SLOVENSKI STANDARD
oSIST prEN ISO 17632:2026

01-december-2026

Dodajni in pomožni materiali za varjenje - Strženske žice za obločno varjenje v zaščitnem plinu in brez zaščite za nelegirana in drobnozrnata jekla - Razvrstitev (ISO/DIS 17632:2026)

Welding consumables - Tubular cored electrodes for gas shielded and non-gas shielded metal arc welding of non-alloy and fine grain steels - Classification (ISO/DIS 17632:2026)

Schweißzusätze - Fülldrahtelektroden zum Metall-Lichtbogenschweißen mit und ohne Schutzgas von unlegierten Stählen und Feinkornstählen - Einteilung (ISO/DIS 17632:2026)

Sample Document
preview document from standards.iteh.ai

Produits consommables pour le soudage - Fils-électrodes fourrés pour soudage à l'arc avec ou sans gaz de protection des aciers non alliés et des aciers à grains fins - Classification (ISO/DIS 17632:2026)

Ta slovenski standard je istoveten z: **prEN ISO 17632**

ICS:

25.160.20 Potrošni material pri varjenju Welding consumables

oSIST prEN ISO 17632:2026 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

Sample Document

get full document from standards.iteh.ai

oSIST prEN ISO 17632:2026

DRAFT International Standard

ISO/DIS 17632

Welding consumables — Tubular cored electrodes for gas shielded and non-gas shielded metal arc welding of non-alloy and fine grain steels — Classification

Produits consommables pour le soudage — Fils-électrodes fourrés pour soudage à l'arc avec ou sans gaz de protection des aciers non alliés et des aciers à grains fins — Classification

Sample Document
get full document from standards.iteh.ai

ICS: 25.160.20

ISO/TC **44**/SC **3**

Secretariat: **ANSI**

Voting begins on:
2026-10-19

Voting terminates on:
2027-01-11

This document has not been edited by the ISO Central Secretariat.

ISO/CEN PARALLEL PROCESSING

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENTS AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

Reference number
ISO/DIS 17632:2026(en)

© ISO 2026

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026

oSIST prEN ISO 17632:2026

Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Published in Switzerland

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026

oSIST prEN ISO 17632:2026

Contents

Page

Foreword ..... **v**
Introduction ..... **vi**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **2**
4 Classification **2**
4.1 General 2
4.2 Classification systems 2
4.3 Compulsory and optional sections 3
5 Symbols and requirements **3**
5.1 Symbol for the product/process 3
5.2 Symbol for tensile properties of all-weld metal or welded joint 4
5.2.1 Multi-run technique 4
5.2.2 Single-run technique 4
5.3 Symbol for impact properties of all-weld metal or welded joint 5
5.4 Symbol for chemical composition of all-weld metal 5
5.5 Symbol for type of electrode core or for the usability characteristics of the electrode 8
5.5.1 System A 8
5.5.2 System B 8
5.6 Symbol for shielding gas 10
5.7 Symbol for welding position 10
5.8 Symbol for hydrogen content of deposited metal 10
5.9 Symbol for condition of postweld heat treatment of all-weld metal 10
5.9.1 System A 10
5.9.2 System B 11
6 Mechanical tests **11**
6.1 Multi-run technique 11
6.1.1 System A 11
6.1.2 System B 11
6.1.3 Hydrogen removal 11
6.1.4 Preheating and interpass temperatures 11
6.1.5 Procedure requirements for welding multi-run test assemblies 12
6.1.6 Post-weld heat treatment (PWHT) condition 12
6.2 Single-run technique 12
7 Chemical analysis **13**
8 Rounding procedure **13**
9 Retests **13**
10 Technical delivery conditions **13**
11 Examples of designation **13**
11.1 General 13
11.2 Example 1 – System A 13
11.3 Example 2 – System B 14
11.4 Example 3 - System A 15
11.5 Example 4 – System B 15
11.6 Example 5 – System A 16
Annex A (informative) **Classification systems** **17**
Annex B (informative) **Description of types of electrode core in the classification system based upon yield strength and average impact energy of 47 J** **20**

Sample Document
Get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026

oSIST prEN ISO 17632:2026

Annex C (informative) **Description of types of usability characteristics in the classification system based upon tensile strength and average impact energy of 27 J** **22**

Annex D (informative) **Notes on hydrogen content** **25**

Bibliography **26**

Sample Document

get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026

oSIST prEN ISO 17632:2026

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*.

Sample Document

This third edition cancels and replaces the second edition (ISO 17632:2015 [1]), which has been technically revised.

Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 3, through your national standards body, a complete listing of which can be found at www.iso.org.

© ISO 2026 – All rights reserved

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026

oSIST prEN ISO 17632:2026

Introduction

This document provides a classification system for tubular cored electrodes in terms of tensile properties, impact properties, chemical composition of the all-weld metal, type of electrode core, shielding gas, and welding position. The ratio of yield to tensile strength of weld metal is generally higher than that of the parent metal. Matching weld metal yield strength to parent metal yield strength will not necessarily ensure that the weld metal tensile strength matches that of the parent metal. Where the application demands matching tensile strengths, selection of consumables is made by reference to Table 3, column 3 or 7, Tensile strength or Table 4, column 3 or 5, Minimum tensile strengths.

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 the differences in welding procedure such as electrode size, width of weave, welding position, and parent metal composition.

The classification in accordance with System A is mainly based on EN 758:1997. The classification in accordance with System B is mainly based upon standards used around the Pacific Rim.

Sample Document

get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026

oSIST prEN ISO 17632:2026

Welding consumables — Tubular cored electrodes for gas shielded and non-gas shielded metal arc welding of non-alloy and fine grain steels — Classification

1 Scope

This document specifies requirements for classification of tubular cored electrodes with or without a gas shield for metal arc welding of non-alloy and fine grain steels in the as-welded condition or in the post-weld heat-treated condition with a minimum yield strength of up to 500 MPa or a minimum tensile strength of up to 570 MPa. One tubular cored electrode can be tested and classified with different shielding gases, if any.

This document is a combined specification providing classification utilizing a system based upon the yield strength and the average impact energy of 47 J of all-weld metal or utilizing a system based upon the tensile strength and the average impact energy of 27 J of all-weld metal.

a) Clauses, subclauses and tables which carry the suffix “System A” are applicable only to tubular cored electrodes classified to the system based upon the yield strength and the average impact energy of 47 J of all-weld metal in accordance with this document.

b) Clauses, subclauses and tables which carry the suffix “System B” are applicable only to tubular cored electrodes classified to the system based upon the tensile strength and the average impact energy of 27 J of all-weld metal in accordance with this document.

c) Clauses, subclauses and tables which have neither the suffix "System A” nor the suffix "System B” are applicable to all tubular cored electrodes classified in accordance with this document.

Sample Document
get full document from standards.iteh.ai

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 document Standard, pulsed current is not to be used for determining the electrode 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 3690, *Welding and allied processes — Determination of hydrogen content in arc weld metal*

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

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 15792-1:2020, *Welding consumables — Test methods — Part 1: Preparation of all-weld metal test pieces and specimens in steel, nickel and nickel alloys*

ISO 15792-2:2020, *Welding consumables — Test methods — Part 2: Preparation of single-run and two-run technique test pieces and specimens in steel*

ISO 80000-1:2022, *Quantities and units — Part 1: General*

© ISO 2026 – All rights reserved

oSIST prEN ISO 17632:2026 • https://standards.iteh.ai/catalog/standards/sist/4724ae5a-87fd-40cc-ad33-cb3da0e5f645/osist-pren-iso-17632-2026