
**Non-destructive testing of welds —
Magnetic particle testing**

*Contrôle non destructif des assemblages soudés — Contrôle par
magnétoscopie*



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

© ISO 2003

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

Page

Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Safety precautions	1
5 General	2
5.1 Information required prior to testing	2
5.2 Additional pre-test information	2
5.3 Personnel qualification	2
5.4 Surface conditions and preparation	2
5.5 Magnetizing	3
5.6 Application techniques	4
5.7 Detection media	9
5.8 Viewing conditions	10
5.9 Application of detection media	10
5.10 Overall performance test	10
5.11 False indications	10
5.12 Recording of indications	11
5.13 Demagnetization	11
5.14 Test report	11
Annex A (informative) Variables affecting the sensitivity of magnetic particle testing	13
Bibliography	15

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 17638 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*.

This document is a preview generated by EVS

Non-destructive testing of welds — Magnetic particle testing

1 Scope

This International Standard specifies techniques for detection of surface imperfections in welds in ferromagnetic materials, including the heat affected zones, by means of magnetic particle testing. The techniques are suitable for most welding processes and joint configurations. Variations in the basic techniques that will provide a higher or lower test sensitivity, are described in Annex A.

This International Standard does not specify acceptance levels of the indications. Further information on acceptance levels for indications may be found in EN 1291 or in product or application standards.

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 3059, *Non-destructive testing — Penetrant testing and magnetic particle testing — Viewing conditions*

ISO 9934-2, *Non-destructive testing — Magnetic particle testing — Part 2: Detection media*

ISO 9934-3, *Non-destructive testing — Magnetic particle testing — Part 3: Equipment*

ISO 17635, *Non-destructive testing of welds — General rules for fusion welds in metallic materials*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17635 apply.

4 Safety precautions

International, national and local safety and environmental protection regulations shall be observed at all times.

Special consideration shall be given to toxic, inflammable and/or volatile materials, electrical safety and unfiltered UV radiation.