

CONCRETE

PART 1 – GENERAL

- 1.01 **Summary:** This section describes University specific requirements for concrete and is intended to guide and supplement the specifications provided by the Architect and Engineer of Record. Cast-in-place and pre-cast stone are included in this section. Accessible curb is included in this section.
- 1.02 **Related Work:** Related work located elsewhere includes: masonry, concrete accessories and reinforcing, and pavers.
- 1.03 **Use of concrete materials:** No buildings or other structures shall be built using exposed concrete finishes. **Exceptions:** exposed concrete paving and pre-cast architectural concrete/cast stone. Exposed concrete paving shall not employ exposed aggregate.
- 1.04 Do **not** use colored or stained concrete in exterior applications, including walkways and plazas. Interior flooring may employ concrete stain if approved by the Facilities Department during design.
- 1.05 **Quality Control:**
- A. All material products and execution shall conform to ACI 301 and applicable ANSI/ASTM Standards tests.
 - B. Testing shall also comply with the requirements of the FSU Professional Services Guide.
 - C. Mock-up: Provide a sample of finished concrete and pre-cast stone for approval by the University Project Manager prior to proceeding. At a minimum, provide mock-ups of the following construction areas:
 - 1. windows and doors
 - 2. flashing
 - 3. trims
 - 4. sealants
 - D. Drip edges and positive drainage should be employed to keep water from collecting on horizontal surfaces and discoloring surfaces.

PART 2 – MATERIALS

- 2.01 **Concrete:**
- A. Cast-in-place concrete:
 - 1. **Admixtures:** Do not specify or use admixtures without approval by the University Project Manager. For those cases where the use of admixtures can not be avoided, provide a written justification statement from the Architect/Engineer.
 - 2. Include specifications for hot and cold weather concreting in accordance with ACI Standard Specifications.

3. Reinforcing specifications shall include requirements for proper coverage. Reinforcing bar supports which will be frequently exposed to weather should be plastic.

4. Provide location and detailing for expansion and other construction joints.

B. Pre-cast stone:

1. Provide all pre-cast stone elements from the same source.

C. Expansion joints:

1. Wall panels: specify filler and sealant as required to provide watertight construction and allow for expansion. Do not rely on expansion joints to repair damaged or mis-fitting panels. Joints should be straight and aesthetically pleasing where exposed to view.

2. Walks: ½" fiber or other highly resilient material capable of withstanding both hot and cold weather extremes.

3. Structural slabs: provide expansion joints between new slabs and any existing construction.

D. Contraction joints:

1. Locate contraction joints such that concrete restraint, hence cracking, is minimized.

PART 3 – EXECUTION

3.01 Pre-cast concrete and stone which is stored on site shall be protected to ensure that identification tags remain in place and damage does not occur causing chipping or cracks.

3.02 Stored pre-cast materials shall be protected from splatter caused by weather or other construction.

3.03 Do not cut cast concrete or stone products that contain steel reinforcement.

3.04 Employ appropriate measures to lift panels and pieces into place to avoid damage.

3.05 Employ proper detailing to prevent water and/or copper flashing stains. Should materials require cleaning prior to acceptance, review cleaning methods and products with the FSU Project Manager.

3.06 Patching or other repair of panels must be approved by the FSU Project Manager.

3.07 CIP concrete walks should employ designs and techniques which prevent cracking. Formed, "picture frame" joints are preferred for concrete walks and areas of concrete plazas. Do not use saw cut joints to prevent cracking.

3.08 For concrete walks/plazas, provide ½" expansion joint material to prevent cracking where required by ACI and where decorative or construction joints intersect or do not align, ex: T intersections. Expansion joint material should provide straight and aesthetically pleasing appearance.

- 3.09 Concrete walls and floor slabs should include provisions for proper sealing at pipe penetrations to prevent the passage of fire, vermin, and rodents.**

END OF SECTION