



Common Findings in Concrete Assessments:

ASTM C138, C172, C173, C231, C617, C1231

On season 4 episode 32 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 C138

Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete

- Strike-off not performed correctly
- Determining the mass of the measure before dampening it
- Measures had not been standardized annually

ASTM C231

Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

- Aggregate correction factors not determined or used
- Standardization not performed every three months or correctly
- While filling, the meter was not jarred to expel air
- The petcocks were closed prior to pumping the air meter to the initial pressure line

ASTM C617

Capping Cylindrical Concrete Specimens

- Daily checks of cap soundness, planeness, and thickness were not available
- Strength of capping compound had not been tested
- End condition was not checked
- Some issue with exhausting fumes or capping outside in an unacceptable manner

ASTM C172

Sampling Freshly Mixed Concrete

- The sample was not taken at two or more intervals.
- The two portions were not remixed to ensure uniformity.
- The time taken between sampling and molding was more than 15 minutes.
- The time taken between sampling and running the slump, temperature, and air content was greater than 5 minutes.

ASTM C173

Air Content of Freshly Mixed Concrete by the Volumetric Method

- Various procedural findings (not inverting, stabilization either not checked or checked incorrectly, etc.)
- Standardization not performed annually or correctly

ASTM C1231

Unbonded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens

- The ends of the cylinders were not checked for depressions.
- The cylinder was not checked for alignment.
- Poor condition of bearing surfaces
- The number of times used was not maintained
- Qualification was not performed

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](#)