



# Technical Bulletin

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On a regular basis, we plan to distribute these informational leaflets about crucial - but often ambiguous - structural engineering topics. With the knowledge our featured subjects, our goal is to help our clients improve their profitability while reducing their liability. We suggest distributing a copy of our technical bulletins throughout your office and keeping them on hand for quick reference.

## SPECIAL INSPECTIONS (PART VIII)

### Masonry Construction (BOCA 1705.5) Specification Section 04200



#### **Introduction:**

In this bulletin we will outline the process of evaluating masonry construction designed in accordance with ACI 530 pursuant to the Schedule of Special Inspections and Construction Documents. The Special Inspection team members are referred to as Agent 1, the Special Inspector (typically the Structural Engineer) and Agent 2, the Testing Laboratory (typically the Geotechnical Engineer). Prior to initial inspections the inspector(s) must carefully review the Schedule of Special Inspections and project specifications to understand their responsibilities and requirements.

#### **Pre-Construction:**

- T Hold a pre-construction meeting with the important players regarding masonry construction.
- T Review and/or approve material and accessory submittals and material test data for mortar (Agent 1).
- T Determine masonry strength testing as specified. Note masonry strength determination: Either prism test method or unit strength method per ACI 530.1 (Agent 2).

### **Construction Operation (BOCA Table 1705.5)**

- T Inspect and test proportioning per mix designs, mix procedures, and consistency of mortar. Agents 1 & 2 perform:
  - Unit or prism strength testing.
  - Confirmation of approved mix designs used.
  - In-field review of masonry procedures.
- T Inspect application of masonry material for conformance with ACI 530.1 and Construction Documents. Agents 1 & 2 perform:
  - Visual inspection of masonry materials.
  - Visual inspection of walls, bond beams, etc.
- T Inspect placement and condition of reinforcement for compliance with Project Drawings and ACI 530.1. Agent 1 perform:
  - Visual inspection of size, placement, and amount of reinforcing.
  - Confirmation of horizontal reinforcing placement.
- T Inspect protection procedures during inclement weather per Construction Documents / ACI 530.1 (Agent 1).
- T Inspect anchorages for compliance with Project Drawings (Agent 1).

### **Seismic (BOCA 1610.1.7)**

- T Confirm that items listed in BOCA Table 1705.5 #4 are for structures designed with a performance Category of C, D or E.

### **Conclusion:**

The Special Inspections team works together to achieve an accurate indication of masonry strength and to improve the quality of work.

Agent 2 will provide the actual testing of materials and shall, without delay, report any deviations from the Construction Documents to the General Contractor and Agent 1. Agent 1 has the responsibility of evaluating any discrepancies and channeling design issues to the Structural Engineer of Record for review. It should be noted that Agent 2's function is to record and report the condition of materials during construction, not to manage the operation of placing masonry materials.

It is the responsibility of the General Contractor to ensure the correct materials are being used and placed in accordance with the Construction Documents. The quality of masonry work depends heavily upon the mason himself, but cooperation between the Special Inspections team and the General Contractor can improve the quality significantly.



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