



SLOVENSKI STANDARD
SIST EN ISO 3927:2004
01-september-2004

Metallpulver, mit Ausnahme von Hartmetallpulvern - Bestimmung der Verdichtbarkeit bei einachsigen Pressen (ISO 3927:2001)

Metallpulver, mit Ausnahme von Hartmetallpulvern - Bestimmung der Verdichtbarkeit bei einachsigen Pressen (ISO 3927:2001)

Metallpulver, mit Ausnahme von Hartmetallpulvern - Bestimmung der Verdichtbarkeit bei einachsigen Pressen (ISO 3927:2001)

Poudres métalliques, à l'exclusion des poudres pour métaux-durs - Détermination de la compressibilité sous compression uniaxiale (ISO 3927:2001)

Ta slovenski standard je istoveten z: EN ISO 3927:2001

ICS:

77.160 Metalurgija prahov Powder metallurgy

SIST EN ISO 3927:2004 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 3927:2004](#)

<https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 3927

December 2001

ICS 77.160

Supersedes EN 23927:1993

English version

**Metallic powders, excluding powders for hardmetals -
Determination of compressibility in uniaxial compression (ISO
3927:2001)**

Poudres métalliques, à l'exclusion des poudres pour
métaux-durs - Détermination de la compressibilité sous
compression uniaxiale (ISO 3927:2001)

Metallpulver, mit Ausnahme von Hartmetallpulvern -
Bestimmung der Verdichtbarkeit bei einachsigem Pressen
(ISO 3927:2001)

This European Standard was approved by CEN on 1 December 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 3927:2001 (E)

| |
|-----------------------------|
| CORRECTED 2002-01-30 |
|-----------------------------|

Foreword

The text of the International Standard ISO 3927:2001 has been prepared by Technical Committee ISO/TC 119 "Powder metallurgy", the secretariat of which is held by CMC.

This document supersedes EN 23927:1993.

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 June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Endorsement notice

<https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-31f1d115-3927-2001>

The text of the International Standard ISO 3927:2001 was approved by CEN as a European Standard without any modifications.

INTERNATIONAL STANDARD

**ISO
3927**

Third edition
2001-12-01

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

*Poudres métalliques, à l'exclusion des poudres pour métaux-durs —
Détermination de la compressibilité sous compression uniaxiale*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 3927:2004](https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004)

[https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-
2154d0bf8f12/sist-en-iso-3927-2004](https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004)



Reference number
ISO 3927:2001(E)

© ISO 2001

ISO 3927:2001(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 3927:2004](https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004)

<https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004>

© ISO 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3927 was prepared by Technical Committee ISO/TC 119, *Powder metallurgy*, Subcommittee SC 2, *Sampling and testing methods for powders (including powders for hardmetals)*.

This third edition cancels and replaces the second edition (ISO 3927:1985), which has been technically revised.

ITEH STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 3927:2004](https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004)

<https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 3927:2004](#)

<https://standards.iteh.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004>

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

1 Scope

This International Standard specifies methods for measuring the extent to which a metallic powder is compacted when subjected to uniaxial compressive loading in a confining die under specified conditions.

The method is not applicable to powders for hardmetals.

2 Symbols

For the purposes of this International Standard, the symbols given in Table 1 apply.

Table 1 — Symbols

| Symbol | Meaning | Unit |
|----------|------------------------------|-------------------|
| ρ_p | Compressibility ^a | g/cm ³ |
| m | Mass of the compact | g |
| V | Volume of the compact | cm ³ |

^a If the compressibility is measured at one pressure only, e.g. 400 N/mm², the symbol becomes $\rho_{p(400)}$.

SIST EN ISO 3927:2004

<https://standards.itech.ai/catalog/standards/sist/ec3d473e-8ace-4a17-a7d5-2154d0bf8f12/sist-en-iso-3927-2004>

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.

4 Apparatus

4.1 Die, preferably of cemented carbide, or alternatively of tool steel, and **two punches** for producing either cylindrical or rectangular compacts.

The cylindrical die should be capable of making compacts of diameter 20 mm to 26 mm and a height to diameter ratio between 0,8 and 1. An example of a design for tooling is shown in Figure 1.

The rectangular die should be capable of making compacts 30 mm × 12 mm and of thickness 5 mm to 7 mm. An example for a design for tooling is shown in Figure 2.

Mating parts shall be fitted and lapped.

4.2 Press, capable of applying forces up to approximately 500 kN with a minimum accuracy of ± 1 % and adjustable to permit an even increase of the force at a rate not higher than 50 kN/s.

4.3 Balance, capable of weighing at least 100 g to an accuracy of ± 0,01 g.