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Fine ceramics (advanced ceramics, advanced technical ceramics) — Methods for chemical analysis of fine silicon nitride powders

Céramiques techniques — Méthodes pour l'analyse chimique de poudres de nitrure de silicium

Reference number
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Foreword

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The committee responsible for this document is ISO/TC 206, *Fine ceramics*.

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Introduction

This International Standard has been developed from Japanese Industrial Standard JIS R 1603:2007 with reference to CEN ENV 14226:2002 and ASTM C1494-01:2007, and is applicable to the chemical analysis of silicon nitride raw powders for fine ceramics use. This International Standard covers both major and minor constituents such as total silicon, total nitrogen, and some of trace metallic and non-metallic elements.

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Fine ceramics (advanced ceramics, advanced technical ceramics) — Methods for chemical analysis of fine silicon nitride powders

1 Scope

This International Standard specifies the methods for the chemical analysis of fine silicon nitride powders used as the raw material for fine ceramics.

This International Standard stipulates the determination methods of total silicon, total nitrogen, aluminium, iron, calcium, oxygen, carbon, fluorine, and chlorine in fine silicon nitride powders.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2828, *Aluminium oxide primarily used for the production of aluminium — Determination of fluorine content — Alizarin complexone and lanthanum chloride spectrophotometric method*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 6353-1, *Reagents for chemical analysis — Part 1: General test methods*

ISO 6353-2, *Reagents for chemical analysis — Part 2: Specifications — First series*

ISO 6353-3, *Reagents for chemical analysis — Part 3: Specifications — Second series*

ISO 8656-1, *Refractory products — Sampling of raw materials and unshaped products — Part 1: Sampling scheme*

ISO 21068-2, *Chemical analysis of silicon-carbide-containing raw materials and refractory products — Part 2: Determination of loss on ignition, total carbon, free carbon and silicon carbide, total and free silica and total and free silicon*

ISO 21068-3, *Chemical analysis of silicon-carbide-containing raw materials and refractory products — Part 3: Determination of nitrogen, oxygen and metallic and oxidic constituents*

ISO 21438-2, *Workplace atmospheres — Determination of inorganic acids by ion chromatography — Part 2: Volatile acids, except hydrofluoric acid (hydrochloric acid, hydrobromic acid and nitric acid)*

ISO 21438-3, *Workplace atmospheres — Determination of inorganic acids by ion chromatography — Part 3: Hydrofluoric acid and particulate fluorides*

ISO 26845, *Chemical analysis of refractories — General requirements for wet chemical analysis, atomic absorption spectrometry (AAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES) methods*

EN 12698-1, *Chemical analysis of nitride bonded silicon carbide refractories - Part 1: Chemical methods*

EN 12698-2, *Chemical analysis of nitride bonded silicon carbide refractories - Part 2: XRD methods*

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