

DIVISION 03 CONCRETE

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Unless stated otherwise, the standards in this Facilities Design Manual (FDM) are directed to the Design Professional to incorporate into the Project.

Although the Owner encourages improved concept, method and product recommendations by the Design Professional, deviation from these standards, including product requests for “approved equivalent” status, requires written justification from the Design Professional and written approval from the Owner’s Representative before completion of Design Development Documents.

*Changes to this Division since the last issuance are indicated with **yellow highlighted text**.*

03 00 00 CONCRETE

A. REFERENCE ABBREVIATIONS

1. ACI American Concrete Institute
2. ASTM ASTM International (formerly in the USA: American Society for Testing and Materials)

03 10 00 CONCRETE FORMING

A. ARCHITECTURAL FORM INSPECTION

1. Specify by the Design Professional and Owner's Representative before architectural concrete is placed.

03 20 00 CONCRETE REINFORCING

A. A. SLABS-ON-GRADE

1. For exterior walks and drives, do not specify reinforcement of any kind.

B. B. CONCRETE STAIRS

1. Reinforce nosings with minimum #3 reinforcing bar.

C. C. INTERIOR SLABS AND EQUIPMENT PADS

1. Generally specify steel reinforcing.
2. Do not specify fibrous reinforcing.

03 30 00 CAST-IN-PLACE CONCRETE

A. GENERAL

1. Show design stresses, floor live loads and soil bearing values on Drawings.
2. Design walks to be 5" minimum thickness and drives to be 6" minimum thickness.
3. Specify minimum concrete strength of 4000 psi at 28 days, except minimum 3000 psi strength concrete may be specified for footings.
4. To obtain greater uniformity of color, specify a single brand of cement for all exposed concrete.
 - a. Specify gray color cement, not white, unless approved otherwise by the Owner's Representative.
5. Design and specify concrete complying with ACI 318-05 Building Code Requirements for Structural Concrete and Commentary.
6. Where concrete will be exposed to view, specify aggregate that contains no iron or other staining elements.
7. Do not specify calcium chloride or other salts as anti-freeze or accelerated-set additives.
8. Specify air-entrained concrete where exposed to freeze-thaw conditions.
9. Specify procedures to be followed in both hot and cold weather operations.
10. Specify minimum 4" slab thickness where reinforcing and/or conduit may be embedded.
11. Specify 3 cylinders are tested for each 50 cubic yards or major fraction of concrete poured.
 - a. Laboratory to send test reports immediately to both Architect and Owner's Representative.
 - b. One cylinder to be broken at 7 days and one at 28 days. Third cylinder is a reserve in event a second reading is desired at 28 day test.
 - c. Specify testing to comply with ASTM C31.
12. Specify finish tolerance for floors, walls, etc.
13. For stair treads, specify non-slip finish.
14. For exposed interior floor slabs that are not polished, specify surface hardener applied over a thoroughly cleaned surface.

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03 40 00 PRECAST CONCRETE

A. GENERAL

1. Specify that required attachments and connecting inserts are clearly shown on submittals.
2. Specify the fabricator to have a past record of competent performance on jobs of comparable size and complexity.
3. Specify the fabricator is fully responsible for the design of reinforcing to accommodate transit and lifting loads as well as for the design of structural reinforcing to accommodate loads after final placement.

03 50 00 CAST DECKS

A. ROOF DECKS

1. Design using light weight concrete.
2. Unless tapered insulation is used, design with a slope no less than 1/4 inch per foot.

03 81 00 CONCRETE CUTTING

B. FLAT CONCRETE SAWING

1. When the work requires the cutting of concrete slabs, or other construction activities that could produce bulk concrete slurry water (coring, concrete floor finishing, etc.) specify disposal of concrete slurry in an environmentally sustainable manner.
 - a. Specify that slurry shall not be discharged into storm water intakes, sanitary sewer intakes or floor drains.
 - b. Specifying an absorbent polymer product to absorb slurry solids produced by cutting, coring and finishing processes is recommended.
 - i. Product options include "Eco-Max Gel" by [Gel Maxx USA](#) and "Slurry Slayer" by "[Substrate Technology, Inc.](#)"

END OF DIVISION 03 CONCRETE