

First edition  
2002-02-01

---

---

## **Welding — Recommendations for welding of metallic materials —**

### **Part 3: Arc welding of stainless steels**

*Soudage — Recommandations pour le soudage des matériaux  
métalliques —*

*Partie 3: Soudage à l'arc des aciers inoxydables*



Reference number  
ISO/TR 17671-3:2002(E)

© ISO 2002

This is a preview of "ISO/TR 17671-3:2002". [Click here to purchase the full version from the ANSI store.](#)

**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 2002

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.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

This is a preview of "ISO/TR 17671-3:2002". [Click here to purchase the full version from the ANSI store.](#)

## Contents

	Page
Foreword.....	iv
Introduction.....	v
1 Scope .....	1
2 References .....	1
3 Terms and definitions .....	2
4 Parent metal .....	2
5 Storage and handling .....	2
6 Welding consumables.....	3
7 Fabrication .....	3
8 Quality requirements of welds .....	4
9 Distortion .....	5
10 Post-weld cleaning .....	5
Annex A Welding of austenitic stainless steels .....	7
Annex B Welding of ferritic stainless steels.....	12
Annex C Welding of austenitic-ferritic stainless steels.....	15
Annex D Welding of martensitic and martensitic-austenitic stainless steels.....	19

## 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.

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.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this part of ISO/TR 17671 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 17671-3 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

ISO/TR 17671 consists of the following parts, under the general title *Welding — Recommendations for welding of metallic materials*:

- *Part 1: General guidance for arc welding*
- *Part 2: Arc welding of ferritic steels*
- *Part 3: Arc welding of stainless steels*
- *Part 4: Arc welding of aluminium and aluminium alloys*

This is a preview of "ISO/TR 17671-3:2002". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

This part of ISO/TR 17671 is being issued with several annexes in order that it may be extended to cover the different types of steel which will be produced to all the International steel standards for stainless steels.

When this part of ISO/TR 17671 is referenced for contractual purposes, the ordering authority should state the need for compliance with the document and such other annexes as are appropriate.

This part of ISO/TR 17671 gives general guidance for the satisfactory production and control of welding and details the possible detrimental phenomena that may occur with advice on methods by which they may be avoided. It is generally applicable to all stainless steels and is appropriate regardless of the type of fabrication involved, although the application standard may have additional requirements. Permissible design stresses in welds, methods of testing and acceptance levels are not included because they depend on the service conditions of fabrication. These details should be obtained from the design specification.

This part of ISO/TR 17671 contains additional details for fusion welding of stainless steels and should be read in conjunction with the general recommendations in ISO/TR 17671-1.