Irish Standard
I.S. EN ISO 10882-1:2011

Health and safety in welding and allied processes - Sampling of airborne particles and gases in the operator's breathing zone - Part 1: Sampling of airborne particles (ISO 10882-1:2011)

I.S. EN ISO 10882-1:2011

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Health and safety in welding and allied processes - Sampling of airborne particles and gases in the operator's breathing zone - Part 1: Sampling of airborne particles (ISO 10882-1:2011)

Hygiène et sécurité en soudage et techniques connexes - Échantillonnage des particules en suspension et des gaz dans la zone respiratoire des opérateurs - Partie 1: Échantillonnage des particules en suspension (ISO 10882-1:2011)

Arbeits- und Gesundheitsschutz beim Schweißen und bei verwandten Verfahren - Probenahme von partikelförmigen Stoffen und Gasen im Atembereich des Schweißers - Teil 1: Probenahme von partikelförmigen Stoffen (ISO 10882-1:2011)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 10882-1:2011) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 “Welding”, 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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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 10882-1:2001.

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Endorsement notice

The text of ISO 10882-1:2011 has been approved by CEN as a EN ISO 10882-1:2011 without any modification.

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I.S. EN ISO 10882-1:2011

INTERNATIONAL STANDARD

ISO 10882-1

Second edition
2011-10-01

Health and safety in welding and allied processes — Sampling of airborne particles and gases in the operator's breathing zone —

Part 1: Sampling of airborne particles

Hygiène et sécurité en soudage et techniques connexes — Échantillonnage des particules en suspension et des gaz dans la zone respiratoire des opérateurs —

Partie 1: Échantillonnage des particules en suspension

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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 10882-1 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 9, *Health and safety*.

This second edition cancels and replaces the first edition (ISO 10882-1:2001), which has been technically revised.

ISO 10882 consists of the following parts, under the general title *Health and safety in welding and allied processes — Sampling of airborne particles and gases in the operator's breathing zone*:

— *Part 1: Sampling of airborne particles*

— *Part 2: Sampling of gases*

Requests for official interpretations of any aspect of this part of ISO 10882 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

The health of workers in many industries is at risk through exposure by inhalation to airborne particles generated by welding and allied processes (welding fume) and other airborne particles generated by welding-related operations, e.g. grinding. Industrial hygienists and other public health professionals need to determine the effectiveness of measures taken to control workers' exposure to these harmful substances and this is generally achieved by making personal exposure measurements.

This part of ISO 10882 specifies a sampling method for welding fume and airborne particles generated by welding-related operations for the purpose of making personal exposure measurements in the operator's breathing zone. It is intended to be of benefit to: agencies concerned with health and safety at work, industrial hygienists and other public health professionals, industrial users of welding and allied processes and their workers, and analytical laboratories.

It has been assumed in the drafting of this part of ISO 10882 that the execution of its provisions, and the interpretation of the results obtained, is entrusted to appropriately qualified and experienced people.

Health and safety in welding and allied processes — Sampling of airborne particles and gases in the operator's breathing zone —

Part 1: Sampling of airborne particles

1 Scope

This part of ISO 10882 specifies a procedure for sampling airborne particles in the breathing zone of a person who performs welding and allied processes (the operator). It also provides details of relevant standards that specify required characteristics, performance requirements and test methods for workplace air measurement, and augments guidance provided in EN 689 on assessment strategy and measurement strategy. This part of ISO 10882 also specifies a procedure for making gravimetric measurements of personal exposure to airborne particles generated by welding and allied processes (welding fume) and other airborne particles generated by welding-related operations. Additionally, it provides references to suitable methods of chemical analysis, specified in other standards, to determine personal exposure to specific chemical agents present in welding fume and other airborne particles generated by welding-related operations.

The general background level of airborne particles in the workplace atmosphere influences personal exposure and therefore the role of fixed-point sampling is also considered.

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 15767, *Workplace atmospheres — Controlling and characterizing uncertainty in weighing collected aerosols*

EN 482:2006, *Workplace atmospheres — General requirements for the performance of procedures for the measurement of chemical agents*

EN 689, *Workplace atmospheres — Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy*

EN 13205, *Workplace atmospheres — Assessment of performance of instruments for measurement of airborne particle concentrations*