



NSAI
Standards

Irish Standard
I.S. EN 60243-3:2014

Electric strength of insulating materials - Test methods -- Part 3: Additional requirements for 1,2/50 μ s impulse tests

I.S. EN 60243-3:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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EUROPEAN STANDARD
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EN 60243-3

February 2014

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Supersedes EN 60243-3:2001

English version

**Electric strength of insulating materials -
Test methods -
Part 3: Additional requirements for 1,2/50 μ s impulse tests
(IEC 60243-3:2013)**

Rigidité diélectrique des matériaux
isolants - Méthodes d'essai -
Partie 3: Exigences complémentaires pour
les essais aux ondes de choc 1,2/50 μ s
(CEI 60243-3:2013)

Elektrische Durchschlagfestigkeit von
isolierenden Werkstoffen -
Prüfverfahren -
Teil 3: Zusätzliche Festlegungen für
1,2/50 μ s Stoßspannungsprüfungen
(IEC 60243-3:2013)

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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

Foreword

The text of document 112/246/CDV, future edition 3 of IEC 60243-3, prepared by IEC/TC 112 "Evaluation and qualification of electrical insulation materials and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60243-3:2014.

The following dates are fixed:

- latest date by which the document has to be (dop) 2014-09-30
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2016-12-31
standards conflicting with the
document have to be withdrawn

This document supersedes EN 60243-3:2001.

This standard shall be read in conjunction with EN 60243-1.

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Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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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 60243-1	2013	Electric strength of insulating materials - Test methods - Part 1: Tests at power frequencies	EN 60243-1	2013

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IEC 60243-3

Edition 3.0 2013-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electric strength of insulating materials – Test methods –
Part 3: Additional requirements for 1,2/50 μ s impulse tests**

**Rigidité diélectrique des matériaux isolants – Méthodes d'essai –
Partie 3: Exigences complémentaires pour les essais
aux ondes de choc 1,2/50 μ s**



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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IEC 60243-3

Edition 3.0 2013-11

INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC STRENGTH OF INSULATING MATERIALS –
TEST METHODS –****Part 3: Additional requirements for 1,2/50 μ s impulse tests**

FOREWORD

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International Standard IEC 60243-3 has been prepared by technical committee 112: Evaluation and qualification of electrical insulation materials and systems.

This third edition cancels and replaces the second edition, published in 2001, and constitutes an editorial revision.

This part of IEC 60243 shall be read in conjunction with IEC 60243-1.

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

CDV	Report on voting
112/246/CDV	112/267A/RVC

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 60243 series, published under the general title *Electric strength of insulating materials – Test methods*, 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.

ELECTRIC STRENGTH OF INSULATING MATERIALS – TEST METHODS –

Part 3: Additional requirements for 1,2/50 μ s impulse tests

1 Scope

This part of IEC 60243 gives requirements additional to those in IEC 60243-1 for the determination of the electric strength of solid insulating materials under 1,2/50 μ s impulse voltage stress.

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 60243-1:2013, *Electric strength of insulating materials – Test methods – Part 1: Tests at power frequencies*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60243-1, together with the following, apply.

3.1

full impulse-voltage wave

aperiodic transient voltage that rises rapidly to a maximum value, then falls less rapidly to zero (see Figure 1)

3.2

peak value (of an impulse-voltage wave)

U_P

maximum value of voltage

3.3

virtual peak value (of an impulse-voltage wave)

U_1

value derived from a recording of an impulse-voltage wave on which high-frequency oscillations, or overshoot of a limited magnitude, may be present

3.4

virtual origin (of an impulse-voltage wave)

O_1

point of intersection O_1 with the line of zero voltage of a line drawn through the points of 0,3 and 0,9 times the virtual peak value on the front of an impulse-voltage wave (see Figure 1)

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