Second edition 2005-12-15

# Metallic materials — Rockwell hardness test —

Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)

Matériaux métalliques — Essai de dureté Rockwell — Partie 1: Méthode d'essai (échelles A, B, C, D, E, F, G, H, K, N, T)



Reference number ISO 6508-1:2005(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.

© ISO 2005

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

### Contents

Foreword	iv
Introduction	. v
1 Scope	. 1
2 Normative references	. 1
3 Principle	. 1
4 Symbols, abbreviated terms and designations	. 1
5 Testing machine	. 4
6 Test piece	. 4
7 Procedure	. 5
8 Uncertainty of the results	. 6
9 Test report	. 6
Annex A (normative) Conventional HR30Tm and HR15Tm test for thin products	. 8
Annex B (normative) Minimum thickness of the test piece in relation to the Rockwell hardness	. 9
Annex C (normative) Corrections to be added to Rockwell hardness values obtained on convex cylindrical surfaces	12
Annex D (normative) Corrections to be added to Rockwell hardness C scale values obtained on spherical test surfaces of various diameters	15
Annex E (informative) Procedure for periodic checking of the testing machine by the user	16
Annex F (informative) Notes on diamond indenters	17
Annex G (informative) Uncertainty of the measured hardness values	18
Bibliography	24

#### 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 6508-1 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 3, *Hardness testing*.

This second edition cancels and replaces the first edition (ISO 6508-1:1999), which has been technically revised.

ISO 6508 consists of the following parts, under the general title *Metallic materials* — *Rockwell hardness test*:

- Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)
- Part 2: Verification and calibration of testing machines (scales A, B, C, D, E, F, G, H, K, N, T)
- Part 3: Calibration of reference blocks (scales A, B, C, D, E, F, G, H, K, N, T)

## Introduction

The periodic checking of the testing machine described in informative Annex E is good metrological practice. It is intended to make the annex normative in the next revision of this part of ISO 6508.