



BSI Standards Publication

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

Part 2: Requirements for testing and marking of separation efficiency

This is a preview of "BS EN ISO 21904-2:20...". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN ISO 21904-2:2020. It is identical to ISO 21904-2:2020. It supersedes BS EN ISO 15012-1:2013, which is withdrawn.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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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relatives aux essais et marquage de l'efficacité
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Arbeits- und Gesundheitsschutz beim Schweißen
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zum Erfassen und Abscheiden von Schweißrauch
- Teil 2: Anforderungen an Prüfung des
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This European Standard was approved by CEN on 20 January 2020.

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European foreword

This document (EN ISO 21904-2:2020) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with 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of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

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.

This document supersedes EN ISO 15012-1:2013.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 21904-2:2020 has been approved by CEN as EN ISO 21904-2:2020 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.

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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 9, *Health and safety*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

A list of all parts in the ISO 21904 series can be found on the ISO website.

This first edition cancels and replaces ISO 15012-1.

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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 document has therefore been developed to specify a test method for determining the efficiency of welding fume separation equipment and the requirements of the test method.

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

Part 2: Requirements for testing and marking of separation efficiency

1 Scope

This document 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 document applies to equipment that is manufactured after its publication.

NOTE General ventilation systems are excluded from the Scope of ISO 21904-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2602:1980, *Statistical interpretation of test results — Estimation of the mean — Confidence interval*

ISO 15011-1:2009, *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*

ISO 21904-1:2020, *Health and safety in welding and allied processes — Equipment for capture and separation of welding fume — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21904-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

free-standing unit

separation equipment with an integrated fan

3.2

modular system

separation equipment consisting of a scaleable filter system with the same filter elements and conditions normally connected to a single fan