TERVISHOID JA OHUTUS KEEVITAMISEL JA SELLEGA SEONDUVATEL PROTSESSIDEL. KEEVITUSSUITSU KOGUMISE JA ERALDAMISE SEADMED. OSA 4: ÜLDNÕUDED

Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 4: General requirements (ISO 15012-4:2016)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 15012-4:2016 sisaldab Euroopa standardi EN ISO 15012-4:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 15012-4:2016 consists of the English text of the European standard EN ISO 15012-4:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.07.2016.	Date of Availability of the European standard is 20.07.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 25.160.30

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 15012-4

July 2016

ICS 25.160.30

English Version

Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 4: General requirements (ISO 15012-4:2016)

Hygiène et sécurité en soudage et techniques connexes - Équipements de captage et de filtration des fumées de soudage - Partie 4: Exigences générales (ISO 15012-4:2016)

Arbeits- und Gesundheitsschutz beim Schweißen und bei verwandten Verfahren - Einrichtungen zum Erfassen und Abscheiden von Schweißrauch - Teil 4: Allgemeine Anforderungen (ISO 15012-4:2016)

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Ref. No. EN ISO 15012-4:2016 E

European foreword

This document (EN ISO 15012-4:2016) 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of an identical text or by endorsement, at the latest by January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

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.

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For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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

Endorsement notice

The text of ISO 15012-4:2016 has been approved by CEN as EN ISO 15012-4:2016 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).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 9, *Health and safety*.

ISO 15012 consists of the following parts, under the general title *Health and safety in welding and allied processes — Equipment for capture and separation of welding fume*:

— *Part 1: Requirements for testing and marking of separation efficiency*

— *Part 2: Determination of the minimum air volume flow rate of captor hoods and nozzles*

— *Part 3: Determination of the capture efficiency of on-gun welding fume extraction devices*

— *Part 4: General requirements*

Requests for official interpretations of any aspect of this International Standard 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 and allied processes generate fumes and gases which, if inhaled, can be harmful to human health. Therefore, control of the fumes and gases generated is to be exercised to minimize worker exposure.

The most effective method of control is to capture the fumes and gases close to their source before they enter a worker's breathing zone or the general workplace environment.

Ventilation equipment used to capture the fumes and gases is to be fit for purpose because inefficient capture could result in high exposure and can be detrimental to workers' health. It is important therefore that it adheres to defined manufacturing, materials and design requirements and gives warning of malfunction.

This part of ISO 15012 defines the general requirements that are necessary for ventilation equipment to maintain exposure to fumes at acceptable levels.

This part of ISO 15012 is a type-B standard as stated in ISO 12100.

This part of ISO 15012 is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of this part of ISO 15012 by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this part of ISO 15012.

In addition, this part of ISO 15012 is intended for standardization bodies elaborating type-C standards.

The requirements of this part of ISO 15012 can be supplemented or modified by a type-C standard.

For machines which are covered by the scope of a type-C standard and which have been designed and built according to the requirements of that standard, the requirements of that type-C standard take precedence.

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

Part 4: General requirements

1 Scope

This part of ISO 15012 defines the general requirements for ventilation equipment used to control exposure to fumes generated by welding and allied processes. It applies to the design and manufacture of all parts of the equipment including hoods, ducting, filter units, air movers, systems that inform of unsafe operation and workplace practices to ensure safe working with regard to exposure.

Significant hazards are listed in Clause 4. It does not cover electrical, mechanical and pneumatic hazards.

This part of ISO 15012 is applicable to the following:

— local exhaust ventilation systems (LEV);

— mobile and stationary equipment.

This part of ISO 15012 is not applicable to the following:

— general ventilation, air make up or air movement systems;

— air conditioning systems;

— separation of gases generated by or used by welding and allied processes;

— LEV used for welding and allied processes that generate reactive potentially explosive particles and atmospheres;

— grinding dust.

This part of ISO 15012 applies to systems designed and manufactured after its publication.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 15012-1:2013, *Health and safety in welding and allied processes — Equipment for capture and separation of welding fume — Part 1: Requirements for testing and marking of separation efficiency*

ISO 15012-2, *Health and safety in welding and allied processes — Requirements, testing and marking of equipment for air filtration — Part 2: Determination of the minimum air volume flow rate of captor hoods and nozzles*

ISO 15012-3, *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-gun welding fume extraction*