

**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF ENGINEERING SERVICES**  
Transportation Laboratory  
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## **METHOD OF TEST FOR FLEXURAL STRENGTH OF CONCRETE (MODULUS OF RUPTURE)**

### **A. SCOPE**

This test method describes the procedure for determining the flexural strength of concrete by the use of a simple beam with third-point loading.

Note: Center-point loading has been discontinued in this test method.

### **B. PROCEDURE**

1. Sampling Fresh Concrete: Sample in accordance with ASTM C172/C172M-17.
2. Making and Curing Concrete Test Specimens: Make and cure concrete test specimens in accordance with ASTM C31/31M-19, except for the following:
  - a. Replace *C143/C143M* at each occurrence with *C143/C143M-15a*.
  - b. Replace *C231/C231M* at each occurrence with *C231/C231M-17a*.
  - c. Replace *C1064/C1064M* at each occurrence with *C1064/C1064M-17*.
3. Flexural Testing: Conduct the test in accordance with ASTM C78/78M-18.

### **C. REPORTING OF RESULTS**

Report test results in accordance with ASTM C78/78M-18. When required by the contract documents, submit test results electronically in accordance with the DIMEXML format and guidance documents found at the following link:

<https://dime.dot.ca.gov/index.php?r=help/submittestresult>

### **D. HEALTH AND SAFETY**

It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Prior to handling, testing or disposing of any materials, testers must be knowledgeable about safe laboratory practices, hazards and exposure, chemical procurement and storage, and personal protective apparel and equipment.

Caltrans Laboratory Safety Manual is available at:

[http://www.dot.ca.gov/hq/esc/ctms/pdf/lab\\_safety\\_manual.pdf](http://www.dot.ca.gov/hq/esc/ctms/pdf/lab_safety_manual.pdf)

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