

## Application Memo

# Determination of Aluminum Oxide in Cement and Blast Furnace Slag

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Photometric titration

## 1. Overview

After adding sulfosalicylic acid to the diluted sample, add sodium acetate solution to the diluted sample up to pH3. Adding 0.01mol/L EDTA to the prepared sample until the red color disappears removes iron and titanium in the sample. After adding 0.01mol/L EDTA again, boiling and cooling, add ammonium acetate solution up to pH5.5. After adding Xylenol orange and 0.05mol/L EDTA, it is titrated with 0.01mol/L zinc solution. The endpoint is the maximum inflexion on the titration curve. The aluminum oxide concentration is calculated from the titration volume of the zinc solution.

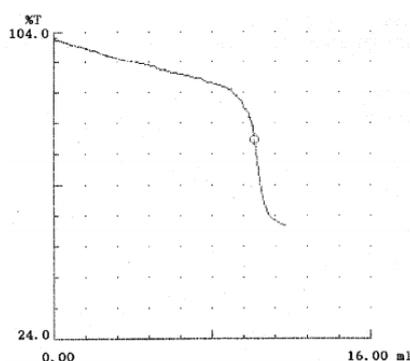
## 2. Apparatus

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

## 3. Reagents

Titrant	0.01mol/L zinc solution
Solvent	Pure water
Additive	0.01mol/L EDTA, Sodium acetate solution, Sulfosalicylic acid, Ammonium acetate solution
Indicator	Xylenol orange

## 4. Example



-Titration curve-

—Measurement results—			
	Sample (mL)	Titration (mL)	Conc. (%)
1	25	10.1944	0.04968
2	25	9.9810	0.05079
3	25	10.1751	0.04980
Average			0.05009
SD			0.00061
RSD(%)			1.2

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