ICS 13.100, 25.160.30 SLOVENSKÁ TECHNICKÁ NORMA September 2020

STN	**Ochrana zdravia a bezpečnosť pri zváraní a príbuzných procesoch Zariadenia na zachytávanie a separáciu plynných splodín pri zváraní Časť 4: Určovanie minimálneho prietoku vzduchu separátorov (ISO 21904-4: 2020)**	**STN EN ISO 21904-4** 05 0607

Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 4: Determination of the minimum air volume flow rate of capture devices (ISO 21904-4:2020)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/20

Obsahuje: EN ISO 21904-4:2020, ISO 21904-4:2020

Oznámením tejto normy sa ruší
STN EN ISO 15012-2 (05 0607) z júla 2009

130940

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 21904-4

March 2020

ICS 13.100; 25.160.30 Supersedes EN ISO 15012-2:2008

English Version

Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 4: Determination of the minimum air volume flow rate of capture devices (ISO 21904-4:2020)

Hygiène et sécurité en soudage et techniques connexes - Équipements de captage et de filtration des fumées - Partie 4: Détermination du débit volumique minimal d'air des dispositifs de captage (ISO 21904-4:2020)

Arbeits- und Gesundheitsschutz beim Schweißen und bei verwandten Verfahren - Einrichtungen zum Erfassen und Abscheiden von Schweißrauch - Teil 4: Bestimmen des Mindestluftvolumenstromes von Absaugeinrichtungen (ISO 21904-4:2020)

This European Standard was approved by CEN on 20 January 2020.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 21904-4:2020 E

EN ISO 21904-4:2020 (E)

Contents

Page

European foreword

This document (EN ISO 21904-4:2020) 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 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 15012-2:2008.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 21904-4:2020 has been approved by CEN as EN ISO 21904-4:2020 without any modification.

INTERNATIONAL STANDARD

ISO 21904-4

First edition
2020-02

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

Part 4: Determination of the minimum air volume flow rate of capture devices

Hygiène et sécurité en soudage et techniques connexes — Équipements de captage et de filtration des fumées —

Partie 4: Détermination du débit volumique minimal d'air des dispositifs de captage

Reference number
ISO 21904-4:2020(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: https://committee.iso.org/sites/tc44/home/interpretation.html.

A list of all parts in the ISO 21904 series can be found on the ISO website.

This first edition cancels and replaces ISO 15012-2.

Introduction

Welding and allied processes generate fume and gases, which, if inhaled, can be harmful to human health. Control is often required to maintain exposure at acceptable levels and this can be achieved by capturing the fume and gases using local exhaust ventilation.

For a particular capture device, the air velocity to capture welding fume can only be achieved by applying a minimum air volume flow rate. Consequently, capture devices need to be used with exhaust systems that provide, at least, the minimum air volume flow rate.

INTERNATIONAL STANDARD **ISO 21904-4:2020(E)**

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

Part 4: Determination of the minimum air volume flow rate of capture devices

1 Scope

This document specifies two methods for establishing the minimum air volume flow rate. One method is dedicated for use with captor hoods, nozzles and slot nozzles with a ratio of slot length to hose diameter of 8:1 or less. The other method is dedicated for use with on-gun extraction devices.

These methods are not applicable to down draught tables.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 21904-1:2020, *Health and safety in welding and allied processes — Equipment for capture and separation of welding fume — Part 1: General requirements*

