

This is a preview of "BS 5733:2010+A1:2014". Click here to purchase the full version from the ANSI store.

**BS 5733:2010+A1:2014**



**BSI Standards Publication**

# **General requirements for electrical accessories – Specification**

**bsi.**

...making excellence a habit.™

This is a preview of "BS 5733:2010+A1:2014". [Click here to purchase the full version from the ANSI store.](#)

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2014  
Published by BSI Standards Limited 2014

ISBN 978 0 580 83990 0

ICS 29.120.01

The following BSI references relate to the work on this standard:

Committee reference PEL/23

Drafts for comment 09/30202852 DC, 13/30288271 DC

### Publication history

First published April 1979

Second edition, June 1995

Third (present) edition, July 2010

### Amendments issued since publication

Date	Text affected
January 2014	A1. See Foreword

This is a preview of "BS 5733:2010+A1:2014". [Click here to purchase the full version from the ANSI store.](#)

### Foreword *iii*

1	Scope	1
2	Normative references	2
3	Terms and definitions	3
4	Classification	11
5	General requirements	12
6	Type testing	12
7	Rating	13
8	Marking	13
9	Dimensions	16
10	Clearances, creepage distances and solid insulation	16
11	Accessibility of live parts	20
12	Provision for earthing	23
13	Construction	25
14	Terminals and terminations	29
15	Screws, current-carrying parts and connections	41
16	Provisions for cables and cords	43
17	Resistance to ageing	47
18	Resistance to harmful ingress of water and resistance to humidity	47
19	Insulation resistance and electric strength	48
20	Temperature rise	49
21	Mechanical strength	52
22	Resistance to heat	62
23	Resistance of insulating material to abnormal heat, and to fire	65
24	<i>Clause deleted</i>	66
25	Resistance to excessive residual stresses and to rusting	66

### Annexes

Annex A (informative)	Summary of tests on insulating parts of accessories	67
Annex B (normative)	Measurement of clearances and creepage distances	68
Annex C (normative)	Determination of the comparative tracking index (CTI) and proof tracking index (PTI)	72
Annex D (normative)	Relation between rated impulse withstand voltage, rated voltage and overvoltage category	73
Annex E (normative)	Pollution degree	73
Annex F (normative)	Impulse withstand voltage test	74
Bibliography		76

### List of figures

Figure 1	Examples of pillar terminals	8
Figure 2	Examples of screw terminals and stud terminals	9
Figure 3	Examples of saddle terminals	10
Figure 4	Examples of lug terminals	10
Figure 5	Examples of a mantle terminal	11
Figure 6	Thread forming tapping screw	11
Figure 7	Thread cutting tapping screw	11
Figure 8	Gauge for checking non-accessibility through shutters	21
Figure 9	Apparatus for testing accessory enclosure fixing screws	23
Figure 10	Solid link for test on fuseclips	27
Figure 11	Arrangement for checking damage to conductors	31
Figure 11A	Arrangement for voltage drop test [New Figure]	40
Figure 12	Apparatus for flexing test	46

This is a preview of "BS 5733:2010+A1:2014". [Click here to purchase the full version from the ANSI store.](#)

Figure 14 – Constructional details of striking element	55
Figure 15 – Constructional details of mounting support for test samples	56
Figure 16 – Arrangement for mechanical strength test for portable accessories other than plugs or adaptors	57
Figure 17 – Tumbling barrel	58
Figure 18 – <i>Figure deleted</i>	63
Figure 19 – Apparatus for pressure test on portable accessories	64
Figure A.1 – Diagrammatic representation of the sequence of tests on insulating parts of accessories	67

#### List of tables

Table 1A – Minimum clearances for basic insulation	17
Table 1B – Minimum creepage distances for basic insulation	19
Table 1C – Withstand test voltages for solid insulation types	20
Table 2 – Conductors to be accommodated by terminals	30
Table 3 – Torque values for test of screws and nuts	31
Table 4 – Pull for terminal clamping test	32
Table 5 – Current for electrical and thermal stress test	37
Table 6 – Pull and torque tests for flexible cord and cable anchorages	44
Table 6A – Cross-sectional areas for copper conductors for temperature-rise test [New Table]	50
Table 7 – Multiplying factor for the temperature rise test	52
Table 8 – Torque for mechanical test on glands	61
Table B.1 – Minimum values of width "X"	68
Table D.1 – Rated impulse withstand voltage for accessories energized directly from the low voltage mains	73
Table F.1 – Test voltages for impulse withstand test	75

#### Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 76, an inside back cover and a back cover.

This is a preview of "BS 5733:2010+A1:2014". [Click here to purchase the full version from the ANSI store.](#)

### Publishing information

This British Standard is published by BSI Standards Limited, under licence for The British Standards Institution, and came into effect on 31 July 2010. It was prepared by Technical Committee PEL/23, *Electrical accessories*. A list of organizations represented on this committee can be obtained on request to its secretary.

### Supersession

BS 5733:2010+A1:2014 supersedes BS 5733:2010, which is withdrawn.

### Information about this document

BS 5733:2010 incorporated technical changes only. It did not represent a full review or revision of the standard, which will be undertaken in due course.

The principal changes from the previous edition were as follows.

- a) The standard now includes requirements for maintenance-free accessories.
- b) Clause **10** on clearances, creepage distances and solid insulation has been revised, and Clause **24** has been deleted.
- c) New Annexes B to F have been added.

The principal changes introduced by Amendment No. 1 are as follows.

- a) In **8.1** a new requirement has been specified for accessories incorporating screwless terminals.
- b) Amendments have been made to Tables 2, 5 and 6A.
- c) Amendments have been made to Clauses 14 and 19.

Text introduced or altered by Amendment No. 1 is indicated in the text by tags **A1** **A1**. Minor editorial changes are not tagged.

### Hazard warnings

**WARNING.** This British Standard calls for the use of substances and/or procedures that can be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

### Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

### Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

This is a preview of "BS 5733:2010+A1:2014". [Click here to purchase the full version from the ANSI store.](#)

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

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

This is a preview of "BS 5733:2010+A1:2014". [Click here to purchase the full version from the ANSI store.](#)

**1.1** This British Standard specifies requirements and tests to check the safety in normal use of electrical accessories which are not covered by other specific British Standards.

Such accessories are intended for use in household, commercial and light industrial premises where:

- the nominal supply voltage does not exceed 250 V a.c. single-phase, 50 Hz to 60 Hz or 250 V d.c.;
- the rated current of the accessory does not exceed 63 A.

Unless otherwise stated by the manufacturer, accessories conforming to this standard are intended for connection by cables or flexible cords conforming to BS 6004, BS 6007, BS 6500 or BS 7211.

**1.2** This standard also covers:

- "plug-in" and other accessories in which electrical accessory components such as plug-pins, socket-contacts, switches, terminals, etc. are incorporated (see **5.1**);
- maintenance free accessories (see **3.31**).

**1.3** Accessories conforming to this standard are suitable for use under the following conditions of service:

- an ambient temperature in the range -5 °C to +40 °C, the average value over 24 h not exceeding 25 °C;

*NOTE 1 Under normal conditions of use, the available cooling air is subject to natural atmospheric variations of temperature and hence the peak temperature occurs only occasionally during the hot season, and on those days when it does occur, it does not persist for lengthy periods.*

- a situation not subject to direct radiation from the sun or other source of heat likely to raise temperatures above the limits specified above;
- an altitude not exceeding 2 000 m above sea-level;
- an atmosphere not subject to excessive pollution by smoke, chemical fumes, or other abnormal conditions.

*NOTE 2 Accessories conforming to this standard may be suitable for use in other conditions, subject to agreement between manufacturer and user. Information given in a manufacturer's catalogue may take the place of such an agreement.*

**1.4** Requirements for electromagnetic compatibility are not given, as accessories do not in themselves produce extraneous emissions, nor is their functioning affected by external emissions. Therefore no emission or immunity tests are necessary.

It should be noted that accessories containing active electronic components, other than luminous indicating devices, may be susceptible to, or emit, electromagnetic interference.