

**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)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 10882-1:2011 sisaldab Euroopa standardi EN ISO 10882-1:2011 ingliskeelset teksti.

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English Version

**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)

This European Standard was approved by CEN on 30 September 2011.

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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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.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.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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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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*