

Specification for

General requirements for electrical accessories

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Cooperating organizations

The Power Electrical Engineering Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- Associated Offices Technical Committee
- Association of Short Circuit Testing Authorities*
- British Electrical and Allied Manufacturers' Association (BEAMA)
- British Railways Board
- British Steel Corporation
- Department of Energy (Electricity)
- Electrical Contractors' Association*
- Electrical Contractors' Association of Scotland
- Electrical Research Association*
- Electricity Supply Industry in England and Wales*
- Engineering Equipment Users' Association
- Institute of Purchasing and Supply
- Institution of Electrical Engineers*
- Ministry of Defence
- National Coal Board
- National Economic Development Office*
- Trades Union Congress

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Association of Consulting Engineers
- Association of Supervisory and Executive Engineers
- British Electrical Systems Association (BEAMA)
- British Plastics Federation
- Consumer Standards Advisory Committee of BSI
- Department of Prices and Consumer Protection
- Electrical Association For Women
- Department of the Environment (PSA)
- Electrical Installation Equipment Manufacturers' Association (BEAMA)
- Electrical Power Engineers' Association
- Electricity Consultative Councils
- Fire Offices Committee
- Lighting Industry Federation Limited
- National Inspection Council For Electrical Installation Contracting

This British Standard, having been prepared under the direction of the Power Electrical Engineering Standards Committee was published under the authority of the Executive Board and comes into effect on 30 April 1979

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Foreword

This British Standard has been prepared under the direction of the Power Electrical Engineering Standards Committee.

Previously requirements for accessories were specified together with requirements for appliances, in BS 816. However, appliances are now covered by BS 3456 “*Specification for safety of household electrical appliances*”. Similarly, lighting fittings have now been covered by BS 4533 “*Electric luminaires (lighting fittings)*” and other British Standards.

Since the publication of BS 816 in 1952, various tests have been developed in order to assess more completely the suitability of an item of electrical equipment for its purpose, and it became necessary to prepare a new standard to include these tests but with its scope limited to accessories. This has now been done in this standard.

This new standard comes into force immediately but, to allow manufacturers time to design and introduce any necessary changes, BS 816 will not be withdrawn until twelve months from the date of publication of this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 22, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1 Scope

This British Standard specifies requirements for electrical wiring accessories for installation purposes, and for associated plugs and portable accessories including cable reels, not specifically covered by current British Standards, which are designed for use in single-phase a.c. or d.c. circuits in which the voltage between conductors exceeds extra low voltage (Band 1) and does not exceed 250 V a.c. or d.c. and the rated current does not exceed 45 A.

This standard does not apply to electronic devices, or to plug-in devices incorporating timers, thermostats, transformers, etc. It does not apply to accessories intended primarily for industrial use.

2 References

The titles of the publications referred to in this standard are listed on the inside back cover.

3 Definitions

For the purposes of this British Standard the following definitions apply.

3.1

accessory

a device associated with the wiring of an installation

3.2

adaptor

an accessory for insertion into a socket outlet and containing metal contacts, to accommodate one or more plugs

3.3

rated voltage

the voltage marked on the accessory, which can be either a voltage range (e.g. 230 V to 250 V) or a single voltage (e.g. 240 V)

3.4

maximum rated voltage

the higher of the two voltages mentioned in 3.3 or the single marked voltage

3.5

rated current

the current marked on the accessory or that current stated by the manufacturer as the current the accessory will carry under prescribed conditions

3.6

actuating member

that part which is moved, pulled, pushed or turned by the user to operate the mechanism of a switching device

3.7

live parts

current carrying parts, and those metal parts in contact with them during normal service. Earthing terminals are not considered to be current carrying parts

3.8

pillar terminal

terminal in which the conductor is inserted into a hole or cavity, where it is clamped by the screw or screws. The clamping pressure may be applied directly by the end of the screw or through an intermediate clamping member to which pressure is applied by the end of the screw

3.9

screw terminal

terminal in which the conductor is clamped under the head of a screw. The clamping pressure may be applied directly by the head of the screw or through an intermediate part, such as a washer, clamping plate or anti-spread device

3.10

stud terminal

terminal in which the conductor is clamped under a nut. The clamping pressure may be applied directly by a suitably shaped nut or through an intermediate part, such as a washer, clamping plate or anti-spread device

3.11

saddle terminal

terminal in which the conductor is clamped under a saddle by means of two or more screws or nuts

3.12

lug terminal

terminal designed for clamping a cable lug or bar by means of a screw or nut

3.13

mantle terminal

terminal in which the conductor is clamped against the base of a slot in a threaded stud by means of a nut, by a suitably shaped washer under the nut, by a central peg if the nut is a cap nut, or by an equally effective means for transmitting the pressure from the nut to the conductor within the slot

3.14

plug

an accessory intended for connection to a flexible cord or cable which can be engaged manually with a socket outlet, and which has current carrying pins which may be exposed when not engaged

3.15 shutter

a movable device comprising one or more components intended to provide automatically an insulating screen to protect live contacts of accessories from access which would otherwise be exposed when a cooperating device is withdrawn when not in normal use

3.16 fixed accessory

an accessory designed to be part of, and permanently connected to, a fixed installation

3.17 portable accessory

an accessory designed for use other than as part of a fixed installation

3.18 extra low voltage (elv)

a voltage which does not exceed 50 V a.c. r.m.s. between conductors, or between any conductor and earth

NOTE The appropriate d.c. voltage is under consideration.

3.19 tool

a screwdriver, a coin or any other object that may be used to operate a screw or similar fixing means

3.20 micro-gap switch

any switch which is designed and constructed to operate with clearances between the contacts less than the values specified in clause 9, irrespective of the speed of operation of the contacts

3.21 glow-wire

a specified loop of resistance wire which is electrically heated to the required test temperature

3.22 test temperature

the temperature to which the glow-wire is heated

3.23 application time

the time during which the glow-wire is applied to the test specimen

3.24 test specimen

hereinafter referred to as specimen. An electrical accessory or suitable part cut from it

3.25 cable reel

an assembly comprising a plug and a socket-outlet connected together by a length of flexible cord and having provision for winding the cord onto a reel, the socket-outlet being attached to or integral with the reel

4 Service conditions

The accessories shall be suitable for use under the following conditions of service.

- a) An ambient temperature having a peak value not exceeding 40 °C, with an average value not exceeding 35 °C in a period of 24 h, but not subject to exposure to direct radiation from the sun or any other source of heat likely to raise the temperature above the specified ambient temperature.
- b) An ambient temperature having a value not less than – 5 °C
- c) An altitude not exceeding 2 000 m above sea level.
- d) An atmosphere not subject to excessive pollution by smoke, chemical fumes, salt laden spray, prolonged periods of high humidity or other abnormal conditions.

NOTE Under normal conditions of service 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. Meteorological records indicate that temperatures of at least 10 °C below the peak temperature will occur within the 24 h period and that the average temperature will be at least 5 °C below peak value.

5 General requirements

5.1 Accessories shall be so designed and constructed that in normal use they function reliably and cause no danger to persons or surroundings when installed in the proper manner.

Compliance with the requirements of this standard shall be checked by carrying out all the relevant tests specified.

5.2 Where the standard is used for the purpose of granting nationally recognized certification marks, the designs or constructions, to which the tests specified cannot be precisely applied but which give an equivalent degree of safety and durability of safety may be regarded as complying with the requirements of this standard, subject to the findings of a special investigation by the authority granting the certification mark and pending the issue of an amendment or extension to this standard.

5.3 Where tolerances are not specified in this standard, the quantities are to be regarded as nominal.

5.4 Accessories incorporating plug pins and/or socket contacts, intended to engage with socket-outlets or plugs complying with other British Standards, shall be so designed and constructed that such plug pins and/or socket contacts comply with these British Standards, with regard to their dimensions, configuration, other requirements and tests.

Compliance shall be checked by inspection and measurement.

6 Marking

6.1 Every accessory shall be marked with the following.

- The name or trade mark of the manufacturer or responsible vendor.
- The number of this British Standard, i.e. BS 5733¹⁾.

Where applicable, accessories shall also be marked with the following.

- Rated current in amperes.

In the case of cable reels the rated current shall have two values:

- for the cord in its fully reeled condition;
- for the cord in its fully unreeled condition.

- Rated voltage in volts.

- Symbol for nature of supply, if the accessory is not intended for both a.c. and d.c. or if the rating is different for a.c. and d.c.

NOTE In the case of cable reels, this marking is only required on the main part of the reel if the relevant information is not marked on the attached plug or socket-outlet.

- Where cord anchorages are not intended to clamp effectively cords and/or cables smaller than the minimum size appropriate to the accessory, the minimum and maximum sizes for which the anchorage is provided shall be marked in an area adjacent to the anchorage, e.g. $6 \text{ mm}^2 - 16 \text{ mm}^2$ $\square$ $6 \text{ mm}^2 - 16 \text{ mm}^2$ $\square$

When symbols are used, they shall be as follows.

Amperes	A
Volts	V
Alternating current	~
Direct current	—
Neutral	N
Earth	⊥ (may be accompanied by the letter "E")
Line	L

For the marking with rated current and rated voltage, figures may be used alone. The figure for the d.c. current rating, if any, shall then be placed before the figure for the a.c. current rating, and separated from it by an oblique line or dash, these figures being placed before or above that for the rated voltage and separated from the latter by a line.

If the current rating figures are separated by an oblique line, a second oblique line shall not be used to separate the current rating figures from the voltage rating figures.

If a symbol for nature of supply is used, it shall be placed next to the marking for rated current and rated voltage.

NOTE Examples of the marking for current, voltage and nature of supply are as follows:

$$10\text{A } 250\text{V or } 10/250 \text{ or } \frac{10}{250}$$

$$10 - 16\text{A } 250\text{V or } 10 - 16/250 \text{ or } \frac{10 - 16}{250}$$

$$10\text{A } 250 - 380\text{V } \sim \text{ or } \frac{10}{250 - 380} \sim$$

$$25\text{A } 380\text{V } \sim \text{ or } 25/380\text{V } \sim \text{ or } \frac{25}{380} \sim$$

6.2 Where the intended connections are not self-evident the terminal positions shall be marked, by lettering or symbols, to indicate their correct usage. The lettering or symbol shall not be on a screw or other removable part.

6.3 Where accessories incorporate two pole and earth terminals, those for the line, neutral and earth conductors shall be indicated by the symbols shown in **6.1**.

6.4 Accessories incorporating fuse-links shall be clearly marked with the word "fuse" or "fused" in such a position that the marking is clearly visible when the accessory is in normal use.

¹⁾ Marking BS 5733 on or in relation to a product is a claim by the manufacturer that the product has been manufactured in accordance with the requirements of the standard. The accuracy of such a claim is therefore solely the manufacturer's responsibility. Enquiries as to the availability of third party certification to support such claims should be addressed to the Director, Quality Assurance Division, British Standards Institution, Maylands Avenue, Hemel Hempstead, Herts HP2 4SQ in the case of certification marks administered by BSI or to the appropriate authority for other certification marks.