Bureau of Materials and Physical Research
Illinois Modified ASTM D 2444 – 99 (Reapproved 2010)
Effective Date: January 1, 2007
Revised Date: October 29, 2012

Standard Method of Test
for
Determination of the Impact Resistance of Polymer Concrete by Means of a Tup (Falling Weight)

Modifications apply only when testing material according to Check Sheet #17, Special Provision for Polymer Concrete, of the Supplemental Specifications and Recurring Special Provisions (January 1, 2012).

ASTM Section	***Illinois Modification***
1.1.1 New Section	*Polymer Concrete*—This test method covers the determination of the impact resistance of polymer concretes under specified conditions of impact by means of a tup (falling weight).
4.4.3 New Section	*Polymer Concrete*—A 10 × 10 × 0.5 in. (250 × 250 × 13 mm) fabric bearing pad shall be used as a specimen holder. The fabric bearing pad shall meet the requirements of Section 1082 of the Department's Standard Specifications for Road and Bridge Construction.
5.1	*Polymer Concrete*—Delete the paragraph.
5.2	*Polymer Concrete*—Delete the paragraph.
5.3 New Section	*Polymer Concrete*— A cylindrical mold 4 in. (101.6 mm) in diameter and 2 in. (50.8 mm) in height shall be used. The molds shall be made of a nonabsorbent material which shall be capable of holding their shape and dimensions. A nonreactive release agent shall be used to coat the entire mold. Mix a sufficient amount of the components in the proportions and in the manner specified by the manufacturer of the materials. Fill the molds in two equal lifts. Consolidate by tamping each lift 20 times with a round, straight, steel rod that is 5/8 ± 1/16 in. (16 ± 2 mm) in diameter and at least 12 in. (300mm) in length, having the tamping end or both ends rounded to a hemispherical tip having a diameter of which is 5/16 in. (8 mm). Add additional material if necessary and finish the surface flush with the top of the mold. Allow the polymer concrete to cure for 3 days at 73° ± 4°F (23° ± 2°C) before removal from the molds and temperature conditioning. Specimens must have an average diameter of 4 ± 1/8 in. (101.6 ± 3.2 mm). With calipers, make two measurements at right angles to each other at mid-depth and record the average.
6.1	*Polymer Concrete*—Delete the paragraph and replace with the following: A minimum of 9 specimens are required.
6.2	*Polymer Concrete*—Delete the paragraph.
7.1	*Polymer Concrete*—Delete the paragraph and replace with the following: The three different test temperatures are -20° ± 4°F (-29° ± 2 °C), 73° ± 4°F (23° ± 2°C), and 158° ± 4°F (70° ± 2°C). Condition a minimum three test specimens at each of the test temperatures for at least 40 hrs prior to testing.
8.6 New Section	*Polymer Concrete*— A Tup A of mass 20 lb. (9.1 kg) shall be used. The point of impact for all specimens shall be the center of the hand finished face. Impact each specimen only once.

Bureau of Materials and Physical Research
Illinois Modified ASTM D 2444 – 99 (Reapproved 2010)
Effective Date: January 1, 2007
Revised Date: October 29, 2012

Standard Method of Test
for
Determination of the Impact Resistance of Polymer Concrete by Means of a Tup (Falling Weight)

Modifications apply only when testing material according to Check Sheet #17, Special Provision for Polymer Concrete, of the Supplemental Specifications and Recurring Special Provisions (January 1, 2012).

ASTM Section[1]	***Illinois Modification***
8.7 New Section	*Polymer Concrete*—Test three specimens at each temperature requirement with the specified height of drop. Conditioning temperature ranges — Height of drop -20° ± 4°F (-29° ± 2°C) — 5 ft (1.5 m) 73° ± 4°F (23° ± 2°C) — 8 ft (2.4 m) 158° ± 4°F (70° ± 2°C) — 5 ft (1.5 m)
9	Delete the section.
10.1	*Polymer Concrete*—Delete the paragraph and replace with the following: Failure in the test specimens shall be containing visible cracks, dent deeper than 0.5 in. (13 mm), or show greater distress directly after testing.
11.2 New Section	*Polymer Concrete*—If any one specimen fails at any of the test temperatures, the report shall indicate the polymer concrete failed.