

Application Memo

Sodium Hydroxide in Anodizing Solution

| | |
|--------------------|-----------------------------------|
| Industry | Nonferrous metal |
| Instrument | Automatic potentiometric titrator |
| Measurement method | Acid-base titration |
| Standards | |

1. Overview

Total sodium hydroxide in the diluted anodizing solution sample is measured by titration with 1mol/L hydrochloric acid up to the endpoint, which is the maximum inflexion on the titration curve. The total sodium hydroxide concentration is calculated from the titration volume of hydrochloric acid. After adding 10W/V% potassium fluoride to the measured sample, it is titrated with 1mol/L hydrochloric acid up to the endpoint again. The free sodium hydroxide concentration is calculated from the both endpoints.

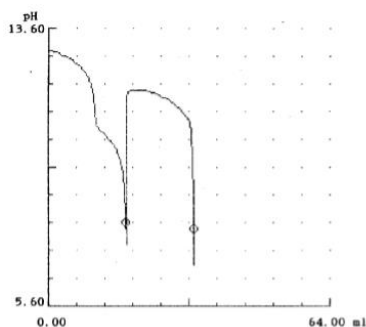
2. Apparatus

| | |
|-----------|---|
| Main unit | Automatic potentiometric titrator (preamplifier STD) |
| Electrode | pH glass electrode Ceramic reference electrode Temperature compensation electrode |

3. Reagents

| | |
|----------|---------------------------|
| Titrant | 1 mol/L hydrochloric acid |
| Solvent | Pure water |
| Additive | 10W/V% potassium fluoride |

4. Example



—Titration curve—

—Measurement results—

| | Sample (mL) | Total NaOH (g/L) | Free NaOH (g/L) |
|---------|-------------|------------------|-----------------|
| 1 | 5.0 | 140.83 | 98.90 |
| 2 | 5.0 | 142.49 | 100.89 |
| 3 | 5.0 | 141.76 | 99.77 |
| Average | | 141.69 | 99.86 |
| SD | | 0.83 | 1.00 |
| RSD(%) | | 0.59 | 1.00 |

Please feel free to contact us for any further information.
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