



SLOVENSKI STANDARD

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Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance (IEC 60352-5:2008)

Lötfreie Verbindungen - Teil 5: Einpressverbindungen - Allgemeine Anforderungen, Prüfverfahren und Anwendungshinweise (IEC 60352-5:2008)

Connexions sans soudure - Partie 5: Connexions insérées a force - Exigences générales, méthodes d'essai et guide pratique (CEI 60352-5:2008)

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English version

**Solderless connections -
Part 5: Press-in connections -
General requirements, test methods and practical guidance
(IEC 60352-5:2008)**

Connexions sans soudure -
Partie 5: Connexions insérées à force -
Exigences générales,
méthodes d'essai et guide pratique
(CEI 60352-5:2008)

Lötfreie Verbindungen -
Teil 5: Einpressverbindungen -
Allgemeine Anforderungen,
Prüfverfahren und Anwendungshinweise
(IEC 60352-5:2008)

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This European Standard was approved by CENELEC on 2008-02-01. CENELEC 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 Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 48B/1805A/FDIS, future edition 3 of IEC 60352-5, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60352-5 on 2008-02-01.

This European Standard supersedes EN 60352-5:2001 + A1:2003.

EN 60352-5:2008 includes the following significant technical changes with respect to EN 60352-5:2001:

- a recommendation to use four layer test boards in 5.1;
- removal of sample tolerance range requirements in 5.3.2.1; they have been moved to Annex B;
- Subclause 6.4.2 has been modified to clarify that platings other than tin or tin/lead may be used.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2008-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-02-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60352-5:2008 was approved by CENELEC as a European Standard without any modification.
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In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61249-2-2 NOTE Harmonized as EN 61249-2-2:2005 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-581 A1	1978 1998	International Electrotechnical Vocabulary (IEV) - Chapter 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1 + corr. October + A1	1988 1988 1992	Environmental testing - Part 1: General and guidance	EN 60068-1	1994
IEC 61249	Series	Materials for printed boards and other interconnecting structures	EN 61249	Series
IEC 60352-1	1997	Solderless connections - Part 1: Wrapped connections - General requirements, test methods and practical guidance	EN 60352-1	1997
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	- ¹⁾	Connectors for electronic equipment - Tests and measurements - Part 1-100: General - Applicable publications	EN 60512-1-100	2006 ²⁾
IEC 61188-5-1	- ¹⁾	Printed boards and printed board assemblies - Design and use - Part 5-1: Attachment (land/joint) considerations - Generic requirements	EN 61188-5-1	2002 ²⁾
IEC 62326-4	1996	Printed boards - Part 4: Rigid multilayer printed boards with interlayer connections - Sectional specification	EN 62326-4	1997

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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IEC 60352-5

Edition 3.0 2008-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Solderless connections –
Part 5: Press-in connections – General requirements, test methods and practical guidance

Connexions sans soudure –
Partie 5: Connexions insérées à force – Exigences générales, méthodes d'essai et guide pratique

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope and object.....	7
2 Normative references.....	7
3 Terms and definitions	8
4 Requirements	9
4.1 General.....	9
4.2 Tools.....	9
4.2.1 Tools evaluation	9
4.3 Press-in terminations.....	9
4.3.1 Materials.....	9
4.3.2 Dimensions of the press-in zone	9
4.3.3 Surface finishes	9
4.3.4 Design features	10
4.4 Printed boards.....	10
4.4.1 General	10
4.4.2 Materials.....	10
4.4.3 Thickness of printed boards.....	10
4.4.4 Plated-through hole.....	10
4.5 Press-in connections	11
4.6 Manufacturer's specification.....	11
5 Tests.....	12
5.1 General.....	12
5.1.1 General remarks.....	12
5.1.2 Standard conditions for testing.....	13
5.1.3 Mounting of specimens/sets of parts	13
5.2 Test and measuring methods.....	13
5.2.1 General examination.....	13
5.2.2 Mechanical tests.....	14
5.2.3 Electrical tests.....	18
5.2.4 Climatic tests.....	18
5.3 Test schedules	19
5.3.1 General	19
5.3.2 Qualification test schedule	19
5.3.3 Application test schedule	21
5.3.4 Flow chart.....	23
5.4 Test report.....	24
5.4.1 Qualification test report.....	24
5.4.2 Application test report.....	24
6 Practical guidance	25
6.1 Current-carrying capacity.....	25
6.2 Tool information.....	25
6.2.1 Termination insertion tool.....	25
6.2.2 Support block	25
6.2.3 Termination removal tool.....	26

6.3	Termination information	26
6.3.1	General	26
6.3.2	Design features	26
6.3.3	Materials and surface finishes	26
6.3.4	Press-in termination with wrap post	27
6.3.5	Press-in terminations with connector contact elements	27
6.4	Printed board information	28
6.4.1	General	28
6.4.2	Plated-through hole	28
6.5	Connection information	29
6.5.1	General	29
6.5.2	Repair of press-in connections	30
6.5.3	Combination of press-in connections and soldered connections	31
6.5.4	Bimetallic electrolytic corrosion effects	31
	Annex A (normative) Solid press-in terminations	32
	Annex B (informative) Plated through hole tolerance range	34
	Bibliography	36
	Figure 1 – Test arrangement, bending	14
	Figure 2 – Test arrangement – push-out force	15
	Figure 3 – Transverse section of a press-in connection	17
	Figure 4 – Longitudinal section of a press-in connection	17
	Figure 5 – Test arrangement for contact resistance	18
	Figure 6 – Qualification test schedule	23
	Figure 7 – Press-in connection made with a press-in termination, application level a)	29
	Figure 8 – Press-in connection made with a press-in termination, application level b)	30
	Figure 9 – Example of a termination removal tool	31
	Figure A.1 – Parallelism of a solid press-in zone	33
	Figure B.1 – Example of hole ranges	34
	Table 1 – Finished plated-through holes	11
	Table 2 – Vibration, preferred test severities	16
	Table 3 – Push-out force for application level b)	29
	Table A.1 – Plated-through holes for solid press-in zones	32

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SOLDERLESS CONNECTIONS –**Part 5: Press-in connections –
General requirements, test methods and practical guidance**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60352-5 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This third edition cancels and replaces the second edition published in 2001 and its amendment 1 (2003). This edition constitutes a technical revision.

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

- 1) A recommendation to use four layer test boards in 5.1.
- 2) Removal of sample tolerance range requirements in 5.3.2.1; they have been moved to Annex B.
- 3) Subclause 6.4.2 has been modified to clarify that platings other than tin or tin/lead may be used.

The text of this standard is based on the following documents:

FDIS	Report on voting
48B/1805A/FDIS	48B/1830/RVD

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

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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INTRODUCTION

This part of IEC 60352 includes requirements, tests and practical guidance information.

Two test schedules are provided.

- a) The qualification test schedule applies to individual press-in connections (press-in zone).
They are tested to the specification provided by the manufacturer of the press-in zone (see 4.6) taking into account the requirements of Clause 4.
The qualification is independent of the application of the press-in zone in a component.
- b) The application test schedule applies to press-in connections which are part of a component and are already qualified to the qualification test schedule.
Test sequences focus on the performance of the press-in connection which is affected by the implementation in a component.

As the manufacturer of the press-in zone has to provide the main part of the information needed for qualification, the use of the words "the manufacturer" is implemented throughout this standard for simplicity.

IEC Guide 109 advocates the need to minimise 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 standard may have a negative environmental impact.

As technological advances lead to acceptable alternatives for these materials, they will be eliminated from the standard.

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SOLDERLESS CONNECTIONS –

Part 5: Press-in connections – General requirements, test methods and practical guidance

1 Scope and object

This part of IEC 60352 is applicable to solderless press-in connections for use in telecommunication equipment and in electronic devices employing similar techniques.

The press-in connection consists of a termination having a suitable press-in zone which is inserted into a plated-through hole of a double-sided or multilayer printed board.

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 part of IEC 60352 is to determine the suitability of press-in connections under specified mechanical, electrical and atmospheric conditions.

Only compliant press-in zones can be qualified according to this part of IEC 60352.

Solid press-in zones are in use. Information about these is given in Annex A.

2 Normative references

The following referenced documents are indispensable for the application 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 60050(581):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 581: Electromechanical components for electronic equipment*
Amendment 1 (1998)

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 61249 (all parts), *Materials for printed boards and other interconnecting structures*

IEC 60352-1:1997, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General - Applicable publications*

IEC 61188-5-1: *Printed boards and printed board assemblies – Design and use – Part 5-1: Attachment (land/joint) considerations – Generic requirements*