

INTERNATIONAL STANDARD



**Railway applications – Electric equipment for rolling stock –
Part 4: Electrotechnical components – Rules for AC circuit-breakers**

(<https://standards.iteh.ai>)
Document Preview

[IEC 60077-4:2019](https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019)

<https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019>



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2019 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

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

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

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

[IEC 60077-4:2019](https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019)

<https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019>



IEC 60077-4

Edition 2.0 2019-10
REDLINE VERSION

INTERNATIONAL STANDARD



**Railway applications – Electric equipment for rolling stock –
Part 4: Electrotechnical components – Rules for AC circuit-breakers**

Document Preview

[IEC 60077-4:2019](https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019)

<https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 45.060.01

ISBN 978-2-8322-7566-5

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

| | |
|---|--------------|
| FOREWORD | 4 |
| INTRODUCTION | 4 |
| 1 Scope | 7 |
| 2 Normative references | 8 |
| 3 Terms, definitions and abbreviated terms | 8 |
| 3.1 Components | 9 |
| 3.2 Component parts | 10 |
| 3.3 Operational features | 11 |
| 3.4 Making and breaking characteristics | 11 |
| 3.5 Abbreviated terms | 14 |
| 4 Classification | 14 |
| 5 Characteristics | 14 |
| 5.1 Summary of characteristics | 14 |
| 5.2 Type of circuit-breaker | 15 |
| 5.3 Rated values and limiting values for the main circuit | 15 |
| 5.3.1 General | 15 |
| 5.3.2 Rated voltages | 15 |
| 5.3.3 Rated currents | 15 |
| 5.3.4 Rated frequencies Rated operational frequency | 16 |
| 5.3.5 Rated power factors | 16 |
| 5.3.6 Short-circuit characteristics (see also Annex B) | 16 |
| 5.4 Operational frequencies | 18 |
| 5.5 Electric and pneumatic control circuits | 19 |
| 5.6 Electric and pneumatic auxiliary circuits | 19 |
| 5.7 Overcurrent release | 19 |
| 5.8 Recovery voltages | 19 |
| 6 Product information | 19 |
| 6.1 Component documentation | 19 |
| 6.2 Marking | 19 |
| 7 Normal service conditions | 19 |
| 8 Constructional and performance requirements | 20 |
| 8.1 Constructional requirements | 20 |
| 8.2 Performance requirements | 20 |
| 8.2.1 Operating conditions | 20 |
| 8.2.2 Temperature rise limits | 20 |
| 8.2.3 Operation following inactivity | 20 |
| 8.2.4 Electromagnetic compatibility (EMC) | 20 |
| 8.2.5 Acoustic noise emission | 20 |
| 8.2.6 Dielectric properties Clearances | 20 |
| 8.2.7 Creepage distances | 20 |
| 8.2.8 Switching overvoltages | 20 |
| 8.2.9 Operational performance capability | 20 |
| 8.2.10 Ability to withstand vibration and shock | 21 |
| 8.2.11 Ability to make and break under short-circuit conditions | 21 |
| 9 Tests | 21 |

| | | |
|-----------------------|--|----|
| 9.1 | Kind of tests..... | 21 |
| 9.1.1 | General | 21 |
| 9.1.2 | Type tests..... | 22 |
| 9.1.3 | Routine tests | 22 |
| 9.1.4 | Investigatory Investigation tests..... | 22 |
| 9.2 | Tests for Verification of constructional requirements | 22 |
| 9.2.1 | General | 22 |
| 9.2.2 | Type tests..... | 22 |
| 9.2.3 | Routine tests | 22 |
| 9.3 | Type tests for verification of performance requirements | 23 |
| 9.3.1 | Test sequences | 23 |
| 9.3.2 | General test conditions | 23 |
| 9.3.3 | Test sequence I: General performance characteristics..... | 24 |
| 9.3.4 | Test sequence II: Rated short-circuit making and breaking capacities..... | 26 |
| 9.3.5 | Test sequence III: Capability Ability to withstand vibration and shock | 28 |
| | Test sequence IV: Transient recovery voltage test..... | |
| 9.3.6 | Test sequence IV: Climatic conditions | 29 |
| 9.3.7 | Test sequence V: Other tests..... | 29 |
| 9.4 | Routine tests for verification of performance requirements | 29 |
| 9.4.1 | General | 29 |
| 9.4.2 | Mechanical operation Functional test..... | 30 |
| 9.4.3 | Calibration of releases..... | 30 |
| 9.4.4 | Air-tightness (for pneumatic circuit-breaker) | 30 |
| 9.4.5 | Dielectric withstand | 30 |
| Annex A (informative) | Test circuit to verify the making and breaking capacities | 31 |
| Annex B (informative) | Determination of short-circuit making and breaking currents, and of percentage DC component..... | 32 |
| Bibliography..... | | 33 |
| Figure A.1 | Principle Diagram of the test circuit..... | 31 |
| Figure B.1 | Determination of short-circuit making and breaking currents, and of percentage DC components | 32 |
| | Table – Determination of voltage for impulse test..... | |
| Table 1 | Standard values of transient recovery voltage – Representation by two parameters | 18 |
| Table 2 | Operational performance capability | 21 |
| Table 3 | List of type test sequences for performance requirements | 23 |
| Table 4 | Tolerances on test values..... | 24 |
| Table 5 | Standard values of prospective transient recovery voltage – Representation by two parameters | 27 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RAILWAY APPLICATIONS –
ELECTRIC EQUIPMENT FOR ROLLING STOCK –****Part 4: Electrotechnical components –
Rules for AC circuit-breakers**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 60077-4 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This second edition cancels and replaces the first edition, issued in 2003. It constitutes a technical revision.

This edition includes the following main technical changes with regard to the previous edition:

- a) standard values of transient recovery voltages and test procedure are reviewed;
- b) procedure of verification of temperature rise is changed;
- c) air-tightness test as type test, insulation resistance measurement are added.

The text of this International Standard is based on the following documents:

| FDIS | Report on voting |
|-------------|------------------|
| 9/2538/FDIS | 9/2554/RVD |

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

This document should be read in conjunction with IEC 60077-1 and IEC 60077-2.

A list of all parts in the IEC 60077 series, published under the general title *Railway applications – Electric equipment for rolling stock*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

~~This International Standard is Part 4 of the IEC 60077 series.~~

~~The purpose of this product standard is to give additional or amended requirements on AC circuit breakers as a supplement to those given by IEC 60077-2.~~

~~During preparation of this product standard, IEC 60056 and IEC 60694 have been considered and their requirements have been kept as far as it has been possible.~~

~~This product standard makes reference to the general rules for electrotechnical components given in IEC 60077-2, but for general conditions reference is made directly to IEC 60077-1.~~

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[IEC 60077-4:2019](#)

<https://standards.iteh.ai/catalog/standards/iec/0e37bdf1-44e2-4233-83a9-64889beb6f4b/iec-60077-4-2019>

RAILWAY APPLICATIONS – ELECTRIC EQUIPMENT FOR ROLLING STOCK –

Part 4: Electrotechnical components – Rules for AC circuit-breakers

1 Scope

In addition to the general requirements of IEC 60077-2, this part of IEC 60077 gives rules for AC circuit-breakers, the main contacts of which are ~~to be~~ connected to AC overhead contact lines; the nominal voltage of these circuits being in accordance with IEC 60850.

This document, together with IEC 60077-2, states specifically:

- a) the characteristics of the circuit-breakers;
- b) the service conditions with which circuit-breakers ~~have to~~ comply with reference to:
 - operation and behaviour in normal service;
 - operation and behaviour in short-circuit;
 - dielectric properties;
- c) the tests for confirming the compliance of the components with the characteristics under the service conditions and the methods to be adopted for these tests;
- d) the information to be marked on, or given with the circuit-breaker.

NOTE 1 Circuit-breakers which are dealt with in this document ~~may~~ can be provided with devices for automatic opening under pre-determined conditions other than those of overcurrent, for example, undervoltage and reversal of power ~~current~~ flow direction. This document does not deal with the verification of operation under such predetermined conditions.

NOTE 2 The incorporation of electronic components or electronic sub-assemblies into electrotechnical components is now common practice.

Although this document is not applicable to electronic equipment, the presence of electronic components does not provide a reason to exclude such electrotechnical components from the scope.

Electronic sub-assemblies included in the circuit-breakers ~~should~~ comply with the relevant standard for electronics (IEC 60571).

NOTE 3 Certain of these rules ~~may~~, after agreement between the user and the manufacturer, ~~be~~ are used for electrotechnical components installed on vehicles other than rail rolling stock such as mine locomotives, trolleybuses, etc. In this case, particular additional requirements can be necessary.

This document does not cover industrial circuit-breakers which ~~have to~~ comply with ~~IEC 60056~~ IEC 62271-100. For these, in order to ensure satisfactory operation, this document ~~should be~~ is used to specify only the particular requirements for rolling stock. In such cases, a specific document ~~should state~~ states the additional requirements with which the industrial circuit-breakers ~~are to~~ comply, for example:

- either to be adapted (e.g. for control voltage, environmental conditions, etc.);
- or to be installed and used so that they do not have to endure specific rolling stock conditions;
- or to be additionally tested to prove that these components can withstand satisfactorily the rolling stock conditions.

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 60050(441):1984, International Electrotechnical Vocabulary (IEV) — Chapter 441: Switchgear, controlgear and Fuses~~

~~IEC 60056:2001, High voltage alternating current circuit-breaker*~~

IEC 60060-1:1989/2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60077-1:1999/2017, *Railway applications – Electric equipment for rolling stock. – Part 1: General service conditions and general rules*

IEC 60077-2:1999/2017, *Railway applications – Electric equipment for rolling stock. – Part 2: Electrotechnical components – General rules*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

~~IEC 60571:1998, Railway applications — Electronic equipment used on rail vehicles~~

~~IEC 60694:1996, Common specification for high voltage switchgear and controlgear standards~~

~~IEC 60850:2000, Supply voltage of traction systems~~

IEC 61373:1999, *Railway applications – Rolling stock equipment – Shock and Vibration tests*

IEC 62271-1:2017, *High-voltage switchgear and controlgear – Part 1: Common specifications for alternating current switchgear and controlgear*

IEC 62271-100:2004/2008, *High-voltage switchgear and controlgear – Part 100: High-voltage Alternating-current circuit-breakers*

IEC 62271-100:2008/AMD1:2012

IEC 62271-100:2008/AMD2:2017

IEC 62271-102, *High-voltage switchgear and controlgear – Part 102: Alternating current disconnectors and earthing switches*

3 Terms, definitions and abbreviated terms

~~For the purposes of this of IEC 60077, the definitions given in clause 3 of IEC 60077-1 and clause 3 of IEC 60077-2 are applicable together with the following additional definitions.~~

For the purposes of this document, the terms and definitions given in Clause 3 of IEC 60077-1:2017 and Clause 3 of IEC 60077-2:2017, and the following apply.

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

* ~~In preparation.~~

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

3.1 Components

3.1.1

indoor circuit-breaker

circuit-breaker designed solely for protected installation against wind, rain, snow, abnormal dirt deposits, abnormal conditions, ice and hoarfrost

~~[IEV 441-11-04, modified]~~

3.1.2

outdoor circuit-breaker

circuit-breaker suitable for installation in open air, i.e. capable of withstanding wind, rain, snow, dirt deposits, condensation, ice and hoarfrost

~~[IEV 441-11-05, modified]~~

3.1.3

oil circuit-breaker

circuit-breaker in which the contacts open and close in oil

Note 1 to entry: Typical examples of oil circuit-breakers are live tank minimum oil circuit-breakers and dead tank bulk oil circuit-breakers.

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-14-28]

3.1.4

vacuum circuit-breaker

circuit-breaker in which the contacts open and close within a highly evacuated envelope

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-14-29]

3.1.5

air-blast circuit-breaker, <for rolling stock>

circuit-breaker in which the contacts open in a blast of air

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-14-32, modified – “gas-blast” has been deleted. “the gas used is air” has been replaced with “the contacts open in a blast of air”.]

3.1.6

air circuit-breaker

circuit-breaker in which the contacts open and close in air

3.1.7

gas circuit-breaker

circuit-breaker in which the contacts open and close in a gas other than air at atmospheric or higher pressure

Note 1 to entry: An example of a gas circuit-breaker is the sulphur hexafluoride circuit-breaker.

3.1.8

semiconductor circuit-breaker

~~circuit-breaker whose operation is produced by means of semi-conductors inserted into the main circuit in association with contacts~~

circuit-breaker designed to make and break the current in an electric circuit by means of the controlled conductivity of a semiconductor

Note 1 to entry: There can be mechanical contacts associated with these semiconductor devices.

[SOURCE: IEC 60050-811:2017, 811-29-42]

3.2 Component parts

3.2.1

release, <for a circuit breaker>

device which releases the holding means and permits the opening or closing of the circuit-breaker

Note 1 to entry: A circuit-breaker ~~may~~ can be activated by several releases each becoming operational according to specified conditions.

Note 2 to entry: These releases ~~may~~ can be mechanically or electrically connected to the switching device.

[SOURCE: IEC 60050-811:2017, 811-29-44]

3.2.2

overcurrent (~~instantaneous~~) release

~~device which causes a tripping operation without any intentional time delay when the current exceeds a specified value~~

~~[IEV 441-16-32, modified]~~

release which permits a mechanical switching device to open with or without time-delay when the current in the release exceeds a predetermined value

Note 1 to entry: This value can in some cases depend upon the rate-of-rise of current.

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-33]

3.2.3

definite time-delay overcurrent release

overcurrent release which operates with a definite time-delay which may be adjustable, but is independent of the value of the overcurrent

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-34]

3.2.4

direct overcurrent release

overcurrent release directly energised by the current in the main circuit of ~~the circuit-breaker~~ a mechanical switching device

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-36, ~~modified~~]

3.2.5

indirect overcurrent release, <for a circuit-breaker>

overcurrent release initiated by the current in the main circuit of a mechanical switching device through a current sensor ~~(transformer or current transducer)~~

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-37, modified – “energized” and “a current transformer or a shunt” have been replaced with “initiated” and “a current sensor”.]

3.2.6

anti-pumping device

device which prevents reclosing after a close-open operation as long as the device initiating closing is maintained in the position for closing

Note 1 to entry: The opening operation may be either an opening command or a tripping operation.

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-48, modified – Note 1 to entry has been added.]

3.2.7

enclosure, <of an assembly>

part of an assembly providing a specified degree of protection ~~for the circuit-breaker~~ of equipment against external ~~pollution~~ influences and a specified degree of protection against ~~access~~ approach to or contact with live parts and against contact with moving parts

Note 1 to entry: The enclosure may also provide a protection of adjacent parts against the influence of the circuit-breaker (for example, arcing).

[SOURCE: IEC 60050-441:1984/AMD1:2000,441-13-01, modified – Note 1 to entry has been added.]

3.2.8

integral enclosure

enclosure forming an integral part of the circuit-breaker

3.3 Operational features

3.3.1

trip-free circuit-breaker

circuit-breaker, the moving main contacts of which return to and remain in the open position when the opening (i.e. tripping) operation is initiated after the initiation of the closing operation even if the closing command is maintained

~~[IEV 441-16-31, modified]~~

Note 1 to entry: To ensure ~~satisfactory~~ proper breaking of the current ~~after initiation of a closing command~~ which may have been established, it may be necessary that the contacts momentarily reach the closed position.

Note 2 to entry: The trip free operation may require an anti-pumping device.

3.3.2

current setting, <of an overcurrent release>

~~value of current in the main circuit to which the operating characteristics of the over-current release are referred and for which the release is set~~

value of the operating current for which the release is adjusted and in accordance with which its operating conditions are defined

Note 1 to entry: A release may have more than one current setting.

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-46, modified – Note 1 to entry has been added.]

3.3.3

current setting range, <of an overcurrent release>

range between the minimum and maximum values over which the current setting of the release can be adjusted

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-16-47]

3.3.4

tripping operation

opening operation of a circuit-breaker initiated by a release

3.4 Making and breaking characteristics

NOTE See Annex B.

3.4.1**opening time**, <of a mechanical switching device>

interval of time between the specified instant of initiation of the opening operation and the instant when the arcing contacts have separated in all poles

Note 1 to entry: The instant of initiation of the opening operation is specified by the manufacturer for all the opening commands other than overcurrent.

Note 2 to entry: The opening time includes the operating time of any auxiliary equipment necessary to open the circuit-breaker and forming an integral part of the circuit-breaker.

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-17-36, modified – Note 1 to entry has been modified and Note 2 to entry has been added.]

3.4.2**prospective current**, <of a circuit and with respect to a switching device or a fuse>

current that would flow in the circuit if each pole of the ~~circuit-breaker~~ switching device or the fuse were replaced by a conductor of negligible impedance

Note 1 to entry: This term is commonly associated with fault conditions.

Note 2 to entry: The prospective current is composed of an RMS AC value plus a DC component (if any).

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-17-01, modified – Notes to entry have been replaced.]

3.4.3**prospective peak current**

peak value of a prospective current during the transient period following initiation

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-17-02, modified – Note has been deleted.]

3.4.4**prospective symmetrical current**, <of an AC circuit>

prospective current when it is initiated at such an instant that no transient phenomenon follows the initiation

Note 1 to entry: The prospective symmetrical current is expressed by its RMS value.

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-17-03, modified – Note 1 has been deleted.]

3.4.5~~**maximum prospective peak current (of an AC circuit)**~~

~~prospective peak current when initiation of the current takes place at the instant which leads to the highest possible value~~

~~[IEV 441-17-04]~~

3.4.5**breaking current**, <of a switching device or a fuse >

current in a ~~circuit-breaker~~ pole of a switching device or in a fuse at the instant of initiation of the arc during a breaking process

[SOURCE: IEC 60050-441:1984/AMD1:2000, 441-17-07, ~~modified~~]

3.4.6**breaking capacity**, <of a switching device or a fuse>

value of prospective current that a ~~circuit-breaker~~ switching device or a fuse is capable of breaking at a stated voltage under prescribed conditions of use and behaviour