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STN	**Polovodičové súčiastky. Elektromechanické mikrosúčiastky. Časť 15: Skúšobná metóda šmykovej pevnosti medzi PDMS a sklom.**	**STN EN 62047-15** 35 8792

Semiconductor devices - Micro-electromechanical devices - Part 15: Test method of bonding strength between PDMS and glass

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/15

Obsahuje: EN 62047-15:2015, IEC 62047-15:2015

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 62047-15

July 2015

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English Version

Semiconductor devices - Micro-electromechanical devices - Part 15: Test method of bonding strength between PDMS and glass (IEC 62047-15:2015)

Dispositifs à semiconducteurs - Dispositifs microélectromécaniques - Partie 15: Méthode d'essai de la résistance de collage entre PDMS et verre (IEC 62047-15:2015)

Halbleiterbauelemente - Bauelemente der Mikrosystemtechnik - Teil 15: Prüfverfahren zur Bondqualität zwischen PDMS und Glas (IEC 62047-15:2015)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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EN 62047-15:2015

European foreword

The text of document 47F/208/FDIS, future edition 1 of IEC 62047-15, prepared by SC 47F “Microelectromechanical systems” of IEC/TC 47 “Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62047-15:2015.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2016-01-10
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-04-09

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 62047-9	-	Semiconductor devices - Micro-electromechanical devices -- Part 9: Wafer to wafer bonding strength measurement for MEMS	EN 62047-9	-

IEC 62047-15

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 15: Test method of bonding strength between PDMS and glass

FOREWORD

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International Standard IEC 62047-15 has been prepared by subcommittee 47F: Micro-electromechanical systems, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47F/208/FDIS	47F/213/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.

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

A list of all parts in the IEC 62047 series, published under the general title *Semiconductor devices – Micro-electromechanical devices*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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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SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 15: Test method of bonding strength between PDMS and glass

1 Scope

This part of IEC 62047 describes test method for bonding strength between poly dimethyl siloxane (PDMS) and glass. Silicone-based rubber, PDMS, is used for building of chip-based microfluidic devices fabricated using lithography and replica moulding processes. The problem of bonding strength is mainly for high pressure applications as in the case of certain peristaltic pump designs where an off chip compressed air supply is used to drive the fluids in micro channels created by a twin layer, one formed by bondage between glass with replica moulded PDMS and another between PDMS and PDMS. Also, in case of systems having pneumatic microvalves, a relatively high level of bonding particularly between two replica moulded layers of PDMS becomes quite necessary. Usually there is a leakage and debonding phenomena between interface of bonded areas, which causes unstability and shortage of lifetime for MEMS devices. This standard specifies general procedures on bonding test of PDMS and glass chip.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62047-9, *Semiconductor devices – Micro-electromechanical devices – Part 9: Wafer to wafer bonding strength measurement for MEMS*