

SVENSK STANDARD

SS-EN ISO 4491-4:2019

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Metalliska pulver – Bestämning av syrehalt med reduktionsmetoder – Del 4: Total syrehalt vid reduktionsextraktion (ISO 4491-4:2019)

Metallic powders – Determination of oxygen content by reduction methods – Part 4: Total oxygen by reduction-extraction (ISO 4491-4:2019)

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Denna standard ersätter SS-EN ISO 4491-4:2013, utgåva 1

The European Standard EN ISO 4491-4:2019 has the status of a Swedish Standard. This document contains the official version of EN ISO 4491-4:2019.

This standard supersedes the SS-EN ISO 4491-4:2013, edition 1

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Denna standard är framtagen av kommittén för Pulvermetallurgi, SIS/TK 133.

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EUROPEAN STANDARD

EN ISO 4491-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2019

ICS 77.160

Supersedes EN ISO 4491-4:2013

English Version

**Metallic powders - Determination of oxygen content by
reduction methods - Part 4: Total oxygen by reduction-
extraction (ISO 4491-4:2019)**

Poudres métalliques - Dosage de l'oxygène par les
méthodes de réduction - Partie 4: Oxygène total

par réduction-extraction (ISO 4491-4:2019)

This European Standard was approved by CEN on 25 April 2019.

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 CEN-CENELEC 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 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

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European foreword

This document (EN ISO 4491-4:2019) has been prepared by Technical Committee ISO/TC 119 "Powder metallurgy" in collaboration with Technical Committee CEN/SS M11 "Powder metallurgy" the secretariat of which is held by CCMC.

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 November 2019, and conflicting national standards shall be withdrawn at the latest by November 2019.

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Endorsement notice

The text of ISO 4491-4:2019 has been approved by CEN as EN ISO 4491-4:2019 without any modification.

Introduction

The determination of the oxygen content of metallic powders is of the utmost importance in many fields of powder metallurgy.

The standard methods described in ISO 4491-2 and ISO 4491-3 do not give the total oxygen content of the sample, as some oxygen-containing constituents are not reduced by hydrogen.

Therefore, a standard method for the determination of the total oxygen content is needed. The most frequently used method is reduction-extraction. It can be carried out with various commercially available instruments working according to different principles of extraction and measurement.

The results of the analysis depend on the type of equipment used and on the test parameters selected. However, as indicated in [Clauses 4 to 7](#), it is always possible, for a given type of metal powder, to optimize the test conditions to obtain reproducible and accurate results with any of the commercially available instruments, provided they are designed for testing the metal powder considered.

It is not possible to standardize one or more particular instruments. However, certain basic points of procedure are considered for the analysis of metallic powders (see [Clause 7](#)).

NOTE The reduction-extraction method is also applicable to nitrogen determination and certain instruments permit simultaneous measurement of oxygen and nitrogen contents. However, the determination of nitrogen is not covered by this document.