

CHLORIDE CONTENT (CONCRETE ADMIXTURES)

1. SCOPE: This method is used to determine the chloride content of admixtures used in concrete.
2. APPARATUS AND MATERIALS:
 - 2.1. pH Meter and chloride-ion selective electrode.
 - 2.2. HNO_3 , 1:6
 - 2.3. Standard 0.01N AgNO_3 : Standardize with 20 ml of 0.01N NaCl Solution.
 - 2.4. Standard 0.01N NaCl: Dry reagent grade NaCl in an oven at 105 °C. Cool and weigh out 0.5844 grams. Dissolve in distilled water, and transfer to a 1 liter volumetric flask. Dilute to 1 liter with distilled water, and mix well.
3. PROCEDURE:
 - 3.1. Weigh a 1 - 2 gram sample into a 250 ml beaker, and dilute to 150 ml with distilled water. Add a few drops of HNO_3 . Titrate with standard AgNO_3 solution, recording volumes added and millivolt readings. Enough AgNO_3 solution should be added to cause a readable change in millivolts. The endpoint is determined by finding the biggest deviation in millivolt readings.
 - 3.2. Alternate Method - Weigh a 1 - 2 gram sample into a 250 ml beaker, and dilute to 150 ml with distilled water. Add a few drops of HNO_3 . Set the Fisher Electrometer Model 380 to 0 millivolt using distilled water. Titrate the sample to 0 millivolt.

4. CALCULATIONS:

$$\frac{35.453 \times \text{ml} \times N \text{ AgNO}_3}{10 \times \text{Sample Wt.}} = \% \text{ Chloride}$$

5. REPORT: Percent chloride present in sample.

APPROVED

DIRECTOR
DIVISION OF MATERIALS

DATE

03/07/08

Kentucky Method 64-210-08

Revised 03/07/08

Supersedes 64-210-02

Dated 12/26/02

Km21008.doc