Arc welding and cutting - Nonconsumable tungsten electrodes - Classification (ISO 6848:2015)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 6848:2015 sisaldab Euroopa standardi EN ISO 6848:2015 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 6848:2015 consists of the English text of the European standard EN ISO 6848:2015.
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 09.09.2015.	Date of Availability of the European standard is 09.09.2015.
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 25.160.20

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 6848

September 2015

ICS 25.160.20

Supersedes EN ISO 6848:2004

English Version

Arc welding and cutting - Nonconsumable tungsten electrodes - Classification (ISO 6848:2015)

Soudage et coupage à l'arc - Électrodes non consommables en tungstène - Classification (ISO 6848:2015)

Lichtbogenschweißen und -schneiden - Wolframelektrode - Einteilung (ISO 6848:2015)

This European Standard was approved by CEN on 11 December 2015.

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, 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 United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN ISO 6848:2015 E

European foreword

This document (EN ISO 6848:2015) 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 March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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 6848:2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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 6848:2015 has been approved by CEN as EN ISO 6848:2015 without any modification.

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 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 3, *Welding consumables*.

This third edition cancels and replaces the second edition (ISO 6848:2004), which has been technically revised.

Introduction

Tungsten electrodes are used in a variety of welding and allied processes, including tungsten inert gas welding, plasma arc welding and cutting, plasma spraying, and atomic hydrogen welding. In contrast to most other welding electrodes, tungsten electrodes are not intended to become part of the weld deposit. Nevertheless, the chemical composition of a tungsten electrode has an important effect on its range of usage in welding and allied processes. Therefore, tungsten electrodes are classified according to their chemical composition.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 3 via your national standards body. A complete listing of national standards bodies can be found at www.iso.org.

Arc welding and cutting — Nonconsumable tungsten electrodes — Classification

1 Scope

This International Standard specifies requirements for classification of nonconsumable tungsten electrodes for inert gas shielded arc welding, and for plasma welding, cutting and thermal spraying.

Information on conditions of use of these electrodes is given in Annex A (informative).

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 80000-1:2009, *Quantities and units — Part 1: General*

3 Classification

Classification of a tungsten electrode is based upon its chemical composition.

4 Symbols and requirements

4.1 Symbol for the product/process

The symbol for gas shielded tungsten arc processes is the letter W.

4.2 Symbol for the chemical composition

The symbol for the chemical composition of the tungsten electrode is the chemical symbol(s) for the principal oxide additive(s) followed by digits indicating the nominal mass percent of the oxide additive multiplied by 10. If there is no additive, the symbol is the letter P. Table 1 lists the composition requirements for the various classifications.

5 Chemical analysis

Chemical analysis shall be performed on specimens of the electrode being classified. Any analytical technique may be used but, in cases of dispute, reference shall be made to established published methods.

6 Retests

If any test fails to meet the requirement, that test shall be repeated twice. The results of both retests shall meet the requirements. Specimens for retesting may be taken from the original test specimen or from a new test specimen. For chemical analysis, retests need only be for those specific elements that failed to meet their test requirement. If the results of one or both retests fail to meet the requirement, the material under test shall be considered as not meeting the requirements of this specification for that classification.