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**Testing methods for total amine
values of amine-based hardeners
of epoxide resins**

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Descriptors : quality auditing, quality assurance systems, quality assurance

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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Testing methods for total amine values of amine-based hardeners of epoxide resins

1. Scope

This Japanese Industrial Standard specifies the methods to test the total amine values of amine-based compounds used for hardeners of epoxide resins.

2. Definitions

The definitions of main terms used in this standard shall be as follows:

- (1) amine-based hardener Amine-based hardener is the amine compound, having one or more basic nitrogen atoms in the molecule, which can harden epoxide resins.
- (2) total amine value Total amine value is the number of mg of potassium hydroxide which is equivalent to the perchloric acid needed to neutralize total basic nitrogen contained in 1 g of sample, and expressed by unitless number.

3. Classification of Testing Methods

These testing methods shall be classified into the following two methods:

- (1) Potentiometric Titration Method
- (2) Indicator Titration Method

4. Testing Methods

4.1 Potentiometric Titration Method

4.1.1 Summary of Testing Method Dissolve the sample in the mixture solvent of *o*-nitrotoluene and acetic acid, and titrate it with 0.1 mol/l perchloric acid dissolved in acetic acid by using a glass electrode and reference electrode. Plotting the relation between the reading by a potentiometer or pH meter and the corresponding volume of 0.1 mol/l perchloric acid dissolved in acetic acid required for titration, take an inflexion point on a titration curve as the end point. Calculate the total amine value from the consumed volume of 0.1 mol/l perchloric acid dissolved in acetic acid.

Normative references and related standard: See last page of this text.