

# British Standard

A single copy of this British Standard is licensed to  
Eggert Valmundsson  
25 February 2005

This is an uncontrolled copy. Ensure use of the most  
current version of this document by searching British  
Standards Online at [bsonline.techindex.co.uk](http://bsonline.techindex.co.uk)

# Specification and qualification of welding procedures for metallic materials — Welding procedure specification —

Part 2: Gas welding

The European Standard EN ISO 15609-2:2001, with the incorporation of amendment A1:2003, has the status of a British Standard







## National foreword

This British Standard is the official English language version of EN ISO 15609-2:2001, including amendment A1:2003. It is identical with ISO 15609-2:2001.

The UK participation in its preparation was entrusted to Technical Committee WEE/36, Approval testing of welding procedures and welders, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

### Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the BSI Electronic Catalogue or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

### Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, pages 2 to 7 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

### Amendments issued since publication

Amd. No.	Date	Comments
14953	9 February 2004	Revision to foreword and deletion of Annex ZA

This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 08 October 2001

© BSI 9 February 2004

ISBN 0 580 37647 8

ICS 25.160.10

English version

Specification and qualification of welding procedures for metallic  
materials – Welding procedure specification -  
Part 2: Gas welding (ISO 15609-2:2001)  
(includes amendment A1:2003)

Descriptif et qualification d'un mode opératoire de soudage  
pour les matériaux métalliques - Descriptif d'un mode  
opératoire de soudage - Partie 2: Soudage aux gaz  
(ISO 15609-2:2001)  
(inclut l'amendement A1:2003)

Anforderung und Anerkennung von Schweißverfahren für  
metallische Werkstoffe - Schweißanweisung -  
Teil 2: Gasschweißen (ISO 15609-2:2001)  
(enthält Änderung A1:2003)

This European Standard was approved by CEN on 2 May 2001; amendment A1 was approved by CEN on 20 November 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Contents

	page
Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions.....	4
4 Technical contents of Welding Procedure Specification (WPS).....	4
4.1 General.....	4
4.2 Information related to the manufacturer .....	5
4.3 Information related to the parent material.....	5
4.4 Information common to all welding procedures.....	5
Annex A (informative) Manufacturer's Welding Procedure Specification (WPS) .....	7





## Foreword

The text of EN ISO 15609-2:2001 has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS, in collaboration with Technical Committee ISO/TC 44 "Welding and allied processes".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2002, and conflicting national standards shall be withdrawn at the latest by March 2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Foreword to amendment A1

This document EN ISO 15609-2:2001/A1:2003 has been prepared by Technical Committee CEN/TC 121

"Welding", the secretariat of which is held by DS, in collaboration with Technical Committee ISO/TC 44 "Welding and allied processes".

This Amendment to the European Standard EN ISO 15609-2:2001 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies requirements for the content of welding procedure specifications for gas welding processes.

This standard is part of a series of standards, details of this series are given in prEN ISO 15607, annex A.

Variables listed in this standard are those influencing the quality of the welded joint.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 6947, Welds - Working positions - Definitions of angles of slope and rotation (ISO 6947:1993).

EN ISO 4063, Welding and allied processes – Nomenclature of processes and reference numbers (ISO 4063:1998).

prEN ISO 15607, Specification and approval of welding procedures for metallic materials – General rules (ISO/DIS 15607:2000).

CR ISO 15608, Welding – Guidelines for a metallic material grouping system (ISO/TR 15608:2000).

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in prEN ISO 15607 apply.

## 4 Technical contents of Welding Procedure Specification (WPS)

### 4.1 General

The Welding Procedure Specification (WPS) shall give details of how a welding operation is to be successfully performed.

Welding Procedure Specifications may cover a certain range of thickness of the joined parts and may also cover a range of parent materials or welding consumables. Some manufacturers may prefer additionally to prepare work instructions for each specific job as part of detailed production planning.

Information listed in 4.2 to 4.4 is adequate for most gas welding procedures. For some applications it may be necessary to supplement or reduce the list.

Ranges and tolerances, according to the relevant standard of the series (see prEN ISO 15607) and to the manufacturer's experience, shall be specified where appropriate.

An example of the WPS-format is shown in annex A.



## 4.2 Information related to the manufacturer

Identification of the manufacturer;

Identification of the WPS;

Reference to the Welding Procedure Qualification Record (WPQR) or other documents as required.

## 4.3 Information related to the parent material

### 4.3.1 Parent material type

Designation of the material, and reference standard;

Number of the group as given in CR ISO 15608.

A WPS may cover more than one group of materials.

### 4.3.2 Material dimensions

Thickness ranges of the joint ;

Outside diameter ranges for pipes.

## 4.4 Information common to all welding procedures

### 4.4.1 Welding process

The welding process in accordance with EN ISO 4063.

### 4.4.2 Joint design

Sketch of the joint design showing configuration and dimensions. Details may be given by reference to an appropriate standard on joint design.

Weld run sequence, if essential for the properties of the weld.

### 4.4.3 Welding position

Applicable welding positions in accordance with EN ISO 6947.

### 4.4.4 Initial and interpass preparation and cleaning

Information related to groove cleaning, degreasing, jigging and tack welding, grinding and gouging including methods to be used.

### 4.4.5 Welding technique

Leftward welding or rightward welding.



#### 4.4.6 Welding data

Nozzle size ;

Fuel gas type and pressure ;

O<sub>2</sub> pressure ;

Type of flame.

#### 4.4.7 Welding consumables, designation

Designation, manufacturer and trade name.

#### 4.4.8 Welding consumables, dimensions

Diameter of rod.

#### 4.4.9 Post-weld heat-treatment

For any post-weld heat-treatment, procedure to be followed (or reference to a separate post-weld heat-treatment specification).





Annex A  
(informative)

Manufacturer's Welding Procedure Specification (WPS)

Manufacturer's welding procedure

Reference No. :  
WPQR No. :  
Manufacturer :  
Welding process :  
Joint type :  
Weld preparation details (Sketch)\*

Method of preparation and cleaning :  
Parent material designation :  
Parent material group :  
Material thickness (mm) :  
Outside diameter (mm) :  
Welding position :

Joint design	Welding sequences

Welding details

Run	Process	Welding techni- que	Welding data					Welding consumables	
			Nozzle size	Fuel gas type	Fuel gas pressure	O <sub>2</sub> pressure	Type of flame	Designation	Dimension

Post-weld heat treatment :  
Time, temperature, method :  
Heating and cooling rates\* :  
Remarks :

.....  
Manufacturer  
(name, signature, date)

\_\_\_\_\_

\* If required

## BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

### Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

### Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001. Fax: +44 (0)20 8996 7001. Email: [orders@bsi-global.com](mailto:orders@bsi-global.com). Standards are also available from the BSI website at <http://www.bsi-global.com>.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

### Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: +44 (0)20 8996 7111. Fax: +44 (0)20 8996 7048. Email: [info@bsi-global.com](mailto:info@bsi-global.com).

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: +44 (0)20 8996 7002. Fax: +44 (0)20 8996 7001. Email: [membership@bsi-global.com](mailto:membership@bsi-global.com).

Information regarding online access to British Standards via British Standards Online can be found at <http://www.bsi-global.com/bsonline>.

Further information about BSI is available on the BSI website at <http://www.bsi-global.com>.

### Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

Details and advice can be obtained from the Copyright & Licensing Manager. Tel: +44 (0)20 8996 7070. Fax: +44 (0)20 8996 7553. Email: [copyright@bsi-global.com](mailto:copyright@bsi-global.com).