BS EN 62739-1:2013

BSI Standards Publication

Test method for erosion of wave soldering equipment using molten lead-free solder alloy

Part 1: Erosion test method for metal materials without surface processing

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National foreword

This British Standard is the UK implementation of EN 62739-1:2013. It is identical to IEC 62739-1:2013.

BSI, as a member of CENELEC, is obliged to publish EN 62739-1:2013 as a British Standard. However, attention is drawn to the fact that the UK committee has voted against its approval as a European Standard.

The UK committee advises that it is current European practice for suppliers of lead-free wave soldering equipment to perform the relevant tests to demonstrate fitness of purpose.

The UK participation in its preparation was entrusted to Technical Committee EPL/501, Electronic assembly technology & Printed Electronics.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2013.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

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English version

Test method for erosion of wave soldering equipment using molten lead-free solder alloy - Part 1: Erosion test method for metal materials without surface processing

(IEC 62739-1:2013)

Méthode d'essai de l'érosion de l'équipement de brasage à la vague utilisant un alliage à braser sans plomb fondu -
Partie 1: Méthode d'essai d'érosion des matériaux métalliques sans traitement de surface
(CEI 62739-1:2013)

Verfahren zur Erosionsprüfung für Wellenlötausrüstungen bei Verwendung von geschmolzener, bleifreier Lotlegierung -
Teil 1: Erosionsprüfverfahren für metallische Werkstoffe ohne Oberflächenbehandlung
(IEC 62739-1:2013)

This European Standard was approved by CENELEC on 2013-07-23. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CENELEC

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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Foreword

The text of document 91/1092/FDIS, future edition 1 of IEC 62739-1, prepared by IEC TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62739-1:2013.

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)	2014-04-23
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-07-23

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62739-1:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60194:2006	NOTE Harmonized as EN 60194:2006.

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

Publication	Year	Title	EN/HD	Year
IEC 60068-2-20	2008	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	2008
IEC 61190-1-3		Attachment materials for electronic assembly - Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solders for electronic soldering applications	EN 61190-1-3	

CONTENTS

TEST METHOD FOR EROSION OF WAVE SOLDERING EQUIPMENT USING MOLTEN LEAD-FREE SOLDER ALLOY –

Part 1: Erosion test method for metal materials without surface processing

1 Scope

This part of the IEC 62739 series provides an evaluating test method for the erosion of the metallic materials without surface processing intended to be used for lead-free wave soldering equipment as a solder bath and other components which are in contact with the molten solder.

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 61190-1-3, *Attachment materials for electronic assembly – Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solder for electronic soldering applications*

IEC 60068-2-20:2008, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
erosion
phenomenon where a base material is dissolved and made thinner by coming into contact with molten solder

3.2
lead-free solder
alloy that does not contain more than 0,1 % mass fraction of lead (Pb) as its constituent and is used for joining components to substrates or for coating surfaces

[SOURCE: IEC 60194:2006, 75.1904 modified — "mass fraction" is used instead of "weight"]

3.3
dross
oxide and other contaminants that form on the surface of molten solder

[SOURCE: IEC 60194:2006, 75.0410]