Metallic powders, excluding powders for hardmetals - Determination of dimensional changes associated with compacting and sintering (ISO 4492:2013)

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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 4492:2013 sisaldab Euroopa standardi EN ISO 4492:2013 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 4492:2013 consists of the English text of the European standard EN ISO 4492:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.03.2013.	Date of Availability of the European standard is 20.03.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Metallic powders, excluding powders for hardmetals - Determination of dimensional changes associated with compacting and sintering (ISO 4492:2013)

Poudres métalliques à l'exclusion des poudres pour métaux-durs - Détermination de changements dimensionnels liés à la compression et au frittage (ISO 4492:2013)

Metallpulver, mit Ausnahme von Hartmetallpulvern - Ermittlung der Maßänderungen beim Pressen und Sintern (ISO 4492:2013)

This European Standard was approved by CEN on 26 February 2013.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN ISO 4492:2013: E

Foreword

This document (EN ISO 4492:2013) has been prepared by Technical Committee ISO/TC 119 "Powder metallurgy".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 24492:1993.

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Endorsement notice

The text of ISO 4492:2013 has been approved by CEN as EN ISO 4492:2013 without any modification.

Contents

Page

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

1 Scope

This International 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. (See Clause 4.)

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

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 3927, *Metallic powders, excluding powders for hardmetals — Determination of compressibility in uniaxial compression*

3 Principle

Compaction of a metallic powder or powder mix with admixed lubricant was used to produce a test piece that was sintered under controlled conditions. Depending upon the particular dimensional change required, measurement of the dimension of the uploaded die cavity, the green compact, and/or the sintered test piece is calculated. The algebraic difference between these various measurements is calculated 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 the supplier and user and shall have a composition and properties as close as possible to those of the powder to be tested.

The following three types of dimensional changes are dealt with in this International Standard:

4.1 From die size to green size (spring back): The increase in dimensions of a compact, measured at right angles to the direction of pressing, after being ejected from the die.

4.2 From green size to sintered size (sintered dimensional change): The change in dimensions of an object that occurs as a result of sintering.

4.3 From die size to sintered size (total dimensional change).