### STN

### Kovové prášky Stanovenie obsahu kyslíka redukčnými metódami Časť 2: Úbytok hmotnosti pri redukcii vodíkom (ISO 4491-2: 2023)

STN EN ISO 4491-2

42 0890

Metallic powders - Determination of oxygen content by reduction methods - Part 2: Loss of mass on hydrogen reduction (hydrogen loss) (ISO 4491-2:2023)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/23

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### **English Version**

## Metallic powders - Determination of oxygen content by reduction methods - Part 2: Loss of mass on hydrogen reduction (hydrogen loss) (ISO 4491-2:2023)

Poudres métalliques - Dosage de l'oxygène par les méthodes de réduction - Partie 2: Perte de masse par réduction dans l'hydrogène (perte dans l'hydrogène) (ISO 4491-2:2023)

Metallpulver - Bestimmung des Sauerstoffanteils durch Reduktionsverfahren - Teil 2: Masseverlust durch Reduktion mit Wasserstoff (ISO 4491-2:2023)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

### EN ISO 4491-2:2023 (E)

Contents	Page
European foreword	3

### **European foreword**

This document (EN ISO 4491-2:2023) has been prepared by Technical Committee ISO/TC 119 "Powder metallurgy" in collaboration with 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of an identical text or by endorsement, at the latest by October 2023, and conflicting national standards shall be withdrawn at the latest by October 2023.

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

This document supersedes EN ISO 4491-2:1999.

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

### **Endorsement notice**

The text of ISO 4491-2:2023 has been approved by CEN as EN ISO 4491-2:2023 without any modification.

## INTERNATIONAL STANDARD

ISO 4491-2

Third edition 2023-04

# Metallic powders — Determination of oxygen content by reduction methods —

### Part 2:

### Loss of mass on hydrogen reduction (hydrogen loss)

Poudres métalliques — Dosage de l'oxygène par les méthodes de réduction —

Partie 2: Perte de masse par réduction dans l'hydrogène (perte dans l'hydrogène)





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tents	Page
word	iv
Scope	
Normative references	1
Terms and definitions	1
Reagents and materials	1
Apparatus 5.1 General 5.2 Balance 5.3 Furnace 5.4 Gas-tight tube 5.5 Thermocouple 5.6 Boat 5.7 Supply unit	
7.1 General	3
Calculation and expression of test results	5
Precision	5
Test report	6
x A (informative) Interpretation of results	7
ography	
	Scope Normative references Terms and definitions Reagents and materials Apparatus 5.1 General 5.2 Balance 5.3 Furnace 5.4 Gas-tight tube 5.5 Thermocouple 5.6 Boat 5.7 Supply unit  Sampling  Procedure 7.1 General 7.2 Test procedure Calculation and expression of test results Precision Test report  x A (informative) Interpretation of results

#### 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="www.iso.org/directives">www.iso.org/directives</a>).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 119 *Powder metallurgy*, Subcommittee SC 2, *Sampling and testing methods for sintered metal materials (excluding hardmetals)*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS M11, *Powder metallurgy*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 4491-2:1997), which has been technically revised.

The main changes compared to the previous edition are as follows:

adding of precision statement.

A list of all parts in the ISO 4491 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

### Metallic powders — Determination of oxygen content by reduction methods —

### Part 2:

### Loss of mass on hydrogen reduction (hydrogen loss)

### 1 Scope

This document specifies a method for the determination of the relative loss of mass which a metallic powder undergoes when heated in a stream of pure dry hydrogen under specified conditions.

The purpose of this test is to evaluate a chemical powder characteristic which is of importance to the powder metallurgical industry. The test is not intended as a means for the determination of the content of specific elements (see Annex A and ISO 4491-1).

The test method is applicable to unalloyed, partially alloyed and completely alloyed powders of the metals listed in  $\frac{\text{Table 1}}{\text{Table 2}}$  (see  $\frac{7.2.1}{\text{Deceive}}$ ). It is not applicable to lubricated powders or to mixtures of metal powders.

#### 2 Normative references

There are no normative references in this document.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN