ICS 25.160.20 SLOVENSKÁ TECHNICKÁ NORMA December 2015

STN	**Zváracie materiály. Plnené drôtové elektródy a tyčinky na oblúkové zváranie nehrdzavejúcich a žiarupevných ocelí v ochrannom plyne alebo bez ochranného plynu. Klasifikácia (ISO 17634: 2015).**	**STN EN ISO 17634** 05 5502

Welding consumables - Tubular cored electrodes for gas shielded metal arc welding of creep-resisting steels - Classification (ISO 17634:2015)

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. 11/15

Obsahuje: EN ISO 17634:2015, ISO 17634:2015

Oznámením tejto normy sa ruší
STN EN ISO 17634 (05 5502) z novembra 2006

121897

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17634

August 2015

ICS 25.160.20

Supersedes EN ISO 17634:2006

English Version

Welding consumables - Tubular cored electrodes for gas shielded metal arc welding of creep-resisting steels - Classification (ISO 17634:2015)

Produits consommables pour le soudage - Fils-électrodes fourrés pour le soudage à l'arc avec gaz de protection des aciers résistant au fluage - Classification (ISO 17634:2015)

Schweißzusätze - Fülldrahtelektroden zum Metall-Schutzgasschweißen von warmfesten Stählen - Einteilung (ISO 17634:2015)

This European Standard was approved by CEN on 11 August 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

Contents

Page

European foreword

This document (EN ISO 17634:2015) 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 February 2016, and conflicting national standards shall be withdrawn at the latest by February 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 17634:2006.

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 17634:2015 has been approved by CEN as EN ISO 17634:2015 without any modification.

INTERNATIONAL STANDARD

ISO 17634

Second edition
2015-08-01

Welding consumables — Tubular cored electrodes for gas shielded metal arc welding of creep-resisting steels — Classification

Produits consommables pour le soudage — Fils-électrodes fourrés pour le soudage à l'arc avec gaz de protection des aciers résistant au fluage — Classification

Reference number
ISO 17634:2015(E)

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

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*.

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 these bodies can be found at www.iso.org.

This second edition cancels and replaces the first edition (ISO 17634:2004), which has been technically revised.

Introduction

This International Standard provides a classification system for tubular cored electrodes in terms of chemical composition of the all-weld metal, type of electrode core, type of shielding gas, and welding position or in terms of the tensile properties, chemical composition of the all-weld metal, usability characteristics of the electrodes, shielding gas, and welding position. The ratio of proof to tensile strength of weld metal is generally higher than that of parent metal. Matching weld metal proof strength to parent metal proof strength will not necessarily ensure that the weld metal tensile strength matches that of the parent metal. Where the application requires matching tensile strength, therefore, selection of consumables is made by reference to column 4 of Table 2.

Of note is that the mechanical properties of all-weld metal test specimens used to classify the tubular cored electrodes will vary from those obtained in production joints because of differences in welding procedure such as electrode size, width of weave, welding position, and parent metal composition.

The classification according to system A is mainly based on EN 12071:1999. The classification according to system B is mainly based upon standards used around the Pacific Rim.

INTERNATIONAL STANDARD ISO 17634:2015(E)

Welding consumables — Tubular cored electrodes for gas shielded metal arc welding of creep-resisting steels — Classification

1 Scope

This International Standard specifies requirements for classification of tubular cored electrodes used in the post-weld heat-treated condition for gas shielded metal arc welding of creep-resisting and low alloy elevated temperature steels. One tubular cored electrode can be tested and classified with different shielding gases.

This International Standard is a combined specification providing for classification utilizing a system based upon the chemical composition of all-weld metal or utilizing a system based upon the tensile strength and the chemical composition of all-weld metal.

1) Paragraphs and tables which carry the suffix letter "A" are applicable only to tubular cored electrodes classified to the system based upon chemical composition with requirements for the yield strength and the average impact energy of 47 J of all-weld metal in accordance with this International Standard.

2) Paragraphs and tables which carry the suffix letter "B" are applicable only to tubular cored electrodes classified to the system based upon the tensile strength and chemical composition of all-weld metal in accordance with this International Standard.

3) Paragraphs and tables which have neither the suffix letter "A" nor the suffix letter "B" are applicable to all tubular cored electrodes classified in accordance with this International Standard.

It is recognized that the operating characteristics of tubular cored electrodes can be modified by the use of pulsed current, but for the purposes of this International Standard, pulsed current is not used for determining the electrode classification.

2 Normative references

The following referenced 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 544, *Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings*

ISO 3690, *Welding and allied processes — Determination of hydrogen content in arc weld metal*

ISO 6947, *Welding and allied processes — Welding positions*

ISO 14175, *Welding consumables — Gases and gas mixtures for fusion welding and allied processes*

ISO 14344, *Welding consumables — Procurement of filler materials and fluxes*

ISO 15792-1:2000/Amd 1:2011, *Welding Consumables — Test methods — Part 1: Test methods for all-weld metal test specimens in steel, nickel and nickel alloys*

ISO 15792-3, *Welding consumables — Test methods — Part 3: Classification testing of positional capacity and root penetration of welding consumables in a fillet weld*

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