

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|---|--|
| See Eesti standard EVS-EN ISO 15792-1:2020 sisaldab Euroopa standardi EN ISO 15792-1:2020 ingliskeelset teksti. | This Estonian standard EVS-EN ISO 15792-1:2020 consists of the English text of the European standard EN ISO 15792-1:2020. |
| 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 16.09.2020. | Date of Availability of the European standard is 16.09.2020. |
| 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

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

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

Produits consommables pour le soudage - Méthodes
d'essai - Partie 1: Préparation des pièces d'essai et des
éprouvettes de métal fondu hors dilution pour le
soudage de l'acier, du nickel et des alliages de nickel
(ISO 15792-1:2020)

Schweißzusätze - Prüfverfahren - Teil 1: Herstellung
von Schweißgutprüfstücken und -proben an Stahl,
Nickel und Nickellegierungen (ISO 15792 1:2020)

This European Standard was approved by CEN on 29 August 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

European foreword

This document (EN ISO 15792-1:2020) 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 March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

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 15792-1:2008.

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 15792-1:2020 has been approved by CEN as EN ISO 15792-1:2020 without any modification.

Contents

| | Page |
|--|------|
| Foreword..... | iv |
| Introduction..... | v |
| 1 Scope..... | 1 |
| 2 Normative references..... | 1 |
| 3 Terms and definitions..... | 1 |
| 4 General requirements..... | 1 |
| 5 Test plate material..... | 1 |
| 6 Preparation of test piece..... | 2 |
| 7 Welding conditions..... | 2 |
| 8 Heat treatment..... | 3 |
| 9 Position of test specimens and test specimen dimensions..... | 3 |
| Bibliography..... | 4 |

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 3, *Welding consumables*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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>.

This second edition cancels and replaces the first edition (ISO 15792-1:2000), which has been technically revised. It also incorporates the Amendment ISO 15792-1:2000/Amd 1:2011. The main changes compared to the previous edition are as follows:

- the title and scope of this document have been changed;
- Clause 10 and Clause 11 have been deleted consequently;
- in [Clause 1](#), pass has been changed to run for consistency with other standards;
- tolerances have been added to [Table 1](#).

Introduction

It should be noted that the mechanical properties of all-weld metal test specimens used to classify welding consumables can vary from those obtained in production joints because of differences in welding procedure such as electrode diameter, width of weave, welding position and material composition.

Welding consumables — Test methods —

Part 1:

Preparation of all-weld metal test pieces and specimens in steel, nickel and nickel alloys

1 Scope

This document specifies the preparation of test pieces and specimens for all-weld metal tests in steel, nickel and nickel alloys.

The test pieces and specimens are used to determine the mechanical properties of all-weld metal where required by consumable classification standards or for other purposes, in arc welding of steel, nickel and nickel alloys.

This document is not applicable to single- or two-run welding or fillet welding. For these cases, ISO 15792-2 and ISO 15792-3 apply.

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 5178, *Destructive tests on welds in metallic materials — Longitudinal tensile test on weld metal in fusion welded joints*

ISO 9016:2012, *Destructive tests on welds in metallic materials — Impact tests — Test specimen location, notch orientation and examination*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 General requirements

Welding consumables to be tested shall be representative of the manufacturer's products to be classified or tested. Test pieces shall be prepared as described below.

5 Test plate material

The material to be used for the test piece shall be compatible with the weld metal provided by the welding consumable tested. Alternatively, the groove edges and the backing strip shall be built up with at least two layers using the welding consumable being tested.