

03300: CONCRETE WORK

All work to minimally conform to ACI 318 (latest edition), "Building Code Requirements for Structural Concrete and Commentary" and all other American Concrete Institute Standards.

Exterior exposed concrete surfaces not to receive other finish shall be treated with a fluid-applied penetrating water repellent. See 07100 in Division 7.

CAST-IN-PLACE CONCRETE

Fly ash shall not be used in the concrete mix design for exposed concrete of any kind. Where used, fly ash shall be limited to no more than 18 percent of cementitious materials by weight.

Underslab Vapor Retarder Barrier: Provide beneath all slabs on grade.

Minimum Type: 10-mil thick polyethylene sheeting complying with ASTM D4397, "Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications."

Provide Class A retarder conforming to ASTM E1745, "Specification for Plastic Water Vapor Retarders used in Contact with Soil or Granular fill Under Concrete Slabs," where slabs are to receive resilient, wood, and carpet flooring and where recommended by the project Geotechnical Engineer for existing and anticipated below grade hydrostatic water conditions at the Project site.

Install over prepared aggregate base material.

Joints in barrier shall be lapped and taped.

Curing materials, surface texture, flatness and levelness for concrete flatwork shall be selected for compatibility with finish floor materials.

Floor and slab construction shall conform:

Flatwork tolerances shall determined using flatness and levelness F-numbers measured in accordance with ASTM E1155, "Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers".

Use "Alpha" Class designations where scope of work is limited or under 3,000 square feet.

Completed exposed concrete flatwork shall maintain a surface coefficient of friction of 0.05 percent for slip resistance. Field tests indicating compliance are required and shall be in accordance with ASTM D2047, "Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine." Where sealers are to be used, field tests shall be taken after application of sealer.

ARCHITECTURALLY EXPOSED CONCRETE

For architecturally exposed concrete where appearance is important, the University's Representative shall consider the following:

UC BERKELEY CAMPUS DESIGN STANDARDS

Require submission of formwork design for review of form types, location of joint and ties, details of reveals, chamfers, textured surfaces, and other visual aspects of concrete.

Require a full size mock-up of a typical section of work at the Project site.

Stress proper storage and repair of forms with restrictions on reuse of worn forms.

Review slump, aggregate size, and steel placement to ensure proper placing and aggregation of concrete for desired appearance.

Consider use of superplasticizers and integral color.

Require small samples prior to fabrication of full-size mock-up.

Set clear tolerances for finish surfaces:

Clearly limit deviation from line and plumb.

Set amount of rock pockets, sandstreaks and similar surface defects that are allowable.

Set maximum amount and types of patching that are acceptable.

Require conformance to appropriate formwork Class

END OF 03300