IEC 60079-31

Edition 3.0 2022-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Explosive atmospheres –
Part 31: Equipment dust ignition protection by enclosure "t"

Atmosphères explosives –
Partie 31: Protection contre l'inflammation de poussières par enveloppe "t" relative à l'appareil

SIST Preview
(https://ecommerce.sist.si)
IEC 60079-31:2022
https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022



IEC 60079-31:2022-01(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2022 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.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat
3, rue de Varembé
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 It also gives information on projects, replaced and withdrawn publications.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.

IEC Products & Services Portal - products.iec.ch
Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

SIST Preview
https://standards.iteh.ai/catalog/standards/sist/87-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, …). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 300 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 19 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

IEC 60079-31

Edition 3.0 2022-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Explosive atmospheres –
Part 31: Equipment dust ignition protection by enclosure "t"

SIST Preview
(https://ecommerce.sist.si)

Atmosphères explosives –
Partie 31: Protection contre l'inflammation de poussières par enveloppe "t" relative à l'appareil

IEC 60079-31:2022
https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.260.20

ISBN 978-2-8322-1062-5

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

CONTENTS

FOREWORD 4
INTRODUCTION 7
1 Scope 8
2 Normative references 8
3 Terms and definitions 9
4 General 9
4.1 Levels of protection 9
4.2 Equipment groups and ingress protection 9
4.3 Requirements for Ex Equipment with Level of Protection "ta" 10
4.3.1 Fault current 10
4.3.2 Maximum surface temperature 10
4.3.3 Dust exclusion 10
4.3.4 Protective Devices 10
4.3.5 Supplementary internal enclosure 11
4.3.6 Cells and batteries 11
4.4 Requirements for Ex Equipment with Level of Protection "tb" and "tc" 11
4.4.1 Fault current 11
4.4.2 Maximum surface temperature 12
4.4.3 Dust exclusion 12
4.4.4 Thermal protection 12
4.4.5 Cells and batteries 12
4.4.6 External plug and socket connections for field wiring connection 13
5 Construction 13
5.1 Joints 13
5.1.1 General 13
5.1.2 Threaded joints 13
5.1.3 Gaskets and seals 13
5.1.4 Cemented joints 14
5.1.5 Operating rods, spindles and shafts 14
5.1.6 Windows 14
5.2 Cable glands, cable transit devices and conduit sealing devices 14
5.3 Entries 14
5.3.1 Plain entries 14
5.3.2 Threaded entries 14
6 Verification and tests 15
6.1 Type tests 15
6.1.1 Type tests for dust exclusion by enclosures 15
6.1.2 Tests to determine maximum surface temperature 16
6.2 Routine tests 17
7 Marking 17
Annex A (normative) Supplementary requirements for entry devices 18
A.1 General 18
A.2 Construction requirements 18
A.2.1 Cable glands, cable transit devices and conduit sealing devices 18
A.2.2 Blanking elements and thread adapters 18

SIST Preview
(https://ecommerce.sist.si)
IEC 60079-31:2022
https://ecommerce.sist.si/catalog/standards/sist/88735187-e235-4f77-8e31-d2723d75dafb/iec-60079-31-2022

A.3 Type tests 18
A.3.1 Cable glands, cable transit devices and conduit sealing devices 18
A.3.2 Blanking elements and thread adapters 18
A.4 Marking 18
Bibliography 19

Table 1 – Level of Protection, equipment group and ingress protection (IP) relationship 10
Table 2 – Overload or malfunction conditions for Level of Protection "tb" 16

SIST Preview
(https://ecommerce.sist.si)
IEC 60079-31:2022
https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

EXPLOSIVE ATMOSPHERES –

Part 31: Equipment dust ignition protection by enclosure "t"

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.

SIST Preview
https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8a31-d2723d75daf6/iec-60079-31-2022
IEC 60079-31:2022

International Standard IEC 60079-31 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This third edition cancels and replaces the second edition published in 2013. This edition constitutes a technical revision.

The significance of changes between IEC Standard, IEC 60079-31, Edition 3.0 and IEC 60079-31, Edition 2.0, are as listed below:

		Type		
Changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
Document has been restructured from edition 2	Numerous	X		
Withstand of prospective short-circuit current	4.3.1		X	
Fault current rating of interrupting contacts rated greater than 10 kA for mains connected circuits	4.4.1 and 6.1.1.1			C1
Thermal protective device can include a thermal protective circuit with an appropriate sensor.	4.4.4.1		X	
Cells and batteries	4.3.6 and 4.4.5			C2
Joints employing parallel threads with an additional seal or gasket are permitted to have less than five threads.	5.1.2		X	
Gasket joints that interlock (not a butt joint) and are designed such that under the intended compression no gap between the pieces exist so that an uninterrupted periphery is formed, these joints do not need to be permanently joined.	5.1.3		X	
Overload or malfunction condition for the determination of temperature class for "tb" converter fed rotating electric machines	Table 2			C3
Additional requirements for entry devices with dust ignition protection by enclosure "t"	Annex A			C4
Thermal tests are relocated to IEC 60079-0.	Formerly 6.1.2	A1		

SIST Preview
(https://ecommerce.sist.si)
IEC 60079-31:2022

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version. More guidance may be found by referring to the Redline Version of the standard.

Explanations:

A) Definitions

Minor and editorial changes

clarification
decrease of technical requirements
minor technical change
editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

Extension addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

Major technical changes

addition of technical requirements
increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

B) Information about the background of 'Major Technical Changes'

C1 – For Ex Equipment having Level of Protection "tb" or "tc" which is intended for mains connection and intended to interrupt fault current above 10kA is tested according to 6.1.1.1, and is marked according to Clause 7.

C2 – For Ex Equipment having Level of Protection "ta" which contains a cell or battery, only a sealed cell or battery shall be used. For Ex Equipment having Level of Protection "tb" and "tc" where there are sparking contacts or hot surfaces, and which contains a cell or battery, only a sealed cell or battery shall be used.

C3 – Table 2 now includes malfunction conditions for temperature class determination of Level of Protection "tb" converter-fed electric machines.

SIST Preview
(https://ecommerce.sist.si)

C4 – Annex A added for entry devices with Type of Protection "t" including cable transit devices.

A1 – Thermal tests formerly located in 6.1.2 are relocated to IEC 60079-0 for the 2017 and later editions.

https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

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

Draft	Report on voting
31/1595/FDIS	31/1606/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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.

INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent. IEC takes no position concerning the evidence, validity, and scope of this patent right.

The holder of this patent right has assured IEC that s/he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from the patent database available at http://patents.iec.ch.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those in the patent database. IEC shall not be held responsible for identifying any or all such patent rights.

SIST Preview
(https://ecommerce.sist.si)
IEC 60079-31:2022
https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

EXPLOSIVE ATMOSPHERES –

Part 31: Equipment dust ignition protection by enclosure "t"

1 Scope

This part of IEC 60079 is applicable to equipment protected by enclosure and surface temperature limitation for use in explosive dust atmospheres. It specifies requirements for design, construction and testing of Ex Equipment and Ex Components.

This document supplements and modifies the general requirements of IEC 60079-0. Where a requirement of this document conflicts with a requirement of IEC 60079-0, the requirement of this document takes precedence.

This document does not apply to dusts of explosives, which do not require atmospheric oxygen for combustion, or to pyrophoric substances.

This document does not apply to Ex Equipment or Ex Components intended for use in underground parts of mines as well as those parts of surface installations of such mines endangered by firedamp and/or combustible dust.

SIST Preview
(https://ecommerce.sist.si)

This document does not take account of any hazard due to an emission of flammable or toxic gas from the dust.

This document does not contain requirements for Ex Equipment used in areas where both combustible dust and explosive gas atmospheres can occur, whether simultaneously or separately. Requirements for explosive gas atmospheres can be found in other parts of the IEC 60079 series. Guidance on Ex Equipment to be used where combustible dust and explosive gas atmospheres occur simultaneously ("hybrid mixtures") can be found in IEC 60079-14.

Where the Ex Equipment has to meet other environmental conditions, for example, protection against ingress of water and resistance to corrosion, additional measures which do not adversely affect the integrity of the enclosure can be necessary.

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 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60127 (all parts), *Miniature fuses*

IEC 60269 (all parts), *Low-voltage fuses*

IEC 60691, *Thermal-links – Requirements and application guide*

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

IEC 60034-5, *Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification*

ISO 965-1, *ISO general-purpose metric screw threads – Tolerances – Part 1: Principles and basic data*

ANSI/ASME B1.20.1*, Pipe threads, general purpose (inch)*

ANSI/UL 248 *(all parts), Standard for Low-Voltage Fuses*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
dust ignition protection by enclosure "t"
Type of Protection for explosive dust atmospheres where equipment is provided with an enclosure providing dust ingress protection and a means to limit surface temperatures

SIST Preview
(https://ecommerce.sist.si)

4 General

4.1 Levels of protection

IEC 60079-31:2022
https://standards.iteh.ai/catalog/standards/sist/[illegible]-iec-60079-31-2022

Type of Protection "t" is divided into three Levels of Protection based on the risk of the Ex Equipment and Ex Components becoming an ignition source in an explosive dust atmosphere. Ex Equipment and Ex Components with Type of Protection "t" shall be one of the following:

- Level of Protection "ta" for EPL "Da";
- Level of Protection "tb" for EPL "Db";
- Level of Protection "tc" for EPL "Dc".

The general requirements of Clause 4, the construction requirements of Clause 5, and the marking requirements of Clause 7, apply to all Ex "t" Equipment and Ex "t" Components.

Failure modes as defined in the industrial standard for particular internal components affecting the temperatures of the equipment shall be taken into account when considering applicable malfunctions.

When a resistor is used for current limiting, it shall not be considered to fail as a short circuit if it is of metal film or of wire wound construction. The resistor shall be rated for the maximum rated voltage of the equipment.

4.2 Equipment groups and ingress protection

The relationship between the Level of Protection, the group, and ingress protection required is shown in Table 1.

Table 1 – Level of Protection, equipment group and ingress protection (IP) relationship

Level of Protection	Group IIIC	Group IIIB	Group IIIA
"ta"	IP6X	IP6X	IP6X
"tb"	IP6X	IP6X	IP5X
"tc"	IP6X	IP5X	IP5X

4.3 Requirements for Ex Equipment with Level of Protection "ta"

4.3.1 Fault current

Ex Equipment shall be rated for connection to a circuit with a prospective short circuit current of not greater than 1,5 kA and marked according to Clause 7.

4.3.2 Maximum surface temperature

These requirements modify and supplement the requirements of IEC 60079-0.

The marked maximum surface temperature, as determined according to 6.1.2, shall be the higher of the measured temperatures a) or b):

a) the surfaces of the internal components where there is no supplementary enclosure, or,
b) the temperature on the external surfaces of the supplementary enclosure.

SIST Preview

NOTE 1 Partial rupture of the external enclosure is considered to be a potential rare malfunction and is considered in the temperature determination for "ta" equipment.

(https://ecommerce.sist.si)

NOTE 2 Level of Protection "ta" is typically applied for instrumentation where the maximum available short circuit current is in the mA range. Due to the limited thermal dissipation available to Level of Protection "ta" equipment, the maximum normal power dissipation is generally limited to a few watts.

https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

4.3.3 Dust exclusion

Dust exclusion by enclosure shall be carried out in accordance with 6.1.1.

4.3.4 Protective Devices

4.3.4.1 General

If the Ex Equipment is capable of exceeding the marked maximum surface temperature as a result of the temperature test of 6.1.2 under expected malfunction or for rare malfunction conditions, a protective device shall be used. The protective device may be a thermal protective device according to 4.3.4.2 or an overcurrent protective device according to 4.3.4.3 which may be directly integrated into the Ex Equipment or be external to the Ex Equipment.

Where the external protective device is not provided by the manufacturer as part of the Ex Equipment, the certificate number shall include the "X" suffix in accordance with the marking requirements of IEC 60079-0 and the Specific Conditions of Use listed on the certificate shall detail the required ratings and performance characteristics of the protective device. The protective device shall be capable of interrupting the maximum current of the circuit in which it is installed.

The response time of the thermal protective device or overcurrent protective device shall be taken into account and be adequate for the necessary over temperature protection.

4.3.4.2 Thermal protective devices

When required by 4.3.4.1, the Ex Equipment shall be protected by one or more integral thermal protective devices. Thermal protective devices shall not be of a self-resettable type and shall be duplicated unless conforming to IEC 60691, in which case only one device is necessary.

4.3.4.3 Overcurrent protective devices

As an alternative to 4.3.4.2, if it is demonstrated that an overcurrent protective device or devices provide thermal protection, such a device, or devices may be used. The overcurrent protective device may be located outside the enclosure of the Ex Equipment. In this case, the certificate number shall include the "X" suffix in accordance with the marking requirements of IEC 60079-0 and the Specific Conditions of Use listed on the certificate shall detail the performance characteristics required by the overcurrent protective devices.

At least one of the protective devices shall be capable of interrupting the maximum available short circuit current of the circuit in which it is installed.

Overcurrent protective devices shall be duplicated unless conforming to the IEC 60127 series, IEC 60269 series or ANSI/UL 248 series, in which case only one device is necessary.

4.3.5 Supplementary internal enclosure

Where normally arcing and sparking parts are incorporated, these parts shall have a supplementary enclosure inside the main enclosure and the maximum surface temperature of that enclosure is used to determine the marked surface temperature of the equipment in accordance with 4.3.2.

SIST Preview
(https://ecommerce.sist.si)

When hot internal components are enclosed in a supplementary enclosure, the maximum surface temperature of that enclosure shall be used to determine the marked surface temperature of the equipment in accordance with 4.3.2.

IEC 60079-31:2022
https://ecommerce.sist.si/catalog/standards/sist/88735187-c235-4f77-8e31-d2723d75dafa/iec-60079-31-2022

The supplementary enclosure shall:

- have a continuous operating temperature at least equal to the lower specified ambient temperature and at least 20 K greater than the maximum service temperature for non-metallic materials,
- undergo the resistance to impact test in accordance with 6.1.1.2 with no hot and cold impact testing required,
- be IP6X in accordance with IEC 60529 following the resistance to impact without thermal endurance to heat and cold.

These requirements replace the requirements of IEC 60079-0 for such an enclosure.

4.3.6 Cells and batteries

Only sealed primary cells or batteries shall be used. A control device shall be provided to prevent overheating of the cell or battery. The control device may also be considered as a thermal protective device or overcurrent protective device as given in 4.3.4, provided it also protects the complete Ex Equipment from exceeding the maximum surface temperature.

4.4 Requirements for Ex Equipment with Level of Protection "tb" and "tc"

4.4.1 Fault current

Ex Equipment having Level of Protection "tb" or "tc" which is intended for mains connection to a circuit with a maximum available short circuit current above 10 kA, shall be tested in accordance with 6.1.1.1, and be marked according to Clause 7.