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(ISO 4492 : 1985)

(JPMA)

**Metallic powders, excluding
powders for hardmetals—
Determination of dimensional
changes associated with
compacting and sintering**

ICS 77.160

Reference number : JIS Z 2509 : 2004 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from Japan Powder Metallurgy Association (JPMA) with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on **ISO 4492 : 1985 *Metallic powders, excluding powders for hardmetals—Determination of dimensional changes associated with compacting and sintering*** for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

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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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Metallic powders, excluding powders for hardmetals—Determination of dimensional changes associated with compacting and sintering

Introduction This Japanese Industrial Standard has been prepared based on the first edition of **ISO 4492** *Metallic powders, excluding powders for hardmetals—Determination of dimensional changes associated with compacting and sintering* published in 1985 without modifying the technical contents.

Portion underlined with dots is the matters not stated in the original International Standard.

1 Scope This Standard specifies a method by which the dimensional changes associated with compacting and sintering of metallic powders are compared with those of a reference powder when processed under similar conditions.

The method applies to the determination of three types of dimensional changes involved with the processing of metallic powders, excluding powders for hardmetals.

NOTE : The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are **IDT** (identical), **MOD** (modified), and **NEQ** (not equivalent) according to **ISO/IEC Guide 21**.

ISO 4492 : 1985 *Metallic powders, excluding powders for hardmetals—Determination of dimensional changes associated with compacting and sintering* (IDT)

2 Normative reference The following standard contains provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent edition of the standard (including amendments) indicated below shall be applied.

ISO 2740 *Sintered metal materials, excluding hardmetals—Tensile test pieces*

3 Principle Compaction of a metallic powder or powder mix with admixed lubricant to produce a test piece and then sintering it under controlled conditions. Depending upon the particular dimensional change required, measurement of the dimension of the unloaded die cavity, the green compact and/or the sintered test piece. Calculation of the algebraic difference between these various measurements as a percentage of the dimension of the die cavity or the green compact. (See clause 9).

Standard test pieces made from a reference lot of powder are processed together with the sample under test and the dimensional changes of the two powders are reported.

4 Test parameters The reference powder shall be chosen by agreement between supplier and user and shall have a composition and properties as close as possible to those of the powder to be tested.