

This is a preview of "BS EN ISO 17662:2016". [Click here to purchase the full version from the ANSI store.](#)

BS EN ISO 17662:2016



BSI Standards Publication

Welding — Calibration, verification and validation of equipment used for welding, including ancillary activities

bsi.

...making excellence a habit.™

This is a preview of "BS EN ISO 17662:2016". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN ISO 17662:2016. It supersedes BS EN ISO 17662:2005 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/-/1, Briefing committee for welding.

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

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

© The British Standards Institution 2016.
Published by BSI Standards Limited 2016

ISBN 978 0 580 89185 4

ICS 25.160.30

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2016.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

This is a preview of "BS EN ISO 17662:2016". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

March 2016

ICS 25.160.30

Supersedes EN ISO 17662:2005

English Version

Welding - Calibration, verification and validation of equipment used for welding, including ancillary activities (ISO 17662:2016)

Soudage - Étalonnage, vérification et validation du matériel utilisé pour le soudage, y compris pour les procédés connexes (ISO 17662:2016)

Schweißen - Kalibrierung, Verifizierung und Validierung von Einrichtungen einschließlich ergänzender Tätigkeiten, die beim Schweißen verwendet werden (ISO 17662:2016)

This European Standard was approved by CEN on 23 January 2016.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN ISO 17662:2016) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding" the secretariat of which is held by DIN.

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 September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 17662:2005.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 17662:2016 has been approved by CEN as EN ISO 17662:2016 without any modification.

This is a preview of "BS EN ISO 17662:2016". Click here to purchase the full version from the ANSI store.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 General requirements	3
4.1 General.....	3
4.2 Frequency.....	4
4.3 Requirements.....	4
4.4 Process data.....	5
4.5 Material properties.....	5
5 Process data common to more than one welding/brazing process	5
5.1 Process data common to all welding/brazing processes.....	5
5.2 Requirements specific to several welding/brazing processes.....	7
5.3 Requirements specific to arc welding (group 1).....	8
6 Metal arc welding without gas protection (group 11)	9
7 Plasma arc welding (group 15)	10
8 Resistance welding (groups 21, 22, 23, 24, and 25)	10
9 Gas welding (group 3)	11
10 Friction welding (group 42)	12
11 Laser beam welding (group 52)	12
12 Electron beam welding (group 51)	14
13 Stud welding (group 78)	15
14 Brazing (group 9)	16
14.1 General.....	16
14.2 Manual and mechanized flame brazing (group 912).....	17
14.3 Induction brazing (group 916).....	17
14.4 Resistance brazing (group 918).....	17
14.5 Furnace brazing in protective atmosphere (group 921).....	18
14.6 Vacuum brazing (group 922).....	19
14.7 Furnace brazing in open atmosphere (group 921).....	20
14.8 Dip-bath brazing (group 923), salt-bath brazing (group 924) and flux-bath brazing (group 925).....	21
14.9 Infrared brazing (group 941).....	22
15 Preheat and/or post weld heat treatment	22
15.1 Preheat.....	22
15.2 Post weld heat treatment.....	23
16 Post weld cleaning	24
17 Flame cutting (group 81) and other ancillary processes	24
Annex A (informative) Details for stud welding	25
Annex B (informative) Acceptance testing of equipment	26
Annex C (informative) Parties involved	27
Bibliography	28

This is a preview of "BS EN ISO 17662:2016". Click here to purchase the full version from the ANSI store.

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).

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).

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 10, *Quality management in the field of welding*.

This second edition cancels and replaces the first edition (ISO 17662:2005), which has been technically revised.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

This is a preview of "BS EN ISO 17662:2016". Click here to purchase the full version from the ANSI store.

Welding — Calibration, verification and validation of equipment used for welding, including ancillary activities

1 Scope

This International Standard specifies requirements for calibration, verification and validation of equipment used for

- control of process variables during fabrication, and
- control of the properties of equipment used for welding or welding allied processes

where the resulting output cannot be readily or economically documented by subsequent monitoring, inspection and testing. This involves process variables influencing the fitness-for-purpose and in particular the safety of the fabricated product.

NOTE 1 This International Standard is based on the lists of process variables stated in International Standards for specification of welding procedures, in particular, but not exclusively in the ISO 15609- series. Future revisions of these International Standards can result in addition or deletion of parameters considered necessary to specify.

Some guidance is, in addition, given in [Annex B](#) as regards requirements for calibration; verification and validation as part of acceptance testing of equipment used for welding or allied processes.

Requirements to calibrate, verify and validate as part of inspection, testing, non-destructive testing or measuring of final welded products performed in order to verify confirm product compliance are outside the scope of the present International Standard.

The subject of this International Standard is limited to calibration, verification and validation of equipment after installation, as part of the workshops' and site operations for maintenance and/or operation.

It needs to be stressed that this International Standard has nothing to do with manufacture and installation of equipment for welding. Requirements for new equipment are formulated in directives and product codes (standards), as necessary.

[Annex C](#) provides information when other parties are involved in calibration, verification and validation activities.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 669, *Resistance welding — Resistance welding equipment — Mechanical and electrical requirements*

ISO 5171, *Gas welding equipment — Pressure gauges used in welding, cutting and allied processes*

ISO 5172:2006, *Gas welding equipment — Blowpipes for gas welding, heating and cutting — Specifications and tests*

ISO 5826, *Resistance welding equipment — Transformers — General specifications applicable to all transformers*