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Standards

Irish Standard  
I.S. EN ISO 9455-5:2020

# Soft soldering fluxes - Test methods - Part 5: Copper mirror test (ISO 9455- 5:2020)

**I.S. EN ISO 9455-5:2020**

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## National Foreword

I.S. EN ISO 9455-5:2020 is the adopted Irish version of the European Document EN ISO 9455-5:2020, Soft soldering fluxes - Test methods - Part 5: Copper mirror test (ISO 9455-5:2020)

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EUROPEAN STANDARD

EN ISO 9455-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2020

ICS 25.160.50

Supersedes EN ISO 9455-5:2014

English Version

## Soft soldering fluxes - Test methods - Part 5: Copper mirror test (ISO 9455-5:2020)

Flux de brasage tendre - Méthodes d'essai - Partie 5:  
Essai au miroir de cuivre (ISO 9455-5:2020)

Flussmittel zum Weichlöten - Prüfverfahren - Teil 5:  
Kupferspiegeltest (ISO 9455-5:2020)

This European Standard was approved by CEN on 12 October 2020.

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**EN ISO 9455-5:2020 (E)**

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## **European foreword**

This document (EN ISO 9455-5:2020) 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of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.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 9455-5:2014.

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 9455-5:2020 has been approved by CEN as EN ISO 9455-5:2020 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
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## **Soft soldering fluxes — Test methods —**

### **Part 5: Copper mirror test**

*Flux de brasage tendre — Méthodes d'essai —*

*Partie 5: Essai au miroir de cuivre*



Reference number  
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## ISO 9455-5:2020(E)

### 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](http://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](http://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](http://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*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 9455-5:2014), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

- Footnote 1 in old 5.2 (now [6.2](#)) has been deleted;
- [Clause 3](#), Terms and definitions, has been added;
- subsequent numbering and cross-references have been updated.

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](http://www.iso.org/members.html).

# Soft soldering fluxes — Test methods —

## Part 5: Copper mirror test

### 1 Scope

This document specifies a qualitative method for assessing the aggressiveness of a flux towards copper. The test is applicable to all fluxes of type 1 as defined in ISO 9454-1.

### 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 9455-1, *Soft soldering fluxes — Test methods — Part 1: Determination of non-volatile matter, gravimetric method*

ISO 9455-2, *Soft soldering fluxes — Test methods — Part 2: Determination of non-volatile matter, ebulliometric method*

### 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 Principle

For flux samples in the form of a solid or paste, and for flux-cored solder, a flux test solution containing 25 % (*m/m*) of solids is prepared. For liquid flux samples, the liquid is used full strength as the flux test solution. The flux test solution is then evaluated in terms of its attack on a copper film previously vacuum deposited onto a glass plate (copper mirror). A rosin reference solution, which should not cause removal of the copper film, is used as a control. The object of the test is to determine the flux reactivity due to the presence of free halide activators.

NOTE The presence of amines in the flux can cause misleading results in that the flux appears to pass the test, when in fact it has a highly reactive composition.

### 5 Reagents

Use only reagents of recognized analytical grade and only distilled, or deionized, water.

#### 5.1 Acetone.

#### 5.2 Propan-2-ol.

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