

METHOD OF TEST FOR ELECTRICAL INDICATION OF CONCRETE'S ABILITY TO RESIST CHLORIDE ION PENETRATION

1. SCOPE

1.1 This method covers apparatus and procedures to determine the electrical conductance of concrete to provide a rapid indication of its resistance to the penetration of chloride ions.

2. RELEVANT DOCUMENTS

2.1 ASTM C1202 Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration

3. PROCEDURE

Procedures of ASTM C1202 shall be followed, except as noted below:

3.1 Curing and Preparation

Immediately after concrete cores are delivered to the testing laboratory, they shall be stored in a moist condition with free water maintained on all surfaces of the specimens at all times and at a temperature of $23 \pm 2^{\circ}\text{C}$ until time of testing. A 10 mm thick slice shall be cut off from the top of each core before test specimens are cut from it.

For high-performance concrete, two 50 mm long samples shall be cut from one of the cores representing a lot, and tested. The remaining core representing the lot shall be retained for referee testing.

For silica fume overlays, one 50 mm long sample shall be cut from each of two cores representing a lot and tested. The remaining two cores representing the lot shall be retained for referee testing.

3.2 Time of Test

Testing shall be carried out at 28-32 days after the concrete is placed.

3.3 Additional Requirements for Referee Cores

3.3.1 Curing

Cores for referee testing shall be removed from the moist room or water bath at the age of 28 days. From the time they reach 28 days of age until they are delivered to the designated referee laboratory, the referee cores shall be protected from loss of moisture and kept at a temperature of 5°C or higher. For delivery to the referee laboratory, the cores shall be placed in a sealed plastic bag.

3.3.2 Procedure on Arrival at the Designated Referee Laboratory

Immediately after arrival of referee cores at the designated referee laboratory, each core shall be properly identified by a laboratory number, and date and time of arrival noted.

A 10 mm thick slice shall be cut off from the top of each core before test specimens are cut from it.

For high performance concrete, two 50 mm long samples shall be cut from the core and tested.

For silica fume overlays, one 50 mm long sample shall be cut from each of two cores and tested.

3.4 Testing

Testing shall be carried out according to ASTM C1202. The testing shall be carried out within 3 Business Days of the samples arriving at the designated referee laboratory.

3.5 Storage of Tested Samples

Tested referee specimens shall be identified and stored for one hundred and twenty days from the time of testing. After sixty days and at two month intervals, the referee laboratory may request, in writing, permission from the Regional Head of Quality Assurance to dispose of the specimens and upon written confirmation, the specimens shall be properly disposed of by the laboratory.

4. REPORTING

In addition to reporting requirements of ASTM C1202, the following shall be reported:

- Results obtained on individual 50 mm samples, where applicable;
- Average result per core;
- Age of test cores at the time of testing;
- Name and signature of laboratory staff who reviewed the test report; and
- Contract number.