



State of Tennessee
Department of Transportation
6601 Centennial Blvd.
Nashville, TN 37243-0360
Division of Materials and Tests

MEMORANDUM

TO: Regional Materials & Tests, Regional Construction

FROM: Headquarters Materials & Tests

DATE: March 25, 2014

SUBJECT: Concrete Cylinder Molds and Labeling-UPDATED

The Department will be changing from a pair of 6"x12" cylinders to a set of three 4"x8" cylinders for all acceptance testing of concrete except Class CP as outlined in [SOP 1-1](#) (Procedures for the Sampling and Testing, and Acceptance of Materials and Products) on all contracts let after May 1, 2014. The Contractor has the option to use 4"x8" or 6"x12" cylinders on contract let before May 1st, 2014. Class CP concrete will continue to utilize a pair of 6"x12" cylinders due to the nominal maximum aggregate size. Contractors should be notified as soon as possible in order to supply the proper molds to upcoming state projects.

Also, the Department is requiring the labeling of concrete molds and cylinders instead of etching effective immediately. The cylinders shall be labeled with a permanent marker. ASTM C31 recommends that the top surface not be disturbed. The following steps for cylinder molding, labeling, and curing are below.

- 1) Inspectors shall label the side of each cylinder mold with the contract number, cylinder number, and date before making the cylinders.
- 2) Concrete cylinders shall be made according to AASHTO T-23.
- 3) Cylinders shall be moved immediately after molding and finishing to an initial curing location. Cylinders shall be kept in a temperature range of 60 to 80°F for initial curing.
- 4) The cylinders shall be removed from initial curing and placed in a wet curing environment within 48 hours.
- 5) Once received at the final (wet) curing location, the inspector shall write the contract number and cylinder number on top of the concrete cylinder.
- 6) When the numbers are placed on top of the concrete cylinder, the mold can be stripped.

- 7) After the mold is stripped, label the side of the concrete cylinder with the contract number, cylinder number, date cylinder was made, and date cylinder is placed in wet curing environment.
- 8) Within 30 minutes of stripping, the cylinder shall be placed in a final (wet) curing environment with free water maintained on the surface at all times at a temperature of $73.5 \pm 3.5^{\circ}$.
- 9) Cylinders shall be transported to Headquarters Materials and Tests Laboratory for acceptance testing as soon as possible but within 21 days.

Please review and advise personnel of all the new changes.



Brian K. Egan
Materials & Tests Director

BKE:am

Cc: File