



Common Findings in Concrete Assessments:

ASTM C31, C39, C78, C511

On season 4 episode 29 we discuss common nonconformities for the below concrete standards. [LISTEN HERE](#) or go to podcast.aashtoresource.org.

These findings are not ranked, nor do all laboratories receive these, but are some of the most common nonconformities seen in laboratories participating in our programs.

ASTM C31

Making and Curing Concrete Test Specimens in the Field

- Not spading the beams after rodding
- Containers did not prevent jarring of specimens
- Single-use cylinder molds were not verified per C470
- Not tapping the sides of the molds properly

ASTM C78

Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)

- Some issue with the shims (not available, wrong dimensions, used before checking if they are needed)
- Loading and support blocks were not lubricated every 6 months.
- Some issue with curing (no tanks, temperature control)
- Incorrect loading rate

ASTM C39

Compressive Strength of Cylindrical Concrete Specimens

- Cylinder not checked for alignment with a small load
- No records of cleaning and lubricated ball and socket
- Bearing surfaces not plane
- Compression machine calibration records issue
- Diameters not taken at mid-height and equipment not presented to do so
- Ends not checked for perpendicularity

ASTM C511

Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes

- Evaluation of data not performed weekly
- Temperature recorder standardization issue (not performed, not performed on time, not performed correctly)
- Temperature range
- Specimens not in moist condition
- Reference thermometer not calibrated or not calibrated in accordance with requirements

For a finding to be resolved, the laboratory must submit evidence that thoroughly addresses all aspects of the nonconformity/finding.

Learn more in [How to Resolve AASHTO re:source and CCRL Report Findings](#) and [Getting to the Root of the Problem: Root Cause Analysis \(RCA\) Explained](#)