INTERNATIONAL STANDARD

ISO 26443

First edition
2008-06-15

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

Céramiques techniques — Évaluation de l'adhérence des revêtements céramiques par l'essai de pénétration de Rockwell

Reference number
ISO 26443:2008(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

COPYRIGHT PROTECTED DOCUMENT

© ISO 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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

ISO 26443 was prepared by Technical Committee ISO/TC 206, *Fine ceramics*.

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

1 Scope

This International Standard 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 may also reveal cohesive failure. The indentations are made with a Rockwell hardness test instrument.

The method described in this International Standard may 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 referenced documents are indispensable for the application 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 (scales A, B, C, D, E, F, G, H, K, N, T)*

ISO 6508-2, *Metallic materials — Rockwell hardness test — Part 2: Verification and calibration of testing machines (scales A, B, C, D, E, F, G, H, K, N, T)*

3 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.

4 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 indenter (e.g. chipping). A magnification of at least ×200 is recommended to detect ring cracks or microwear.