

This is a preview of "ISO 17643:2015". [Click here to purchase the full version from the ANSI store.](#)

Second edition  
2015-09-01

---

---

## **Non-destructive testing of welds — Eddy current testing of welds by complex-plane analysis**

*Contrôle non destructif des assemblages soudés — Contrôle par courants de Foucault des assemblages soudés avec analyse des signaux dans le plan complexe*



Reference number  
ISO 17643:2015(E)

© ISO 2015

This is a preview of "ISO 17643:2015". [Click here to purchase the full version from the ANSI store.](#)



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

This is a preview of "ISO 17643:2015". Click here to purchase the full version from the ANSI store.

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Personnel qualification</b> .....	<b>1</b>
<b>5 Written procedures</b> .....	<b>2</b>
<b>6 General applications</b> .....	<b>2</b>
6.1 Essential variables.....	2
6.2 Additional information.....	2
6.3 Surface conditions.....	2
6.4 Equipment.....	3
6.4.1 Instrumentation (excluding probe).....	3
6.4.2 Surface probes.....	3
6.4.3 Accessories.....	3
6.4.4 Systematic equipment maintenance.....	5
6.5 Test procedure.....	5
6.5.1 Evaluation mode.....	5
6.5.2 Procedure for measuring coating thickness and material comparison relative to calibration block.....	5
6.5.3 Procedure for testing welds in ferritic materials.....	6
6.6 Detectability of discontinuities.....	11
6.7 Procedure for testing welds in other materials.....	12
<b>7 Test report</b> .....	<b>12</b>
<b>Annex A (informative) Recommended eddy current method flow diagram</b> .....	<b>14</b>

## 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 documents 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*.

This second edition cancels and replaces the first edition (ISO 17643:2005), which has been technically revised.