SLOVENSKI STANDARD
SIST EN ISO 9455-17:2024

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Nadomešča:
SIST EN ISO 9455-17:2006

Talila za mehko spajkanje - Preskusne metode - 17. del: Preskus odpornosti površine izolacije z glavnikom in preskus elektrokemičnega prenosa talila (ISO 9455-17:2024)

Soft soldering fluxes - Test methods - Part 17: Surface insulation resistance comb test and electrochemical migration test of flux residues (ISO 9455-17:2024)

Flussmittel zum Weichlöten - Prüfverfahren - Teil 17: Bestimmung des Widerstandes der Oberflächenisolierung, Kammprüfung und elektrochemische Migrationsprüfung von Flussmittelrückständen (ISO 9455-17:2024)

Flux de brasage tendre - Méthodes d'essai - Partie 17: Essai au peigne et essai de migration électrochimique de résistance d'isolement de surface des résidus de flux (ISO 9455-17:2024)

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ICS:

25.160.50	Trdo in mehko lotanje	Brazing and soldering

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EUROPEAN STANDARD

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English Version

Soft soldering fluxes - Test methods - Part 17: Surface insulation resistance comb test and electrochemical migration test of flux residues (ISO 9455-17:2024)

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

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European foreword

This document (EN ISO 9455-17:2024) 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of an identical text or by endorsement, at the latest by July 2024, and conflicting national standards shall be withdrawn at the latest by July 2024.

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.

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Endorsement notice

The text of ISO 9455-17:2024 has been approved by CEN as EN ISO 9455-17:2024 without any modification.

International Standard

ISO 9455-17

Second edition
2024-01

Soft soldering fluxes — Test methods —

Part 17: Surface insulation resistance comb test and electrochemical migration test of flux residues

Flux de brasage tendre — Méthodes d'essai —

Partie 17: Essai au peigne et essai de migration électrochimique de résistance d'isolement de surface des résidus de flux

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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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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 12, *Soldering materials*, 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 second edition cancels and replaces the first edition (ISO 9455-17:2002), which has been technically revised.

The main changes are as follows:

— in Clause 1 the applicability was clarified;

— in 6.5 the test coupon was aligned with IPC B53 from IEC 61189-5-501;

— in 9.5 the duration of the test was changed from 21 days to 1 000 h.

A list of all parts in the ISO 9455 series can be found on the ISO website.

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.

Soft soldering fluxes — Test methods —

Part 17: Surface insulation resistance comb test and electrochemical migration test of flux residues

1 Scope

This document specifies a method of testing for deleterious effects that can arise from flux residues after soldering or tinning test coupons. The test is applicable to type 1 and type 2 fluxes, as specified in ISO 9454-1, in solid or liquid form, or in the form of flux-cored solder wire, solder preforms or solder paste constituted with eutectic or near-eutectic tin/lead (Sn/Pb) or Sn95,5Ag3Cu0,5 or other lead-free solders as agreed between user and supplier (see ISO 9453).

This test method is also applicable to fluxes for use with lead-containing and lead-free solders. However, the soldering temperatures can be adjusted with agreement between tester and customer.

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 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ISO 9454-1, *Soft soldering fluxes — Classification and requirements — Part 1: Classification, labelling and packaging*

IEC 61189-5-501, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies — Part 5-501: General test methods for materials and assemblies — Surface insulation resistance (SIR) testing of solder fluxes*

3 Terms and definitions

No terms and definitions are listed in this document.

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 Principle

The objective of this test method is to characterize fluxes by determining the degradation of electrical resistance and the electrochemical migration of rigid printed wiring coupon specimens after exposure to the specified flux. This test is carried out at high humidity and heat conditions under bias voltage. For fluxes which can leave undesirable residues and hence require cleaning, the results obtained from the test will depend on the characteristics of the flux residue, substrate and metallization, and also on the effectiveness of the cleaning operation.