

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Impulse tests on cables and their accessories

Essais de choc des câbles et de leurs accessoires



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CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Characteristics of the test object to be subjected to the tests	5
5 State of the test object to be subjected to the test	6
6 Lightning impulse voltage	6
7 Switching impulse voltage	6
8 Superimposed impulse voltage test	6
8.1 General	6
8.2 Test setup	6
8.3 Time parameters	7
8.4 Application of the DC voltage	7
9 Measuring system	7
10 Application of the impulses	7
Annex A (informative) Tests above the withstand level	9
A.1 General	9
A.2 Procedure for tests above the withstand level	9
A.2.1 General sequence of lightning-impulse test	9
A.2.2 Tests beyond withstand level	9
A.2.3 Re-calibration of the generator	9
Annex B (normative) Calibration of impulse generator	10
B.1 General	10
B.2 Calibration of impulse generator	10
B.3 Application of the impulses at the level specified	10
Annex C (normative) Test circuit for superimposed impulse voltage test	11
C.1 General	11
Bibliography	13
Figure C.1 – Spark gap setup using calibrated composite measuring system capable of measuring HVDC and impulse	11
Figure C.2 – Blocking capacitor setup using calibrated composite measuring system capable of measuring HVDC and impulse	12

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IMPULSE TESTS ON CABLES AND THEIR ACCESSORIES

FOREWORD

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IEC 60230 edition 2.1 contains the second edition (2018-01) [documents 20/1769A/FDIS and 20/1775/RVD] and its amendment 1 (2021-12) [documents 20/1957/CDV and 20/1989/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60230 has been prepared by IEC technical committee 20: Electric cables.

This second edition constitutes a technical revision.

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

- a) the structure of the standard takes into account the current style of IEC standards;
- b) this document is no longer a “Recommendation” but an “International Standard”;
- c) the test installation is no longer related to gas-pressure and oil-filled cables only;
- d) switching-impulse voltage and superimposed impulse voltage tests have been included;
- e) for the measuring system the reference to IEC 60060-2 has been added. The reference to the sphere gap method has been moved to Annex B.

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

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site www.webstore.iec.ch in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
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IMPULSE TESTS ON CABLES AND THEIR ACCESSORIES

1 Scope

This document defines the procedure for carrying out withstand lightning and switching impulse tests and withstand superimposed impulse test on cables and their accessories.

This document applies solely to the methods of carrying out the tests as such, independently of the problem of selecting the test levels to be specified. The voltages pertaining to the system on which cables and accessories are to be used are given in IEC 60183 or in the relevant product standard.

This document specifies the following requirements:

- the characteristics and state of the test installation and those parts of the procedure which are common to withstand tests and tests above the withstand level;
- the procedure for carrying out withstand lightning and switching impulse tests and superimposed impulse test;
- the procedure for carrying out tests above the withstand level which is intended for research purposes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in the relevant product standards and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO online browsing platform: available at <http://www.iso.org/obp>

3.1 superimposed impulse voltage

impulse voltage applied to a test object which is at the same time energized by a DC voltage

Note 1 to entry: The superimposed impulse voltage falls under the definition of composite voltage given in IEC 60060-1:2010, 9.2.

4 Characteristics of the test object to be subjected to the tests

The test object shall have been previously subjected to the test protocol as required by the relevant IEC product standards.