

Determination of Impurities in Fine Ceramics by Inductively Coupled Plasma Atomic Emission Spectrometry

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:

(ICP)

0.001 ppm

Synopsis :

ICP-AES has been applied to the simultaneous determination of impurities in fine ceramics. Boron nitride and aluminum nitride were digested by acid pressure decomposition in Teflon vessels. Zirconium oxide was decomposed by fusion with the mixture of sodium carbonate and sodium borate. A micro -injection technique enables the measurement of these high salt containing solutions without clogging, and permits the use of a single calibration curve with background correction. The proposed method, whose lower limit of determination is as low as ppm concentrations, is useful for the quality control of raw materials and products.

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誘導結合プラズマ発光分析法によるファインセラミックス中不純物の分析*

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要旨

ファインセラミックス中不純物の分析に誘導結合プラズマ発光分析法 (ICP 発光分析法) を適用し, 多元素同時定量可能な分析法を確立した。窒化ホウ素と窒化アルミニウムは酸加圧分解で, ジルコニアはアルカリ融解法により全解した。アルカリ融解法は多元素同時

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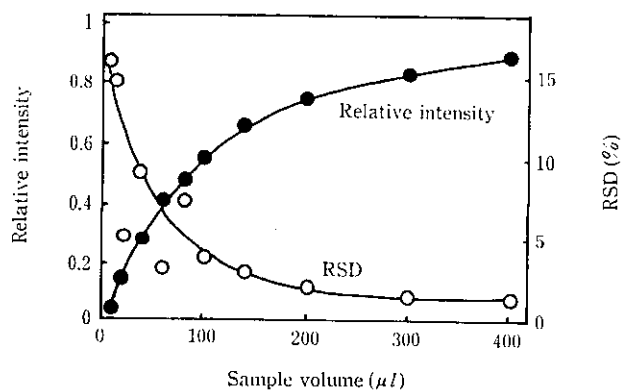
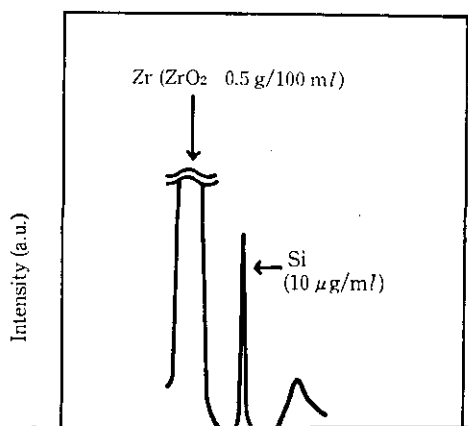


Fig. 8 Effect of sample injection volume on signal-to-noise ratio.

Table 4 Analytical results for boron nitride samples

(%)

Sample	Si	Mn	Al	Ti	C	N	B
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