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

*Soudage — Étalonnage, vérification et validation du matériel utilisé
pour le soudage, y compris pour les procédés connexes*



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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.

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*