

# Memorandum

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To: DEPUTY DISTRICT DIRECTORS, Construction  
DEPUTY DIVISION CHIEF, Structure Construction  
CONSTRUCTION MANAGERS  
SENIOR CONSTRUCTION ENGINEERS  
RESIDENT ENGINEERS

Date: November 30, 2020

File: Division of Construction  
CPD 20-28

From:   
RACHEL FALSETTI, Chief  
Division of Construction

Subject: **CHANGES TO CTM 540 IN ACCORDANCE WITH ASTM STANDARDS**

This directive provides information to California Department of Transportation (Caltrans) resident engineers about the revised procedure in California Test Method (CTM) 540, "Method of Test for Making and Curing Concrete Test Specimens in the Field," which is anticipated to be issued in January, 2021. Contractors may request use of the revised test method in a no-cost change order. The goal is to make Caltrans' test methods consistent and compatible with American Society for Testing and Materials International (ASTM) standards.

The revised CTM 540 allows the use of 4- by 8-inch cylinder molds in place of 6- by 12-inch cylinder molds, in accordance with ASTM C31/C31M-19, "Standard Practice for Making and Curing Concrete Test Specimens in the Field."

The following are also required:

- The compressive strengths of 4- by 8-inch specimens must be determined without a correction factor.
- To determine the average compressive strength, either three 4- by 8-inch cylinders or two 6- by 12-inch cylinders must be tested.
- Tests for a concrete mix design's prequalification, quality control testing, and quality assurance testing must all use the same size concrete cylinder. If a contractor requests to switch to a different concrete cylinder size during a project, the mix design will need to be requalified using the compressive strengths of that cylinder size.

These changes will be implemented statewide when the Section 90-1.01D(5), "Compressive Strength," of the Revised *Standard Specifications* is published in April, 2021. For projects advertised before April, 2021, or that do not include the changes to CTM 540, the contractor may request use of the revised version of CTM 540 for

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ongoing projects by submitting a no-cost change order to the resident engineer. The change order will need to be approved before placement of concrete on the project for which CTM 540 is requested to apply.

Attached to this directive are a sample change order memorandum and sample change order. This directive serves as delegation of authority from the Division of Construction for change order approval, except when change order language is altered. FHWA concurrence may be needed on projects of division interest. Consult your oversight agreement.

Adoption of 4- by 8-inch concrete cylinders does not apply to Section 28-4, "Lean Concrete Base Rapid Setting," of the *Standard Specifications*.

If you have questions or comments regarding this directive, contact Samir Ead, Division of Construction, at [Samir.Ead@dot.ca.gov](mailto:Samir.Ead@dot.ca.gov) or (916) 764-9666 or Deborah Yost, Division of Construction, at [Deborah.Yost@dot.ca.gov](mailto:Deborah.Yost@dot.ca.gov) or (916) 227-5166.

Attachments:

1. Sample Form CEM-4903, "Change Order Memorandum"
2. Sample Form CEM-4900, "Change Order"
3. ASTM C31/C31M – 19a, "Standard Practice for Making and Curing Concrete Test Specimens in the Field"
4. Revised CTM 540, "Method of Test for Making and Curing Concrete Test Specimens in the Field"