INTERNATIONAL STANDARD

IEC 60060-3

First edition
2006-02

High-voltage test techniques –

Part 3: Definitions and requirements for on-site testing

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE V

For price, see current catalogue

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FOREWORD

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International Standard IEC 60060-3 has been prepared by IEC technical committee 42: High-voltage testing techniques.

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

FDIS	Report on voting
42/203/FDIS	42/204/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.

Terms used throughout this standard which have been defined in Clause 3 are written in **bold type.**

IEC 60060 consists of the following parts, under the general title *High-voltage test techniques*:

Part 1: General definitions and test requirements

Part 2: Measuring systems

Part 3: Definitions and requirements for on-site testing

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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- withdrawn;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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

The requirements specified in IEC 60060-1 and IEC 60060-2 cannot always be achieved during on-site tests, due to a variety of external factors not present in factory and laboratory tests such as external electric and magnetic fields, weather conditions, etc.

On-site high-voltage tests are required:

– as withstand tests as part of a commissioning procedure on equipment to demonstrate that transport from manufacturer to site, and the erection on-site complies with manufacturer's specification;

– as withstand tests after on-site repair, to demonstrate that the equipment has been successfully repaired, and is in a suitable condition to return to service;

– for diagnostic purposes, e.g. PD measurement, to demonstrate if the insulation is still free from dangerous defects, and as an indication of life expectation.

HIGH-VOLTAGE TEST TECHNIQUES –

Part 3: Definitions and requirements for on-site testing

1 Scope

This part of IEC 60060 is applicable to the following on-site test voltages and in service stresses, which are in relation to IEC 60060-1:

– direct voltage;
– alternating voltage;
– lightning impulse voltage of aperiodic or oscillating shape;
– switching impulse voltage of aperiodic or oscillating shape.

For special tests the following voltages are used:

– very low frequency voltage;
– damped alternating voltage.

This standard is applicable to equipment with a highest voltage U_m greater than 1 kV. The selection of on-site test voltages, test procedures and test voltage levels for apparatus, equipment or installations is under the responsibility of the relevant technical committee. For special applications, on-site test voltages different from those described in this standard may be specified by the relevant technical committee.

NOTE 1 The different voltage waveforms listed above do not necessarily provide equal stress on the test object.

NOTE 2 The selection of the test voltage levels should take the larger tolerances and measuring uncertainties into account.

2 Normative references

The following referenced documents are indispensable for the application 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 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60060-2:1994, *High-voltage test techniques – Part 2: Measuring systems*

IEC 60071-1:1993, *Insulation co-ordination – Part 1: Definitions, principles and rules*