

**Lubricated metal-powder mixes -
Determination of lubricant content -
Modified Soxhlet extraction method**

Lubricated metal-powder mixes - Determination of
lubricant content - Modified Soxhlet extraction
method

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 13944:2006 sisaldab Euroopa standardi EN ISO 13944:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 13944:2006 consists of the English text of the European standard EN ISO 13944:2006.</p> <p>This document is endorsed on 29.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This International Standard specifies a method for the determination of the lubricant content of a powder mix. The method is also suitable for measuring the content of elements, e.g. graphite and oxygen, the determination of which is interfered with by the presence of a lubricant.</p>	<p>Scope:</p> <p>This International Standard specifies a method for the determination of the lubricant content of a powder mix. The method is also suitable for measuring the content of elements, e.g. graphite and oxygen, the determination of which is interfered with by the presence of a lubricant.</p>
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ICS 77.160

Võtmesõnad:

ICS 77.160

English Version

Lubricated metal-powder mixes - Determination of lubricant
content - Modified Soxhlet extraction method (ISO 13944:1996)

Mélanges de poudres métalliques lubrifiées - Détermination
de la teneur en lubrifiant - Méthode d'extraction au Soxhlet,
modifiée (ISO 13944:1996)

Metallpulver mit Gleitmittelzusatz - Bestimmung des
Gleitmittelteils - Modifiziertes Extraktionsverfahren nach
Soxhlet (ISO 13944:1996)

This European Standard was approved by CEN on 9 March 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

The text of ISO 13944:1996 has been prepared by Technical Committee ISO/TC 119 "Powder metallurgy" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 13944:2006 by Technical Committee CEN/SS M11 "Powder metallurgy", the secretariat of which is held by CMC.

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 October 2006, and conflicting national standards shall be withdrawn at the latest by October 2006.

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

Endorsement notice

The text of ISO 13944:1996 has been approved by CEN as EN ISO 13944:2006 without any modifications.

INTERNATIONAL STANDARD

ISO
13944

First edition
1996-12-15

Lubricated metal-powder mixes — Determination of lubricant content — Modified Soxhlet extraction method

*Mélanges de poudres métalliques lubrifiées — Détermination de la teneur
en lubrifiant — Méthode d'extraction au Soxhlet, modifiée*



Reference number
ISO 13944:1996(E)

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.

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.

International Standard ISO 13944 was prepared by Technical Committee ISO/TC 119, *Powder metallurgy*, Subcommittee SC 2, *Sampling and testing methods for powders (including powders for hard metals)*.

This first edition cancels and replaces ISO 4495:1978, of which it constitutes a technical revision.

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Lubricated metal-powder mixes — Determination of lubricant content — Modified Soxhlet extraction method

1 Scope

This International Standard specifies a method for the determination of the lubricant content of a powder mix. The method is also suitable for measuring the content of elements, e.g. graphite and oxygen, the determination of which is interfered with by the presence of a lubricant.

A condition of the application of the method is that a suitable solvent for the lubricant concerned is known and available.

2 Principle

The lubricant is extracted from a weighed test portion using a suitable solvent. The test portion is reweighed after the extraction, and the percentage mass loss, representing the extracted lubricant, calculated.

The extracted test portion can then be used to determine, by the normal methods, the content of other constituents, without any interference from the lubricant.

3 Apparatus and materials

3.1 Analytical balance, capable of weighing the sintered-glass filter crucible (see 3.2.3) together with the test portion to the nearest 1 mg.

3.2 Soxhlet apparatus, as shown in figure 1, with ungreased joints, consisting of the following parts:

3.2.1 Allihn (bulb-type) condenser.

3.2.2 Soxhlet extractor, with a volume of 150 ml to 200 ml.

3.2.3 Sintered-glass filter crucible (porosity grade P 160¹⁾), **filter paper** (with a filtering speed of 1 000 ml/min), **glass wool** and a **length of glass tubing** with a diameter of about 30 mm and long enough to serve the purpose mentioned in 5.3.

In cases when the lubricant content to be determined is less than 0,5 %, all these items shall be rinsed with the solvent (3.3) before use.

1) As defined in ISO 4793:1980, *Laboratory sintered (fritted) filters — Porosity grading classification and designation*.