
Standard Method of Test for

Determining Formwork Pressure of Fresh Self-Consolidating Concrete (SCC) Using Pressure Transducers

AASHTO Designation: TP 93-12



1. SCOPE

- 1.1. This method covers the measurement of formwork pressure of fresh self-consolidating concrete (SCC) using pressure transducers attached to formwork.
- 1.2. This is a field test with the intention of measuring formwork pressure during placement of SCC.
- 1.3. The text of this standard references notes that provide explanatory information. These notes shall not be considered as requirements for this standard.
- 1.4. The values stated in SI units are to be regarded as the standard.
- 1.5. *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. REFERENCED DOCUMENTS

- 2.1. *ASTM Standard:*
 - C 125, Standard Terminology Relating to Concrete and Concrete Aggregates

3. SIGNIFICANCE AND USE

- 3.1. This method is applicable when there is a concern about SCC form pressures that may exceed the rated strength of the formwork. SCC shall be defined by ASTM C 125.
Note 1—Formwork less than or equal to 3 m (10 ft) tall constructed of commercial forms rated at 57.5 kPa (1200 lb/ft²) or greater may be able to resist the SCC pressures encountered in the field; however, the engineer is still responsible for the formwork design.

4. APPARATUS AND MATERIALS

- 4.1. *Pressure Transducer*—A suitable pressure transducer for measuring pressure from SCC.



Figure 1—Pressure Transducer

- 4.2. *Data Acquisition System*—A suitable data acquisition interface for obtaining pressure readings from pressure transducers.
- 4.3. *Bracket*—A bracket conforming to the pressure transducer and formwork geometry shall be used for attaching the pressure transducer to the formwork. Figures 2 and 3 show one such bracket system.



Figure 2—Bracket for Attaching Pressure Transducer to Formwork