

Application Memo

Chlorine Ion of Cement

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Precipitation titration
Standards	JIS R 5202

1. Overview

Chlorine ion of cement is determined according to JIS R 5202-2015 Methods for chemical analysis of cements.

After dissolving the sample in nitric acid and adding a chloride ion reference solution to raise sensitivity, add hydrogen peroxide solution to oxidize coexisting side reaction components. Then, cool it to room temperature, and titrate with 0.005mol/L silver nitrate up to the endpoint, which is the maximum inflexion point on the titration curve. The chlorine ion concentration is calculated from the titration volume of silver nitrate.

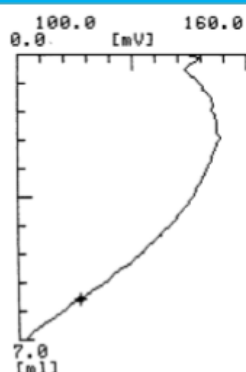
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	Chlorine ion selective electrode Mercury sulfate reference electrode

3. Reagents

Titrant	0.005mol/L silver nitrate solution
Solvent	Pure water
Additive	Nitric acid (SG: 1.38), Hydrogen peroxide (30% approx.) 0.005mol/L chloride ion reference liquid (Sodium chloride solution) 2mol/L nitric acid solution (for blank test)

4. Example



—Titration curve—

—Measurement results—			
	Sample (g)	Titer (mL)	Chlorine ion (%)
1	5.0048	6.0331	0.00327
2	5.0050	6.3288	0.00431
3	5.0057	6.3364	0.00434
Average			0.00397
SD			0.00061
RSD(%)			15

Please feel free to contact us for any further information.

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