

Fine ceramics (advanced ceramics, advanced technical ceramics) - Rockwell indentation test for evaluation of adhesion of ceramic coatings (ISO 26443:2023)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 26443:2023 sisaldab Euroopa standardi EN ISO 26443:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 08.11.2023.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 26443:2023 consists of the English text of the European standard EN ISO 26443:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 08.11.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 81.060.30

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English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Rockwell indentation test for evaluation of adhesion of ceramic coatings (ISO 26443:2023)

Céramiques techniques - Évaluation de l'adhérence des revêtements céramiques par l'essai de pénétration Rockwell (ISO 26443:2023)

Hochleistungskeramik - Rockwell-Eindringprüfung zur Bewertung der Haftung von keramischen Schichten (ISO 26443:2023)

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN ISO 26443:2023) has been prepared by Technical Committee ISO/TC 206 "Fine ceramics" in collaboration with Technical Committee CEN/TC 184 "Advanced technical ceramics" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2024, and conflicting national standards shall be withdrawn at the latest by May 2024.

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 26443:2016.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 26443:2023 has been approved by CEN as EN ISO 26443:2023 without any modification.

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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 document 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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This document was prepared by Technical Committee ISO/TC 206, *Fine ceramics*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 184, *Advanced technical ceramics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 26443:2008), of which it constitutes a minor revision. The changes are as follows:

- table of contents was added;
- normative reference titles were updated;
- units for loads in kgf were deleted.

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Fine ceramics (advanced ceramics, advanced technical ceramics) — Rockwell indentation test for evaluation of adhesion of ceramic coatings

1 Scope

This document specifies a method for the qualitative evaluation of the adhesion of ceramic coatings up to 20 µm thick by indentation with a Rockwell diamond indenter. The formation of cracks after indentation can also reveal cohesive failure. The indentations are made with a Rockwell hardness test instrument.

The method described in this document can also be suitable for evaluating the adhesion of metallic coatings.

The test is not suitable for elastic coatings on hard substrates.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 6508-2, *Metallic materials — Rockwell hardness test — Part 2: Verification and calibration of testing machines and indenters*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Principle

An indentation is made into the coated surface of the specimen to be tested, whereby the coating near the indent can be damaged. The indentation and surrounding area are examined for cracks and/or flaking with the aid of an optical microscope.

5 Apparatus

The indentations shall be made in accordance with ISO 6508-1, following the procedure for a Rockwell hardness indentation.

The Rockwell hardness testing machine shall conform with the requirements of ISO 6508-2.

The contour of the diamond indenter shall be checked regularly by optical means (magnifying glass, optical microscope, stereomicroscope or projection screen). This check shall be made for at least four different axial sections. The indenter shall be replaced if this examination reveals any damage to the