
Zdravje in varnost pri varjenju in sorodnih tehnikah - Zahteve, preskušanje in označevanje opreme za filtriranje zraka - 3. del: Ugotavljanje učinkovitosti vgrajenih naprav na gorilniku za odsesavanje plinov pri varjenju (ISO 21904-3:2018)

Health and safety in welding and allied processes - Requirements, testing and marking of equipment for air filtration - Part 3: Determination of the capture efficiency of on-torch welding fume extraction devices (ISO 21904-3:2018)

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Arbeits- und Gesundheitsschutz beim Schweißen und bei verwandten Verfahren - Anforderungen, Prüfung und Kennzeichnung von Luftreinigungssystemen - Teil 3: Bestimmung des Erfassungsgrades von brennerintegrierten Absaugeinrichtungen für Schweißrauch (ISO 21904-3:2018)

Hygiène et sécurité en soudage et techniques connexes - Exigences, essais et marquage des équipements de filtration d'air - Partie 3: Détermination de l'efficacité de captage des torches aspirantes (ISO 21904-3:2018)

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und Kennzeichnung von Luftreinigungssystemen - Teil
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European foreword

This document (EN ISO 21904-3:2018) 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of an identical text or by endorsement, at the latest by September 2018, and conflicting national standards shall be withdrawn at the latest by September 2018.

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**Health and safety in welding and
allied processes — Requirements,
testing and marking of equipment for
air filtration —**

Part 3:

**Determination of the capture
efficiency of on-torch welding fume
extraction devices**

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*Hygiène et sécurité en soudage et techniques connexes — Exigences,
essais et marquage des équipements de filtration d'air —*

*Partie 3: Détermination de l'efficacité de captage des torches
aspirantes*



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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).

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This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 9, *Health and safety*. SIST EN ISO 21904-3:2018

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Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 9 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

Introduction

Welding generates fumes and gases which, if inhaled, can be harmful to human health. Therefore, control of the fume and gases needs to be exercised to minimize worker exposure.

The most effective method of welding fume control is local exhaust ventilation (LEV) which captures the fumes at source before they enter the general environment and the breathing zone of workers.

One form of LEV used in welding is on-torch extraction in which the extraction system is either an integral part of the welding torch or is attached to it close to the arc area. Anecdotal evidence within the fabrication industry suggested that it is impossible to capture fume efficiently while maintaining weld metal integrity but research (see Bibliography entry [6]) has shown this not to be the case, certainly as far as weld metal porosity is concerned.

It has been presumed in the drafting of this document that appropriately qualified and experienced people would execute its provisions and interpret the results obtained.

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