



National Standards Authority of Ireland

STANDARD

I.S. EN ISO 15609-4:2004

ICS 25.160.10

**SPECIFICATION AND QUALIFICATION OF
WELDING PROCEDURES FOR METALLIC
MATERIALS - WELDING PROCEDURE
SPECIFICATION - PART 4: LASER BEAM
WELDING (ISO 15609-4:2004)**

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Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 4: Laser beam welding (ISO 15609-4:2004)

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 15609-4:2004)

Anforderung und Qualifizierung von Schweißverfahren für metallische Werkstoffe - Schweißanweisung - Teil 4: Laserstrahlschweißen (ISO 15609-4:2004)

This European Standard was approved by CEN on 16 January 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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EN ISO 15609-4:2004 (E)

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Foreword

This document (EN ISO 15609-4:2004) has been prepared by Technical Committee CEN /TC 121, "Welding", the secretariat of which is held by DS, in collaboration with 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of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

This document supersedes EN ISO 9956-11:1996.

Annex A is informative. Normative references to International Standards are listed in annex ZA.

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

EN ISO 15609-4:2004 (E)

1 Scope

This standard specifies requirements for the content of welding procedure specifications for laser beam welding processes.

This standard is part of a series of standards, details of this series are given in EN ISO 15607:2003, annex A.

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

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.

EN 439, *Welding consumables — Shielding gases for arc welding and cutting*.

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

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

EN ISO 11145:2001, *Optics and optical instruments — Lasers and laser-related equipment — Vocabulary and symbols (ISO 11145:2001)*.

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

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 15607:2003 and in EN ISO 11145:2001 and the following apply.

3.1

slope up

controlled increase of the beam power at the beginning of welding

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