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JIS

JAPANESE INDUSTRIAL STANDARD

Methods for Determination of Aluminium Oxide in Iron Ores

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Methods for Determination of Aluminium Oxide in Iron Ores

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1. Scope

This Japanese Industrial Standard specifies the methods for determination of aluminium oxide in iron ores.

2. General Matters

General matters common to the chemical analysis of iron ores shall be as prescribed in JIS M 8202.

3. Classification of Methods

The method of determining aluminium oxide in iron ores shall be as prescribed in one of the following methods:

(1) Alkali Separation EDTA Zinc Back-Titrimetric Method This method shall be applied to the sample 0.5 % or over in aluminium oxide content.

(2) Oxine Separation Determination Method

(a) Sodium Thiosulphate Titrimetric Method This method shall be applied to the sample under 5 % in aluminium oxide content.

(b) Oxine Gravimetric Method This method shall be applied to the sample under 10 % in aluminium oxide content.

(c) Aluminium Oxide Gravimetric Method This method shall be applied to the sample 5 % or over in aluminium oxide content.

(3) Atomic Absorption Method This method shall be applied to the sample under 6 % in aluminium oxide content.

4. Alkali Separation EDTA Zinc Back-Titrimetric Method

4.1 Summary Decompose a sample with hydrochloric acid, nitric acid and perchloric acid and filter the insoluble residue. Remove most of iron by extraction from the filtrate with MIBK, decompose organic substances in solution and reserve it as a main solution. After processing the insoluble residue with hydrofluoric acid, fuse it with sodium disulphate, dissolve the melt with hydrochloric acid and join it to the main solution. Neutralize this solution with ammonium chloride and aqueous ammonia, precipitate aluminium, iron, titanium, etc., and filter them. Dissolve the precipitate with hydrochloric acid, intensively alkalify it with sodium hydroxide and precipitate iron, titanium, etc. Filter the precipitate and separate aluminium into the

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Applicable Standards:

JIS K 8006-Fundamental Articles on Volumetric Determinations

JIS M 8202-General Rules for Chemical Analysis of Iron Ores