Irish Standard
I.S. EN ISO 15616-4:2021

Acceptance tests for CO2-laser beam machines for high quality welding and cutting - Part 4: Machines with 2-D moving optics (ISO 15616-4:2008)

I.S. EN ISO 15616-4:2021

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National Foreword

I.S. EN ISO 15616-4:2021 is the adopted Irish version of the European Document EN ISO 15616-4:2021, Acceptance tests for CO2-laser beam machines for high quality welding and cutting - Part 4: Machines with 2-D moving optics (ISO 15616-4:2008)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 15616-4

January 2021

ICS 25.160.30

English Version

Acceptance tests for CO2-laser beam machines for high quality welding and cutting - Part 4: Machines with 2-D moving optics (ISO 15616-4:2008)

Essais de réception des machines de soudage et de coupage de qualité par faisceau laser CO2 - Partie 4: Utilisation d'optiques mobiles 2D (ISO 15616-4:2008)

Abnahmeprüfungen für CO2-Laserstrahlanlagen zum Qualitätsschweißen und -schneiden - Teil 4: 2D-Strahlführungssystem (ISO 15616-4:2008)

This European Standard was approved by CEN on 6 December 2020.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

The text of ISO 15616-4:2008 has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 15616-4:2021 by Technical Committee CEN/TC 121 “Welding and allied processes” 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of an identical text or by endorsement, at the latest by July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.

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

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The text of ISO 15616-4:2008 has been approved by CEN as EN ISO 15616-4:2021 without any modification.

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INTERNATIONAL STANDARD

ISO 15616-4

First edition
2008-12-15

Acceptance tests for CO_2-laser beam machines for high quality welding and cutting —

Part 4: Machines with 2-D moving optics

Essais de réception des machines de soudage et de coupage de qualité par faisceau laser CO_2 —

Partie 4: Utilisation d'optiques mobiles 2D

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Foreword

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ISO 15616-4 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 first edition of ISO 15616-4 cancels and replaces ISO/TS 17477:2003, which has been technically revised.

ISO 15616 consists of the following parts, under the general title *Acceptance tests for CO_2-laser beam machines for high quality welding and cutting*:

— *Part 1: General principles, acceptance conditions*

— *Part 2: Measurement of static and dynamic accuracy*

— *Part 3: Calibration of instruments for measurement of gas flow and pressure*

— *Part 4: Machines with 2-D moving optics*

Requests for official interpretations of any aspect of this part of ISO 15616 should be directed to the Secretariat of ISO/TC 44/SC 10 via a national standards body, a complete listing which can be found at www.iso.org.

Acceptance tests for CO_2-laser beam machines for high quality welding and cutting —

Part 4:
Machines with 2-D moving optics

1 Scope

This part of ISO 15616 provides minimum requirements for acceptance testing, using practical test methods, for CO_2-laser beam machines for high quality welding and cutting in two dimensions (2-D), having a fixed workpiece on the platen and moving optics.

This part of ISO 15616 is not applicable to CO_2-laser beam machines which use an articulated robot, nor does it apply to work stations, such as a welding positioner, fixed board cutter, etc.

This part of ISO 15616 does not cover hazard protection devices, such as those for discharging chips and particles generated during welding and cutting.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
deviation from intersection
longest distance between any two points that is made by three or more straight intersects

2.2
mark, verb
trace the trajectory of the machining head when the laser machine is being operated and mark it on paper using a ballpoint pen, an equivalent marking pen installed on the tip of the machining head, a low-power laser beam, or an equivalent instrument agreed between the parties concerned

3 Classification of machine type

Judgement criteria/allowance values are applied to machines classified into two types:

— Class A: the laser beam source is built into the moving machine;

— Class B: the laser beam source is not built into the moving machine.