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(JPMA)

**Metallic powders, excluding
powders for hardmetals—
Determination of compressibility
in uniaxial compression**

ICS 77.160

Reference number : JIS Z 2508 : 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 3927 : 2001** *Metallic powders, excluding powders for hardmetals—Determination of compressibility in uniaxial compression* 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 compressibility in uniaxial compression

Introduction This Japanese Industrial Standard has been prepared based on the third edition of **ISO 3927** *Metallic powders, excluding powders for hardmetals—Determination of compressibility in uniaxial compression* published in 2001 without modifying the technical contents.

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

1 Scope This Standard specifies methods for measuring the extent to which a metallic powder is compacted when subjected to uniaxial compressive loading in confining die under specified conditions. The method is not applicable to powders for hardmetals.

Remarks : 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 3927 : 2001 *Metallic powders, excluding powders for hardmetals—Determination of compressibility in uniaxial compression* (IDT)

2 Symbols For the purposes of this Standard, the symbols given in table 1 apply.

Table 1 Symbols

Symbol	Meaning	Unit
ρ_p	Compressibility ⁽¹⁾	g/cm ³
m	Mass of the compact	g
V	Volume of the compact	cm ³
⁽¹⁾ If the compressibility is measured at one pressure only, e.g. 400 N/mm ² , the symbol becomes $\rho_{p(400)}$.		

3 Principle Uniaxial compaction of a powder in a confining die by double action pressing. Samples of the powder may be pressed either at a single specified pressure or at a series of specified pressures. After ejection from the die, the density of the compacts is determined.

The density obtained in the former case represents the compressibility of the powder at the specified pressure. The densities obtained in the latter case can be utilized for drawing the compressibility curve of the powder, i.e. a plot of the density as a function of the compacting pressure.