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BSI Standards Publication

Resistance welding — Testing of welds — Peel and chisel testing of resistance spot and projection welds

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National foreword

This British Standard is the UK implementation of EN ISO 10447:2022. It is identical to ISO 10447:2022. It supersedes BS EN ISO 10447:2015, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/29, Resistance welding.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

Resistance welding - Testing of welds - Peel and chisel testing of resistance spot and projection welds (ISO 10447:2022)

Soudage par résistance - Essais des soudures - Essais de pelage et de déboutonnage au burin appliqués aux soudures par résistance par points et par bossages (ISO 10447:2022)

Widerstandsschweißen - Prüfung von Schweißverbindungen - Schäl- und Meißelprüfung von Widerstandspunkt- und Buckelschweißverbindungen (ISO 10447:2022)

This European Standard was approved by CEN on 27 November 2022.

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 10447:2022) 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 June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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 10447:2015.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 10447:2022 has been approved by CEN as EN ISO 10447:2022 without any modification.

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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).

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 6, *Resistance welding and allied mechanical joining*, 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).

This fourth edition cancels and replaces the third edition (ISO 10447:2015), which has been technically revised.

The main changes are as follows:

- the terms and definition given in ISO 17677-1 apply.

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>.

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Resistance welding — Testing of welds — Peel and chisel testing of resistance spot and projection welds

1 Scope

This document specifies the procedures and recommended tooling to be used for peel and chisel testing of resistance spot and embossed projection welds. This document applies to welds made in two or more sheets in the thickness range of 0,5 mm to 3,0 mm.

The aim of these tests is to determine:

- weld size and failure mode when welds are destructively tested;
- verification of welds by non-destructive chisel tests.

NOTE The preferred method of peel testing seam welds (mechanized peel testing) is covered in ISO 14270.

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 17677-1, *Resistance welding — Vocabulary — Part 1: Spot, projection and seam welding*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17677-1 apply.

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

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

4 Test specimens

When used for quality control in production, tests shall be conducted on actual components or specimens taken from actual components.

When used for setting welding parameters, where it is not practical to use actual components, separate welded test pieces may be used. The test pieces shall be produced from the same material used for the component and welded under conditions adapted to produce the same required weld quality. The effects of different shunt or impedance conditions should be taken into account when producing the test pieces by inserting sufficient material in the throat of the machine to approximate the magnetic effect of the workpiece under production conditions.

5 Test procedure

5.1 Chisel test

A chisel shall be used to separate the sheets adjacent to the weld under test. There are two types of chisel test.