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BSI Standards Publication

Solderless connections

Part 7: Spring clamp connections — General requirements, test methods and practical guidance

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 60352-7:2021. It is identical to IEC 60352-7:2020. It supersedes BS EN 60352-7:2002, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

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

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Connexions sans soudure - Partie 7: Connexions à ressort - Règles générales, méthodes d'essai et guide pratique (IEC 60352-7:2020)

Lötfreie Verbindungen - Teil 7: Federklemmverbindungen - Allgemeine Anforderungen, Prüfverfahren und Anwendungshinweise (IEC 60352-7:2020)

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European foreword

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Endorsement notice

The text of the International Standard IEC 60352-7:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60512-1-100	NOTE	Harmonized as EN 60512-1-100
IEC 60512-9-5	NOTE	Harmonized as EN IEC 60512-9-5
IEC 60947-7-1:2009	NOTE	Harmonized as EN 60947-7-1:2009 (not modified)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SOLDERLESS CONNECTIONS –

Part 7: Spring clamp connections – General requirements, test methods and practical guidance

FOREWORD

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International Standard IEC 60352-7 has been prepared by subcommittee SC 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This second edition cancels and replaces the first edition of IEC 60352-7, published in 2002. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) correction of the two flow charts in Figure 6 and Figure 7,
b) split the content into more clauses for better separation between full test schedule and basic test schedule,
c) relocating the content of former Clause 6 Practical guidance into an informative Annex A, as now common in the IEC 60352 series for solderless connections,

d) clarification on conductor types with reference to classes defined in IEC 60228.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48B/2823/CDV	48B/2851/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

This document was drafted in accordance with ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60352 series, published under the general title *Solderless connections*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This part of IEC 60352 covers spring clamp connections and includes requirements, tests and practical guidance information.

Two test schedules are provided.

a) The basic test schedule applies to spring clamp connections which conform to all requirements of Clause 5. These requirements are derived from experience with successful applications of such spring clamp connections.

b) The full test schedule applies to spring clamp connections which do not fully conform to all requirements of Clause 5, for example which are manufactured using materials or finishes not included in Clause 5.

This approach permits cost and time effective performance verification using a limited basic test schedule for established spring clamp connections and an expanded full test schedule for spring clamp connections requiring more extensive performance validation.

The values given in this document are minimum values, which are harmonized with other IEC documents. Other standards may specify other values.

SOLDERLESS CONNECTIONS –

Part 7: Spring clamp connections – General requirements, test methods and practical guidance

1 Scope

This part of IEC 60352 is applicable to spring clamp connections made with stripped wire without further preparation:

- solid conductors of 0,32 mm to 3,7 mm nominal diameter (0,08 mm^2 to 10 mm^2 cross-section), or
- stranded conductors of 0,08 mm^2 to 10 mm^2 cross-section, or
- flexible conductors of 0,08 mm^2 to 10 mm^2 cross-section,

according to IEC 60228 or IEC 60189-3 for use in electrical and electronic equipment and components.

Information on materials and data from industrial experience is included in addition to the test procedures to provide electrically stable connections under prescribed environmental conditions.

The object of this document is to determine the suitability of spring clamp connections under specified mechanical, electrical and atmospheric conditions.

NOTE IEC Guide 109 advocates the need to minimize the impact of a product on the natural environment throughout the product life cycle. It is understood that some of the materials permitted in this document can have a negative environmental impact. As technological advances lead to acceptable alternatives for these materials, they will be eliminated from this document.

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.

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60189-3:2007, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 3: Equipment wires with solid or stranded conductor wires, PVC insulated, in singles, pairs and triples*

IEC 60228:2004, *Conductors of insulated cables*

IEC 60512-1, *Connectors for electrical and electronic equipment – Tests and measurements – Part 1: Generic specification*

IEC 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

IEC 60512-1-2, *Connectors for electronic equipment – Tests and measurements – Part 1-2: General examination – Test 1b: Examination of dimension and mass*