

Bureau of Materials and Physical Research

Illinois Modified ASTM C 1038-10

Effective Date: January 1, 2007

Revised Date: August 17, 2012

Standard Method of Test
for

Expansion of Hydraulic Cement Mortar Bars Stored in Water

Modifications apply only when testing material according to Article 1001.01(d)(4) of the [Standard Specifications for Road and Bridge Construction \(January 1, 2012\)](#).

ASTM Section¹	Illinois Modification
7.3.1.1 New Section	When testing rapid hardening hydraulic cement, the quantity of dry materials required to prepare four 1 × 1 × 11 ¼ in. (25 × 25 × 285 mm) specimens shall be 750 g cement and 2060 g graded standard sand (ASTM C 778). The amount of mixing water used shall be 320 ml, unless otherwise specified by the manufacturer.
7.3.2	Add as follows: [...] described in Practice C 305, except when testing rapid hardening hydraulic cement then 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 and scrape down the sides of the mixing bowl with a rubber scraper for 15 seconds.• Finish by mixing at medium speed (285 ± 10 revolution/minute) for 45 seconds.

¹ Reference ASTM C 1038-04