

Description:

The purpose of the section is to highlight the current (minimum) applicable UMD Design Standards for structural cast-in-place concrete design and construction.

Related Sections:

- 04 00 00 Unit Masonry
- 05 00 00 Steel
- 12.93.00 Site Standards

Effective Date:

January 1, 2023

Applicable Standards:

- American Concrete Institute-ACI Manual on Concrete Practice

Specific Requirements:**Concrete Testing**

The Design team shall ensure that the project documentation for all projects that includes concrete work (CSI Division 3) as part of the scope adheres to ACI 318 requirements for concrete strength acceptance including that (a minimum) requirement of two (2) 6"x12" or three (3) 4"x8" laboratory cured cylinders are tested at 28 days for concrete strength acceptance.

Special Requirements:**Concrete Field Cured Cylinders**

The Design Team shall insert the following wording with-in the specification for all projects where concrete work (CSI Division 3) is part of the scope under - Concrete Field Cured Cylinders

"Concrete strength acceptance shall be in accordance with ACI 318 and ACI 214R through the compressive strength testing of 28-day laboratory cured cylinders. Field cylinder testing shall not be used for concrete strength acceptance. Testing of field cured cylinders may be performed to provide the contractor with the option, if approved by the structural engineer, of early form removal and/or to stop moisture retention measures for the curing process prior to the minimum requirements in the specifications. Field cylinder testing is not required if the specified minimum time durations are met for form removal and curing."

General Requirements:**Cast-In-Place Concrete**

- Precaution should be taken with any concrete floor areas designated to be exposed to high public view and traffic. Such areas should be highlighted (by documentation) as to an acceptable range (limit) of exposed aggregate allowable after grinding prior to sealing.
- Designers should indicate desired/required floor slab flatness by F-value.
- Vertical drops over 4' are not permitted. Use chute extensions, bottom discharge buckets or tremies.
- Comply with all applicable provisions of ACI; Refer to CRSI for reinforcing.