailed at drainage plane interruptions including heads and sills of openings like doors, windows and louvers and below stone coping. Provide end dams at vertical terminations of flashing. Refer to section 040000.
- C: Unsealed penetrations through flashing materials are prohibited.

5: WALL JOINT SEALANT

- A: Joints on Unpainted exterior surfaces, such as brick masonry, stone cladding, curtain wall panels systems, etc., shall use a silicone sealant with a minimum 20-year warranty
- B: Joints on Painted exterior surfaces, such as stucco, precast concrete, etc., shall use a hybrid sealant with a minimum 15 -year warranty
 - 1: Color match sealants are not preferred.
- C: All sealant joints shall comply with ASTM C1193
 - 1: Sealant joints shall be constructed with properly sized foam backer rod.
- D: A Pull Test in compliance with ASTM C1521 shall be performed on all sealant joints every 1,000 feet for the first 10,000' and every 10,000' thereafter.
 - 1: Upon failed pull test, additional pull tests shall be performed in both directions every 100' until three consecutive passing pull tests are confirmed.
 - 2: Substrate materials may need to be primed to achieve proper adhesion.
 - 3: Record test results in a field adhesion test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions. Test log is submitted to UF as part of project documentation.

6: BUILDING INSULATION

A: Insulation materials shall comply with the Florida Building Code and ASHRAE 90.1. Additional insulation or improved thermal performance materials and systems may be required to achieve energy efficiency goals associated with LEED certification requirements.

7: AIR AND VAPOR BARRIERS

A: The air & vapor barrier system must be shown on the drawings as continuous through all section drawings of the enclosure. The air barrier materials and components of each assembly must be clearly identified and labeled as "Air & Vapor barrier" on construction documents, and detailed at all penetrations, joints, and transitions.

B: Air and vapor barriers shall be detailed, specified and installed so that condensation will not occur within the wall assembly.

C: Air barrier system performance standards shall be consistent with those established by the Air Barrier Association of America (ABAA) – www.airbarrier.org.

D: If an under slab vapor barrier is compromised due to work on the slab, the vapor barrier shall be repaired to ensure continuity of the system prior to the new slab section being poured.

8: EXTERIOR INSULATION AND FINISH SYSTEMS

A: The use of Exterior Insulated and Finish Systems (EIFS) shall not be used as components of exterior walls. EIFS materials may only be used to repair existing EIFS systems.

9: FIRE AND SMOKE PROTECTION

A: Fireproofing material shall be cementitious rather than fiber-based.

B: Firestopping materials shall have Underwriters Laboratory (UL) ratings consistent with the rating of the wall or floor system. Comply with ASTM E-814, "Standard Method of Fire Tests of Through Penetration Fire Stops". Penetration details shall be approved by UL or other approval agency and shown on drawings. Expandable polyurethane foam is not acceptable for sealing penetrations through rated assemblies.

10: METAL WALL PANEL SYSTEM

A: Metal wall panel systems shall be detailed and specified continuous vapor barrier systems, flashing and weeps so that water will not accumulate within the wall system. Details shall indicate – all penetrations and intersections -fastening systems and joint details where the metal panel systems are adjacent to other wall cladding systems such as brick masonry, curtain wall or storefront systems.

11: QUALITY CONTROL

A: The University may employ an independent consultant to serve as building envelope Commissioning agent. In such cases, the technical specifications should stipulate Commissioning procedures and requirements.

END OF SECTION