

Kentucky Method 64-210-~~2002~~08  
Revised ~~12/26/02~~03/07/08  
Supersedes 64-210-020  
Dated ~~1/13/00~~12/26/02

## 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.  $\text{HNO}_3$ , ~~Concentrated~~ 1:6
  - 2.3. Standard 0.01N  $\text{AgNO}_3$ : Standardize with 20 ml of 0.01N NaCl Solution.
  - 2.4. Standard 0.01N NaCl: Dry reagent grade NaCl in an oven at  $105 \pm 0.5^\circ\text{C}$ . 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  $\text{HNO}_3$ . Titrate with standard  $\text{AgNO}_3$  solution, recording volumes added and millivolt readings. Enough  $\text{AgNO}_3$  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  $\text{HNO}_3$ . 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

~~APPROVED~~

~~Director~~

~~DIVISION OF MATERIALS~~

~~DATE~~

~~12/26/02~~

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