

The Technical Association of Refractories, Japan  
 Certified Reference Material Series for X-ray Fluorescence Analysis of Refractories  
 JRRM 121 — 135 (Series №2 for Fireclay Refractories)  
 Instruction Manual

## 1. General

This Certified Reference Material Series (SeRM) №2 JRRM 121-135, for Fireclay Refractories was prepared and given analytical values by The Technical Association of Refractories, Japan (TARJ), in conformity with JIS (Japanese Industrial Standards) R 2216:1995 "Method for X-ray fluorescence spectrometric analysis (XRF) of refractory bricks and refractory mortars" Annex 1 "Satisfactory conditions for SeRM for refractories". The TARJ Standardization Committee certified these values on 22, June, 1995 and determined on igniting the Reference Materials (RMs) for one hour at 800°C prior to making the fused cast beads and on shifting the certified values to LOI free values on 22, February, 2008.

These RMs were analyzed by JIS R 2212-1<sup>1)</sup> which is the origin of the standard specified in ISO 21587<sup>2)</sup>, and given certified values. This SeRM is composed of 15 RMs. Approximately 20 g of each RM are contained in the labeled glass bottles.

The values of each chemical component in each RM in this series were designed to be independent from other component values, and from the values of all other chemical components in other RMs in this series.

We are completely equipped with a variety of SeRMs for XRF of refractories that are distributed by SEISHIN TRADING CO., LTD.

Note 1 : JIS R 2212-1 : Method for chemical analysis of refractory products — Part 1: Fireclay refractories)

Note 2 : ISO 21587 : Chemical analysis of aluminosilicate refractory products (alternative to the X-ray fluorescence method) — Part 1: Apparatus, reagents, dissolution and gravimetric silica, — Part 2: Wet chemical analysis, — Part 3: FAAS and ICP-AES

## 2. Scope

This series, JRRM 121-135, is applicable to the XRF fused cast bead method<sup>3)</sup> for fireclay materials, but not for the XRF briquette method.

Note 3 : Refer to JIS R 2216 :2005 (Methods for X-ray fluorescence spectrometric analysis of refractory products) or ISO 12677 :2003 (Chemical analysis of refractory products by XRF — Fused cast bead method).

## 3. Cautions for storage and handling

- (1) The RMs shall be stored under dry conditions in which the temperature and humidity are kept constant, and out of direct sunlight.
- (2) The RMs shall be kept homogeneous. The RMs must be kept in a place with no vibrations, and mixed well before use.
- (3) Only the minimum amount needed should be taken from the bottle. The remainder must not be put back in the same bottle.
- (4) The certified values of RMs show the contents after igniting for an hour at 800±25 °C. Before sampling, the RMs should be ignited at 800 °C and cooled to room temperature in a desiccator, although analytical samples should be ignited for one hour at 1050 °C. When slight sintering occurs in the RMs after ignition, roughly grind it in an agate mortar and then weigh to make the fused cast beads.

**Prepared, and Values  
 given and certified by**

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