**Bureau of Materials and Physical Research**
Illinois Modified ASTM C 672 - 12
Effective Date: January 1, 2007
Revised Date: October 29, 2012

Standard Method of Test
for
**Scaling Resistance of Polymer Concrete Surfaces Exposed to Deicing Chemicals**

**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*** |
|---|---|
| 2.1 | Replace as follows:<br><br>ASTM C 143 with AASHTO T 119 (Illinois Modified)<br>ASTM C 156 with AASHTO T 155 (Illinois Modified)<br>ASTM C 173 with AASHTO T 196 (Illinois Modified)<br>ASTM C 192 with AASHTO T 126 (Illinois Modified)<br>ASTM C 231 with AASHTO T 152 (Illinois Modified)<br><br>To maintain brevity in the text, the following will apply:<br>**Example:** AASHTO T 119 (Illinois Modified) will be designated as "T 119." |
| 4.9 New Section | *Thawing Racks*, for storing specimens during the thawing period. The shelves of the racks shall be such that the specimens are inclined approximately 70°F from the horizontal. |
| 5.1 | *Polymer Concrete*—Delete the paragraph and replace with the following:<br><br>*Proportioning, Mixing, and Testing Polymer Concrete*—Mix a sufficient amount of the components in the proportions and in the manner specified by the manufacturer of the materials. |
| 5.2 | *Polymer Concrete*—Delete the paragraph. |
| 6.1 | *Polymer Concrete*—Delete the paragraph and replace with the following:<br><br>Specimens shall have an exposed test surface area of at least 55 in.$^2$ (0.035 m$^2$)" and be at least 3 in. (75 mm) in depth. Three specimens shall be made for testing. |
| 6.2.2 | *Polymer Concrete*—Delete the first two sentences and replace with the following:<br><br>Fill the mold in two equal lifts. Consolidate each lift by tamping 50 times with a 5/8" tamping rod. When the mold has been filled, strike off excess material flush with the top of the mold. |
| 6.2.3 | *Polymer Concrete*—Delete the paragraph. |
| 7.1 | *Polymer Concrete*—Delete the paragraph. |
| 7.2 New Section | *Polymer Concrete*—Delete the paragraph and replace with the following:<br><br>Remove the specimens from the molds at an age of 20 to 24 hours after the start of mixing, and store in the air for 3 days at 73° ± 4 °F (23° ± 2 °C). |
| 7.3 | *Polymer Concrete*—Delete the paragraph. |
| 7.4 | *Polymer Concrete*—Delete the paragraph. |

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| ***ASTM Section*[1]** | ***Illinois Modification*** |
|---|---|
| 8.1 | *Polymer Concrete*—Delete the paragraph. |
| 9.1 | *Polymer Concrete*—Delete the paragraph and replace with the following:<br><br>The freeze-thaw cycle shall be started by introducing sufficient water to provide a surface depth of 1/8 in. (3 mm) of the impounded surface. The specimens are then placed in a cold room or freezing apparatus and maintained at 5° ± 2°F (-15° ± 1.1°C) for 15.5 hours. At the end of this time the surface of each specimen is evenly covered with rock salt, according to AASHTO M 143 as Type I, Grade 1, at a rate of 6.45 g/in$^2$ (0.01 g/mm$^2$) (approximately 360 g/specimen) and returned to the cold room or freezing apparatus for 5 hours. The specimens are then removed from the cold area and placed on the thawing racks, rinsed with clear water, and allowed to thaw for 3.5 hours. At this time another cycles begins. |
| Note 4 | *Polymer Concrete*—Delete the paragraph. |
| 9.2 | *Polymer Concrete*—Delete the paragraph. |
| Note 5 | *Polymer Concrete*—Delete the paragraph |
| 9.4 New Section | The polymer concrete shall not have an average rating greater than 1 or the sample shall fail. |
| 10.1.5 | Replace the first sentence with the following:<br><br>Visual rating of the surface after 0, 5, 20, 40, and 60 cycles of freezing and thawing according to the following scale: |