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**Destructive tests on welds in metallic  
materials — Hardness testing —**

**Part 1:  
Hardness test on arc welded joints**

*Essais destructifs des soudures sur matériaux métalliques — Essais de  
dureté —*

*Partie 1: Essai de dureté des assemblages soudés à l'arc*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 part of ISO 9015 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 9015-1 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*.

ISO 9015 consists of the following parts, under the general title *Destructive tests on welds in metallic materials — Hardness testing*:

- *Part 1: Hardness test on arc welded joints*
- *Part 2: Microhardness testing of welded joints*

Annexes A and B of this part of ISO 9015 are for information only.

# Destructive tests on welds in metallic materials — Hardness testing —

## Part 1: Hardness test on arc welded joints

### 1 Scope

This part of ISO 9015 specifies hardness tests on transverse sections of arc welded joints of metallic materials. It covers Vickers hardness tests in accordance with ISO 6507-1, normally with test loads of 49,03 N or 98,07 N (HV 5 or HV 10).

However, the principles may be applied to Brinell hardness testing (with appropriate testing loads of HB 2,5/15,625 or HB 1/2,5) in accordance with ISO 6506-1, and micro hardness testing in accordance with ISO 6507-1 and ISO 9015-2.

NOTE Testing should be carried out to ensure that the highest and the lowest level of hardness of both parent metal and weld metal is determined.

This part of ISO 9015 does not apply to test welds in austenitic stainless steels.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 9015. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 9015 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*.

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*.

ISO 9015-2, *Destructive tests on welds in metallic materials — Hardness testing — Part 2: Microhardness testing on welded joints*.

### 3 Principle

The type and extent of testing shall be as specified by the relevant application standard or by agreement between the contracting parties.

Hardness testing shall be carried out in accordance with ISO 6507-1 or ISO 6506-1.

The hardness tests may be carried out in the form of rows of indentations, R, or as individual indentations, E.

When types of weld are not shown in the examples in Figures 1 and 2, the test procedure shall be appropriate to the welded joint.

Unless otherwise specified, the test shall be carried out at ambient temperature ( $23 \pm 5$ ) °C.