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ROOSTEVABADE JA KUUMAKINDLATE TERASTE
METALLKAARKEEVITUSEKS KAITSEGAASIS JA
KAITSEGAASITA. LIIGITUS**

**Welding consumables - Tubular cored electrodes and
rods for gas shielded and non-gas shielded metal arc
welding of stainless and heat-resisting steels -
Classification (ISO 17633:2017 +
ISO 17633:2017/Amd 1:2021)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 17633:2018 +A1:2021 sisaldab Euroopa standardi EN ISO 17633:2018 ja selle muudatuse A1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 17633:2018 +A1:2021 consists of the English text of the European standard EN ISO 17633:2018 and its amendments A1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 31.01.2018, muudatus A1 23.06.2021.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 31.01.2018, for A1 23.06.2021.
Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega A1 A1 . Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags A1 A1 . The standard is available from the Estonian Centre for Standardisation and Accreditation.

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English Version

Welding consumables - Tubular cored electrodes and rods
for gas shielded and non-gas shielded metal arc welding of
stainless and heat-resisting steels - Classification (ISO
17633:2017 + ISO 17633:2017/Amd 1:2021)

Produits consommables pour le soudage - Fils et
baguettes fourrés pour le soudage à l'arc avec ou sans
protection gazeuse des aciers inoxydables et des aciers
résistant aux températures élevées - Classification (ISO
17633:2017 + ISO 17633:2017/Amd 1:2021)

Schweißzusätze - Fülldrahtelektroden und Füllstäbe
zum Metall-Lichtbogenschweißen mit und ohne
Gasschutz von nichtrostenden und hitzebeständigen
Stählen - Einteilung (ISO 17633:2017 + ISO
17633:2017/Amd 1:2021)

This European Standard was approved by CEN on 17 November 2017. Amendment A1 was approved by CEN on 21 May 2021.

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

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

European foreword

This document (EN ISO 17633:2018) 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 July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

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 17633:2010.

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Endorsement notice

The text of ISO 17633:2017 has been approved by CEN as EN ISO 17633:2018 without any modification.

A1 Amendment A1 European foreword

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Endorsement notice

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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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This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*.

This third edition cancels and replaces the second edition (ISO 17633:2010), which has been technically revised and contains the following changes:

- the chemical compositions and mechanical properties for a number of alloy designations have been updated;
- new alloy designations have been added;
- a limitation on Bi has been added to the footnotes of Tables 1B-1, 1B-2, 1B-3 and 1B-4;
- the requirements for fillet weld testing have been removed following the same change in ISO 18276;
- the wording in clauses on chemical analysis, rounding procedure and retests has been updated;
- clarification has been brought when a product covers both electrodes and rods;
- additional examples for designations have been inserted.

Requests for official interpretations of any aspect of this document 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.

A1 Amendment A1 foreword

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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>. ^{A1}

Introduction

This document provides a classification system for tubular cored electrodes and rods for welding stainless and heat resisting steels. It recognizes that there are two somewhat different approaches in the global market to classifying a given tubular stainless steel welding consumable, and allows for either or both to be used, to suit a particular market need. Application of either type of classification designation (or of both, where suitable) identifies a product as classified in accordance with this document. The classification in accordance with system A was mainly based on EN 12073:1999. The classification in accordance with system B is mainly based upon standards used around the Pacific Rim.

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Welding consumables — Tubular cored electrodes and rods for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels — Classification

1 Scope

This document specifies requirements for classification of tubular flux and metal cored electrodes and rods, based on the all-weld metal chemical composition, the type of core, shielding gas, welding position and the all-weld metal mechanical properties, in the as-welded or heat-treated conditions, for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels.

This document is a combined standard providing for classification utilizing a system based upon nominal composition or utilizing a system based upon alloy type.

- a) Clauses, subclauses, and tables which carry the suffix letter “A” are applicable only to products classified using the system based upon nominal composition.
- b) Clauses, subclauses, and tables which carry the suffix letter “B” are applicable only to products classified using the system based upon alloy type.
- c) Clauses, subclauses, and tables which do not have either the suffix letter “A” or the suffix letter “B” are applicable to all products classified in accordance with this document.

This document does not use pulsed current for determining the product classification.

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

ISO 6847, *Welding consumables — Deposition of a weld metal pad for chemical analysis*

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

ISO 13916, *Welding — Guidance on the measurement of preheating temperature, interpass temperature and preheat maintenance temperature*

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

ISO 80000-1:2009, *Quantities and units — Part 1: General*. Corrected by ISO 80000-1:2009/Cor 1:2011.