

**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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ICS 31.190, 31.240

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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)

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

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-07-23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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	

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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]