



Irish Standard
I.S. EN ISO 15609-4:2009

Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 4: Laser beam welding (ISO 15609-4:2009)

I.S. EN ISO 15609-4:2009

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Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 4: Laser beam welding (ISO 15609-4:2009)

Descriptif et qualification d'un mode opératoire de soudage pour les matériaux métalliques - Descriptif d'un mode opératoire de soudage - Partie 4: Soudage par faisceau laser (ISO 15609-4:2009)

Anforderung und Qualifizierung von Schweißverfahren für metallische Werkstoffe - Schweißanweisung - Teil 4: Laserstrahlschweißen (ISO 15609-4:2009)

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Foreword

This document (EN ISO 15609-4:2009) 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of an identical text or by endorsement, at the latest by November 2009, and conflicting national standards shall be withdrawn at the latest by November 2009.

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.

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Endorsement notice

The text of ISO 15609-4:2009 has been approved by CEN as a EN ISO 15609-4:2009 without any modification.

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**INTERNATIONAL
STANDARD**

**ISO
15609-4**

Second edition
2009-05-15

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

**Part 4:
Laser beam welding**

*Descriptif et qualification d'un mode opératoire de soudage pour les
matériaux métalliques — Descriptif d'un mode opératoire de
soudage —*

Partie 4: Soudage par faisceau laser



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

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ISO 15609-4 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

This second edition cancels and replaces the first edition (ISO 15609-4:2004), which has been technically revised.

ISO 15609 consists of the following parts, under the general title *Specification and qualification of welding procedures for metallic materials — Welding procedure specification*:

- *Part 1: Arc welding*
- *Part 2: Gas welding*
- *Part 3: Electron beam welding*
- *Part 4: Laser beam welding*
- *Part 5: Resistance welding*

The following part is planned:

- *Part 6: Laser arc hybrid welding*

Requests for official interpretations of any aspect of this part of ISO 15609 should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body, a complete listing of which can be found at www.iso.org.

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

Part 4: Laser beam welding

1 Scope

This part of ISO 15609 specifies requirements for the content of the welding procedure specification (WPS) for laser beam welding processes, including overlay welding. It is not applicable to other processes for cladding (e.g. thermal spraying).

This part of ISO 15609 is part of a series of standards, and details of this series are given in ISO 15607:2003, Annex A.

Variables listed in this part of ISO 15609 are those influencing the quality and properties of the welded joint. The dimensions mentioned in this part of ISO 15609 influence the metallurgical and mechanical qualities, the geometry of the structural member and other important performance properties.

2 Normative references

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

ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers*

ISO 6947, *Welds — Working positions — Definitions of angles of slope and rotation*

ISO 14175, *Welding consumables — Gases and gas mixtures for fusion welding and allied processes*

ISO 15607:2003, *Specification and qualification of welding procedures for metallic materials — General rules*

ISO/TR 25901:2007, *Welding and related processes — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15607:2003, ISO/TR 25901:2007 and the following apply.

3.1

slope up

⟨beam welding⟩ controlled increase of the beam power at the beginning of the welding

[ISO/TR 25901:2007, definition 2.337]

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