

Application Memo Calcium Oxide of Cement

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

1. Overview

Calcium oxide (quick lime) contained in cement is measured as follows: After sample liquid is pretreated according to JIS test method, add 10mL of triethanolamine (1+1) and 0.02mol/L EDTA until just before the expected titration volume of 1mL. Add potassium hydroxide to adjust pH to 12.7~13.2. Then, add the indicator and titrate with 0.02mol/L EDTA. The endpoint is determined by the intersection of the color change (PPC Carsein indicator) on the titration curve.

The concentration of calcium oxide is calculated from the titration volume of EDTA.

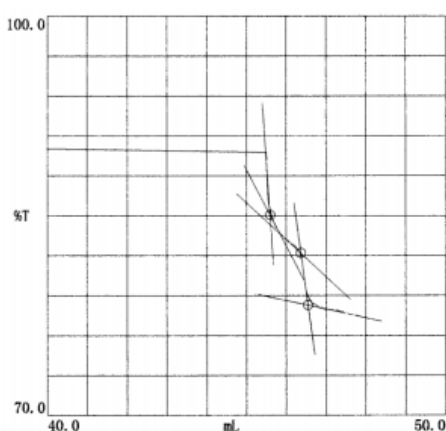
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier PTA)
Detector	Photometric sensor Interference filter (530nm)

3. Reagents

Solvent	Pure water
Indicator	PPC Carsein indicator
Additive	Perchloric acid (60%), Hydrochloric acid (1+1), Triethanolamine (1+1), 3mol/L potassium hydroxide solution

4. Example



-Titration curve-

-Measurement results-

	Sample (g)	Titer (mL)	Conc. (%)
1	0.9997	46.5494	64.87
2	0.9997	46.5813	64.91
3	0.9997	46.5384	64.85
Average			64.88
SD			0.031
RSD(%)			0.048

Please feel free to contact us for any further information.

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