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BS EN ISO 15012-1:2013



BSI Standards Publication

Health and safety in welding and allied processes — Equipment for capture and separation of welding fume

Part 1: Requirements for testing and
marking of separation efficiency

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This British Standard is the UK implementation of EN ISO 15012-1:2013. It supersedes BS EN ISO 15012-1:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/40, Health and safety in welding.

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

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Health and safety in welding and allied processes - Equipment
for capture and separation of welding fume - Part 1:
Requirements for testing and marking of separation efficiency
(ISO 15012-1:2013)

Hygiène et sécurité en soudage et techniques connexes -
Équipements de captage et de filtration des fumées de
soudage - Partie 1: Exigences pour les essais et marquage
relatifs à l'efficacité de la séparation (ISO 15012-1:2013)

Arbeits- und Gesundheitsschutz beim Schweißen und bei
verwandten Prozessen - Einrichtungen zum Erfassen und
Abscheiden von Schweißrauch - Teil 1: Anforderungen an
den Abscheidegrad sowie Prüfung und Kennzeichnung des
Abscheidegrades (ISO 15012-1:2013)

This European Standard was approved by CEN on 1 March 2013.

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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.

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Foreword

This document (EN ISO 15012-1:2013) has been prepared by Technical Committee CEN/TC 121 "Welding" the secretariat of which is held by DIN, in collaboration with Technical Committee 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of an identical text or by endorsement, at the latest by October 2013, and conflicting national standards shall be withdrawn at the latest by October 2013.

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 15012-1:2004.

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 15012-1:2013 has been approved by CEN as EN ISO 15012-1:2013 without any modification.

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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.

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.

ISO 15012-1 was prepared by the European Committee for Standardization (CEN), in collaboration with ISO Technical Committee TC 44, *Welding and allied processes*, Subcommittee SC 9, , in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 15012-1:2004), which has been technically revised.

ISO 15012 consists of the following parts, under the general title *Health and safety in welding and allied processes — Equipment for capture and separation of welding fume*:

- Part 1: *Requirements for and testing and marking of separation efficiency*
- Part 2: *Determination of the minimum air volume flow rate of captor hoods and nozzles*

The following part is under preparation:

- Part 4: *Design requirements*

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Introduction

It is common practice in the fabrication industry to control exposure to welding fume using local exhaust ventilation equipment that, following capture and separation of the fume, returns the extracted air to the workplace or exhausts it to the atmosphere. It is important that such equipment has high separation efficiency so that as little fume as possible is recirculated or exhausted. This part of ISO 15012 has therefore been promulgated to specify requirements and a test method for determining the efficiency of welding fume separation equipment.

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Health and safety in welding and allied processes — Equipment for capture and separation of welding fume —

Part 1: Requirements for testing and marking of separation efficiency

1 Scope

This part of ISO 15012 specifies a method for testing equipment for the separation of welding fume in order to determine whether its separation efficiency meets specified requirements.

The method specified does not apply to testing of filter cartridges independent of the equipment in which they are intended to be used.

This part of ISO 15012 applies to equipment that is manufactured after its publication.

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 2602, *Statistical interpretation of test results — Estimation of the mean — Confidence interval*

ISO 15011-1, *Health and safety in welding and allied processes — Laboratory method for sampling fume and gases — Part 1: Determination of fume emission rate during arc welding and collection of fume for analysis*

3 Terms and definitions

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

3.1

local exhaust ventilation

LEV

use of extraction to remove contaminated air at or near to its source

3.2

welding fume separation equipment

air filtration equipment, the purpose of which is to separate particles generated by welding and allied processes from workplace air

3.3

filter cleaning system

system designed to clean the filter of welding fume separation equipment in order to restore the air flow rate through the filter when it is reduced by an accumulation of welding fume particles