Overview of ACI 301

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Overview of ACI 301

• 301 is referenced in the Contract Documents of the Project.

• Specification is written to the Contractor.

• The Notes to Specifier and Checklists are written to the Specifier
Overview of ACI 301

Contract Documents

• Project Drawings
• Notes on Drawings
• Project Specifications
• ACI 301 Specifications for Structural Concrete
• Other ACI Specifications
• ASTM Specifications
• ASTM Test Methods
Overview of ACI 301

Legal Document-
- Body of the Specification (51 pages)
  - The Body of the Specification gives direction to the Contractor

Non-Mandatory Portion
- Pages 52-66
  - This area of the Specification gives direction to the Specifier.
  - Mandatory Requirements Checklist
  - Optional Requirements Checklist
Mandatory Requirements Checklist

• Trigger language- ‘specified in Contract Documents’
  - Items requires the Specifier to take action
    f’c
    aggregate size
    tolerance of mesh reinforcement

  - Specify specialty sections scope
    ie: What portions of project are architectural concrete, mass concrete, or post-tensioned.
Optional Requirements Checklist

• **Trigger language-’Unless Otherwise Specified’**
  - The Body of the Specification has defaults
  - Defaults are generally set to cover most situations
  - It is a flag that the Specifier may want to review the item
  - It is a flag to the Contractor that there is an alternative available
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Specifications

• Clear
• Single interpretation
• Should be what is actually desired
• List only requirements
• Be written so that it cannot be misunderstood
Purpose of Specifications

• Informs the contractor what needs to be done to construct a structure that will meet the needs of the owner
• Does not tell the contractor how to construct the structure unless you want him to do it
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Do you know your defaults?

ACI 318- Building Code Requirements for Structural Concrete
ACI 301- Standard Specification for Structural Concrete
ACI 311.6 - Specification for Ready Mixed Concrete Testing Services
ACI 117- Specifications for Tolerances for Concrete Construction
ASTM C94- Standard Specification for Ready-Mixed Concrete
MasterFormat

• Reference specification that is written to be CSI Three Part Format
  – General
  – Products
  – Execution
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Main Body

- Section 1—General requirements
- Section 2—Formwork and formwork accessories
- Section 3—Reinforcement and reinforcement supports
- Section 4—Concrete mixtures
- Section 5—Handling, placing, and constructing
Optional Sections

• Section 6—Architectural concrete
• Section 7—Lightweight concrete
• Section 8—Mass concrete
• Section 9—Post-tensioned concrete
• Section 10—Shrinkage-compensating concrete for interior slabs
• Section 11—Industrial floor slabs
• Section 12—Tilt-up construction
• Section 13—Precast structural concrete
• Section 14—Precast architectural concrete
In Summary... the Goal of 301
Clear on Desired Outcome

• Specifications should have the right “hoops” to jump through to get the performance required for service conditions.
States the Obvious

• Know what’s written.

   Ex:
   – Curing Condition
   – Thermal Control
   – Performance Testing
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Cautions Requirements that Bind Contractors Hands

- Means and Methods
- Materials Types, Limits
There is more than one way to get the job done.
Questions and Further Information

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