

Health and safety in welding and allied processes — Laboratory method for sampling fume and gases generated by arc welding —

Part 2: Determination of emission rates of gases, except ozone

The European Standard EN ISO 15011-2:2003 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN ISO 15011-2:2003. It is identical with ISO 15011-2:2003.

The UK participation in its preparation was entrusted to Technical Committee WEE/40, Health and safety in welding, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

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Summary of pages

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Part 2: Determination of emission rates of gases, except ozone
(ISO 15011-2:2003)

Hygiène et sécurité en soudage et techniques connexes -
Méthode de laboratoire d'échantillonnage des fumées et
des gaz émis par le soudage à l'arc - Partie 2:
Détermination du taux d'émission des gaz, à l'exception de
l'ozone (ISO 15011-2:2003)

Arbeits- und Gesundheitsschutz beim Schweißen und bei
verwandten Verfahren - Laborverfahren zum Sammeln von
Rauch und Gasen, die beim Lichtbogenschweißen erzeugt
werden - Teil 2: Bestimmung der Emissionsrate von
Gasen, außer Ozon (ISO 15011-2:2003)

This European Standard was approved by CEN on 10 May 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

The text of EN ISO 15011-2:2003 has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS, 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 November 2003, and conflicting national standards shall be withdrawn at the latest by November 2003.

This standard consists of the following parts:

- Part 1: Determination of emission rate and sampling for analysis of particulate fume;
- Part 2: Determination of emission rates of gases and vapours, except ozone;
- Part 3: Determination of ozone concentration using fixed point measurements.

The annexes A, B and C are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Welding and allied processes produce airborne particles and gaseous by-products, which can be harmful to human health. Knowledge of the quantity and composition of the airborne particles and gases emitted can be useful for occupational hygienists in assessing workplace atmospheres and in determining appropriate control measures. Emission rates cannot be used directly to assess the welder's exposure, but it is expected that processes, consumables and welding parameters giving low emission rates will result in lower welder exposures than processes with high emission rates used in the same working situation.

The laboratory procedure described in this standard can be used to determine the emission rate of gases generated by arc welding and provides a method of sampling the gases for chemical analysis. The gases generated and their emission rates depend upon the welding process, welding parameters, work piece surface, coatings, etc.

In the context of this standard emission rate means the total amount of a substance per unit time that is produced under defined process conditions, by different reactions in the system defined in this standard.

Gases encountered in arc welding are so numerous that it would be impracticable to cover them all in this standard. The scope of this standard has therefore been limited to those gases, which are commonly generated during arc welding.

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