
Trdine - Metalografsko določevanje mikrostrukture - 3. del: Merjenje mikrostrukturnih značilnosti v trdinah na osnovi Ti (C, N) in WC/kubičnega karbida (ISO 4499-3:2016)

Hardmetals - Metallographic determination of microstructure - Part 3: Measurement of microstructural features in Ti (C, N) and WC/cubic carbide based hardmetals (ISO 4499-3:2016)

Hartmetalle - Metallographische Bestimmung der Mikrostruktur - Teil 3: Messung von mikrostrukturellen Merkmalen in Hartmetallen auf Basis von Ti (C, N) und WC/kubischem Carbid (ISO 4499-3:2016)

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Métaux-durs - Détermination métallographique de la microstructure - Partie 3: Mesure des caractéristiques des microstructures des métaux-durs à base de carbures Ti (C, N) et WC/cubiques (ISO 4499-3:2016)

Ta slovenski standard je istoveten z: EN ISO 4499-3:2016

ICS:

77.040.99	Druge metode za preskušanje kovin	Other methods of testing of metals
77.160	Metalurgija prahov	Powder metallurgy

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English Version

Hardmetals - Metallographic determination of microstructure - Part 3: Measurement of microstructural features in Ti (C, N) and WC/cubic carbide based hardmetals (ISO 4499-3:2016)

Métaux-durs - Détermination métallographique de la
microstructure - Partie 3: Mesure des caractéristiques
des microstructures des métaux-durs à base de
carbures Ti (C, N) et WC/cubiques (ISO 4499-3:2016)

Hartmetalle - Metallographische Bestimmung der
Mikrostruktur - Teil 3: Messung von
mikrostrukturellen Merkmalen in Hartmetallen auf
Basis von Ti (C, N) und WC/kubischem Carbid (ISO
4499-3:2016)

This European Standard was approved by CEN on 4 February 2016.

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European foreword

This document (EN ISO 4499-3:2016) 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of an identical text or by endorsement, at the latest by September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

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.

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**Hardmetals — Metallographic
determination of microstructure —**

Part 3:

**Measurement of microstructural
features in Ti (C, N) and WC/cubic
carbide based hardmetals**

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*Métaux-durs — Détermination métallographique de la
microstructure —**Partie 3: Mesure des caractéristiques des microstructures des métaux-
durs à base de carbures Ti (C, N) et WC/cubiques*

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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 www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

The committee responsible for this document is ISO/TC 119, *Powder metallurgy*, Subcommittee SC 4, *Sampling and testing methods for hardmetals*.

ISO 4499 consists of the following parts, under the general title *Hardmetals — Metallographic determination of microstructure*:

- *Part 1: Photomicrographs and description*
- *Part 2: Measurement of WC grain size*
- *Part 3: Measurement of microstructural features in Ti(C,N) and WC/cubic carbide based hardmetals*
- *Part 4: Characterisation of porosity, carbon defects and eta-phase content*

Introduction

This part of ISO 4499 essentially covers the following topics:

- materials types and phases to be measured including the following:
 - Ti(C, N) cermets;
 - WC/Cubic carbide hardmetals;
- preparation methods to highlight differences between conventional WC/Co hardmetals and materials containing cubic phases;
- linear analysis techniques to acquire sufficient statistically meaningful data for phase quantification;
- analysis method to calculate representative average values;
- reporting to comply with modern quality requirements.

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