

PD IEC/TR 61916:2009



BSI Standards Publication

Electrical accessories — Harmonization of general rules

bsi.

...making excellence a habit.
AVA Documents™
Document Sharing Hub

National foreword

This Published Document is the UK implementation of IEC/TR 61916:2009.

The UK participation in its preparation was entrusted to Technical Committee PEL/23, Electrical accessories.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© BSI 2010

ISBN 978 0 580 66777 0

ICS 29.120.01

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 July 2010.

Amendments issued since publication

Amd. No.	Date	Text affected
----------	------	---------------



TECHNICAL REPORT

RAPPORT TECHNIQUE

Electrical accessories – Harmonization of general rules

Petit appareillage – Harmonisation des règles générales

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

T

ICS 29.120

ISBN 2-8318-1070-5

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 General requirements	8
4 Resistance to heat.....	8
4.1 Requirements	8
4.2 Tests.....	9
5 Screws, current-carrying parts and connections (electrical and mechanical).....	10
5.1 Definitions	10
5.1.1 Thread-forming screw.....	10
5.1.2 Thread-cutting screw	10
5.2 Requirements	11
5.3 Tests.....	13
6 Resistance to abnormal heat and to fire.....	14
6.1 Requirements	14
6.2 Glow-wire flammability test for end-products, IEC 60695-2-11	14
6.2.1 Purpose and principle	14
6.2.2 Test specimens	14
6.2.3 Test method	15
6.2.4 Relevance of test data.....	15
7 Resistance of insulating materials to tracking	15
7.1 Requirements	15
7.2 Tracking index test, IEC 60112.....	15
7.2.1 Purpose and principle	15
7.2.2 Definitions	16
7.2.3 Test method	16
7.2.4 Repeatability and reproducibility	16
7.2.5 Relevance of test data.....	16
8 Resistance to rusting.....	17
8.1 Requirements	17
8.2 Test.....	17
9 Legibility, durability and indelibility of marking	17
9.1 Requirements	18
9.2 Test.....	18
10 Screw-type terminals for connecting conductors	18
11 Criteria for tests in accessory standards.....	18
12 Tolerances	18
13 Mechanical strength	19
13.1 Impact.....	19
13.2 Free fall.....	19
14 Appropriate dimensioning of insulation distances.....	19
14.1 General information.....	19
14.2 What about the importance of pollution degrees (PDs) in IEC 60664-1	20

14.2.1 How to read IEC 60664-1 table 2 and 7 for the dimensioning of clearances	20
14.2.2 How to read IEC 60664-1 table 4 for the dimensioning of creepage distances	21
Figure 1 – Thread-forming screw	10
Figure 2 – Thread-cutting screw	10
Table 1 – Torque per thread diameter	13

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL ACCESSORIES –
HARMONIZATION OF GENERAL RULES**

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.

The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a technical report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC 61916, which is a technical report, has been prepared by IEC technical committee 23: Electrical accessories.

The second edition cancels and replaces the first edition published in 1998 and constitutes a technical revision. The main technical changes with regard to the previous edition are as follows:

- Updated reference standards.
- Introduction of appropriate dimensioning of insulation distances criteria.
- Interpretation on glow wire test.
- Indication of standard conditions for operation in service.

- Modification of Clauses 6 and 7 by including an explanatory introduction concerning how to apply the relevant tests and a simple reference to the horizontal standard.
- Modification of Clause 12: Tolerances.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
23/469/DTR	23/478B/RVC

Full information on the voting for the approval of this technical report 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.

In this standard the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type*;
- Explanatory matter: in smaller roman type.

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.

INTRODUCTION

The purpose of this Technical Report is to have harmonized rules on the same subjects in all the Standards published by TC 23 and its subcommittees, in order to give coordinated indications to subcommittees when making their standards.

These recommendations are meant as a guide. Consequently, subcommittees, according to their own particularities, may use whole or part of the document which is not meant to be compulsory.

In publishing these recommendations, TC 23 wishes to spread the information so that other committees of the IEC may use these recommendations, if necessary.