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JIS R 2613 : 1998

**Shaped insulating refractory products  
—Determination of permanent change  
in dimensions on heating**

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ICS 81.080

**Descriptors** : thermal insulation, refractory bricks, refractory materials, fire clay, fireclay refractories, bricks, linearity, contracts, testing, heating tests, thermal testing

**Reference number** : JIS R 2613 : 1998 (E)

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

Date of Establishment: 1959-12-01

Date of Revision: 1998-04-20

Date of Public Notice in Official Gazette: 1998-04-20

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In the event of any doubts arising as to the contents,  
the original JIS is to be the final authority.

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# Shaped insulating refractory products— Determination of permanent change in dimensions on heating

**Introduction** This Standard is the Japanese Industrial Standard published based on the International Standard, **ISO 2477**, *Shaped insulating refractory products—Determination of permanent change in dimensions on heating* published as the second edition in 1987, however, part of contents of the Standard has been altered in conformity with the actual circumstances of our country.

The places denoted with the underlines of dots in this Standard are the matters which have altered the contents of the prescriptions of the original International Standard, or the matters not included in the original International Standard.

**1 Scope** This Japanese Industrial Standard specifies the measuring method of permanent linear changing rate of shaped insulating refractory products.

**2 Normative references** The normative references to this Standard are given in the following:

ISO 5016 *Shaped insulating refractory products—Determination of bulk density and true porosity*

Informative reference : The contents are equivalent to **JIS R 2614**, *Testing method for specific gravity and true porosity of insulating fire bricks*.

ISO 5022 *Shaped refractory products—Sampling acceptance testing*

Informative reference : The contents are equivalent to **JIS Z 9001**, *General rules for sampling inspection procedures*.

**3 Definitions** For the purposes of this Standard, the following main definitions apply.

**3.1 permanent change in dimensions on heating** That percentage of change in length to the initial length, when heated at a prescribed temperature and for prescribed time, and then cooled to room temperature.

**3.2 shaped insulating refractory products** The refractory products of which true porosity measured by **ISO 5016** is 45 % or over in volume percentage.

Informative reference : This true porosity coincides with the true porosity  $P_t$  obtained from the formula (1), using the bulk density  $D_b$  and true density  $D_t$  measured in accordance with **JIS R 2614**.

$$P_t = (1 - D_b/D_t) \times 100 (\%) \dots\dots\dots (1)$$