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Methods for chemical analysis of borosilicate glasses

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Descriptors : glass, chemical analysis and testing, borosilicate glass

Reference number : JIS R 3105 : 1995 (E)

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 the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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Methods for chemical analysis of borosilicate glasses

1 Scope This Japanese Industrial Standard specifies methods for chemical analysis of borosilicate glasses.

Remarks 1 The borosilicate glasses specified in this Standard mean the glasses made of silicon dioxide, boron trioxide, aluminium oxide and sodium oxide as principal components, used for physical and chemical experimental appliances, cooking appliances, shield-beam type electric lamp for automobiles, etc.

2 The normative references are as follows.

JIS K 0050 *General rules for chemical analysis*

JIS K 0115 *General rules for molecular absorptiometric analysis*

JIS K 0121 *General rules for atomic absorption spectrochemical analysis*

JIS K 8001 *General rule for test methods of reagents*

JIS K 8005 *Reference materials for volumetric analysis*

JIS K 8885 *Silicon dioxide*

JIS Z 8401 *Rules for rounding off of numerical values*

2 General matters General matters common to chemical analysis methods shall be in accordance with **JIS K 0050**, **JIS K 0115**, **JIS K 0121** and **JIS K 8001**.

3 Analysis items Analysis items specified in this Standard shall be as follows:

- (1) Silicon dioxide (SiO_2)
- (2) Aluminium oxide (Al_2O_3)
- (3) Total iron content (as Fe_2O_3)
- (4) Titanium dioxide (TiO_2)
- (5) Zirconium oxide (ZrO_2)
- (6) Sodium oxide (Na_2O)
- (7) Potassium oxide (K_2O)
- (8) Boron trioxide (B_2O_3)
- (9) Chlorine (Cl)
- (10) Total arsenic content (as As_2O_3)

4 Methods for sampling and treating of sample

4.1 A necessary quantity of analysis sample shall be quickly pulverized at each analysis