

Bureau of Materials and Physical Research

Illinois Modified AASHTO T106M/T106-12

Effective Date: January 1, 2007

Revised Date: [September 07, 2012](#)

Standard Method of Test
for
**Compressive Strength of Hydraulic Cement Mortar
(Using 50-mm or 2-in. Cube Specimens)**

Modifications apply only when testing material according to Article 1001.01(d)(2) of the Standard Specifications for Road and Bridge Construction (January 1, 2012).

AASHTO Section¹	Illinois Modification
10.1.1	Revise the second sentence as follows: Use a water-cement ratio of 0.485 for all portland cements, 0.460 for all air-entraining portland cements, <u>and 0.427 for all rapid hardening cements, unless otherwise specified by the manufacturer.</u>
10.1.2	Add as follows: When testing rapid hardening cement, there shall be nine (9) test specimens made with the following proportions: 750 g cement, 2060 g sand, and 320 ml water.
10.2.1	Add as follows: When testing rapid hardening cement, mix according to the following procedure: <ul style="list-style-type: none">• Thoroughly mix the dry materials (cement and sand) together in a clean container.• Place all the mixing water in the mixing bowl.• With the mixing bowl and paddle in place and the mixer operating at a slow speed (140 ± 5 revolutions/minute), add the entire quantity of dry materials within 10 seconds. Continue the mixing for 2 minutes, timing from the addition of the dry materials.• Stop the mixer, scrape down the sides of the mixing bowl with a rubber scraper for 15 seconds.• Finish by mixing at medium speed (285 ± 10 revolutions/minute) for 45 seconds.
10.5.1 New Section	When testing rapid hardening cement, the specimens shall be tested at 3 hours, 6 hours and 24 hours. Specimens for the 3-hour test shall be removed from the molds at $2 \frac{3}{4}$ hr \pm 10 min and kept on the shelves of the moist room until they are 3 hours old. Specimens for the 6-hour shall be removed from the molds at $5 \frac{1}{2}$ hr \pm 20 min and kept on the shelves of the moist room until they are 6 hours old. Specimens for the 24-hour test shall be removed from the molds at 22 ± 2 hours and kept on the shelves of the moist room until they are 24 hours old.

¹ Reference ASTM C 109/C 109M-02