

BRITISH STANDARD

Boxes for flush mounting of electrical accessories – Requirements, test methods and dimensions



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A1	May 2009	See Foreword
C1	November 2011	Figure 1

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Foreword

Publishing information

This British Standard was published by BSI and came into effect on 31 March 2006. It was prepared by Technical Committee PEL/23, *Electrical accessories*.

Supersession

BS 4662:2006+A1:2009 supersedes BS 4662:2006, which is withdrawn.

Information about this document

The start and finish of text introduced or altered by Amendment No. 1 is indicated in the text by tags **A1** **A1**.

A1 *Text deleted.* **A1**

A1 The products conforming to this standard also conform to the relevant requirements of BS EN 60670-1. **A1**

The start and finish of text introduced or altered by Corrigendum No. 1 is indicated in the text by tags **C1** **C1**.

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.

Contractual and legal considerations

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.

1 Scope

This British Standard specifies $\boxed{A_1}$ dimensional and other $\boxed{A_1}$ requirements for boxes for flush mounting of electrical accessories in a wall, or other flat surfaced structure to ensure interoperability.

$\boxed{A_1}$ The performance and safety requirements for products conforming to this standard are contained in BS EN 60670-1. $\boxed{A_1}$

This standard specifies requirements for boxes made from metal and for boxes made from non-metallic materials.

This standard also specifies $\boxed{A_1}$ dimensional and other requirements for $\boxed{A_1}$ mounting lugs necessary for mounting the electrical accessory in the box and the fixing holes necessary for fixing the box to the surface to which it is to be attached. This includes the position and numbers of accessory fixing lugs, requirements for M3.5 threaded fixing holes for the mounting of electrical accessories and provisions for lugs allowing angular adjustment of the accessory with threaded M3.5 holes for accessory fixing.

2 Normative references

The following referenced documents are indispensable for the application 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.

$\boxed{A_1}$ Text deleted. $\boxed{A_1}$

$\boxed{A_1}$ BS EN 60670-1:2005, *Boxes and enclosures for electrical accessories for household and similar fixed electrical installations – Part 1: General requirements*

$\boxed{A_1}$ NOTE IEC 60417 is available on subscription from the IEC website, <http://www.iec.ch/>. $\boxed{A_1}$

IEC 60417-DB, *Graphical symbols for use on equipment* $\boxed{A_1}$

3 Terms and definitions

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

3.1 box

$\boxed{A_1}$ NOTE The term “enclosure” is defined in BS EN 60670-1:2005, 3.1. $\boxed{A_1}$

$\boxed{A_1}$ part of an enclosure provided with means for fixing a cover, cover plate, accessory, etc, and intended to receive accessories (such as socket outlets, switches, etc.)

[BS EN 60670-1:2005, 3.2] $\boxed{A_1}$

3.2 electrical accessory

device, other than a cable or current using equipment, associated with the fixed wiring of an electrical installation

3.3 dry-lining box

box for mounting electrical accessories in a $\boxed{A_1}$ hollow wall $\boxed{A_1}$

$\boxed{A_1}$ Text deleted. $\boxed{A_1}$

NOTE Mounting lugs may be adjustable for the purpose of aligning the electrical accessory.

3.4 mounting lug

extension of the wall of a box with a hole for mounting or suspending an electrical accessory clear of the back of the box

3.5 architrave box

box for installation of electrical accessories where the space available is insufficient for a standard box

3.6 knockout

portion of the side or back of a box which can readily be removed when required

3.7 dual box

box for mounting two single gang electrical accessories

3.8 pillar terminal

terminal in which a conductor is inserted into a hole or cavity, where it is clamped by the end of a screw either directly or through an intermediate part

4 General requirements

Products conforming to this standard shall also meet the relevant performance and safety requirements of BS EN 60670-1. 

5 Dimensions and construction of boxes

5.1 General

NOTE The maximum external dimensions shown in Figures 1 to 11 exclude any corner ties or attachments which might be necessary for the construction of the box.

The dimensions and construction of the box shall conform to one of the types shown in Figures 1 to 11.

The assessment of lug profiles and other relevant measurements shall be made using gauges with the dimensions shown in Figures 12 to 15 and the profiles and measurements shall conform to Figures 1 to 11 as applicable.

Metal, other than mounting lugs, threaded to receive a screw, shall be of sufficient thickness to take at least two full thread pitches.

5.2 Mounting lugs

5.2.1 General

The box shall contain mounting lugs conforming to **10.3**.

Each box shall be provided with a minimum of two mounting lugs on opposite sides. Where a greater number of mounting lugs are provided their numbers and positions shall be as specified in Figures 1 to 11.

Each mounting lug shall be tapped with an M3.5 thread. Mounting lugs shall not have holes intended for use with thread-forming or thread-cutting screws. Opposite pairs of mounting lugs shall accept the appropriate gauge(s) shown in Figures 12 to 15.

In boxes of 16 mm nominal depth where mounting lugs of non-metallic material are used, these shall extend to the back of the box in order to shield the screw against contact with cables.

5.2.2 Adjustable mounting lugs

The shape, method of adjustment, and movement of adjustable mounting lugs, if fitted, shall be such that the movement of the hole does not exceed 2 mm either side of the nominal centre line of the mounting lug at right angles to it, and such that the adjustable mounting lug and means of its support can be accommodated within the appropriate gauge shown in Figure 13 and Figure 14 when the hole is at its furthest allowed distance from the centre line of the mounting lug.

5.3 Fixing holes

NOTE The holes may be elongated up to a maximum length of three times the minor dimension.

Except for in the case of dry-lining boxes, a hole or holes shall be made in the back of the box for securing it to a mounting surface. The hole(s) shall be not less than 4.8 mm diameter.

5.4 Cable entry

NOTE Additional cable entries may be provided at the manufacturer's discretion.

Each type of box shall have at least one cable entry.

In boxes of 16 mm nominal depth, at least one cable entry shall be at right angles to the centre line through the mounting lugs for the electrical accessory.

5.5 Knockouts

5.5.1 Dimensions and location

The dimensions of knockouts for the reception of a conduit shall be greater than the nominal conduit size by $0.25^{+0.5}_0$ mm.

NOTE This does not exclude the provision of entries of forms other than circular.

Knockouts for circular conduits shall be so located that the whole surface of the lock-nuts or bushes when clamped in position will seat firmly against the walls of the box.

5.5.2 A1 Text deleted. A1

5.5.3 Removal

A1 Text deleted. A1 After removal of the knockouts the mounting lugs shall accept the appropriate gauge shown in Figures 12 to 15.

6 A1 *Text deleted.* A1

7 Provision for earthing

7.1 Metallic boxes

Metallic boxes shall be provided with one or more permanent earthing terminals each capable of taking two conductors of 2.5 mm².

A1 *Text deleted.* A1

7.2 Non-metallic boxes

Non-metallic boxes shall have provision for securing an earthing terminal capable of taking two conductors of 2.5 mm².

7.3 Terminal location

Terminals for earthing that are fixed in a box of 16 mm nominal depth shall be entirely outside a circle of 36.25 mm radius, struck from the centre of the box.

NOTE It is preferable that the earth terminal is fitted in A1 a A1 corner of the box.

Arrangements provided for the optional fitting of such terminal(s) shall be such that the appropriate terminal(s), when fitted in accordance with the manufacturer's instructions, are entirely outside the prescribed circle.

7.4 Terminals in architrave boxes

Earthing terminals within architrave boxes shall be positioned so as not to encroach on the minimum free space requirement of the box as determined by the application of the gauge shown in Figure 15.

The relevant gauge shall enter fully into the box without being forced.

8 Requirements for terminals A1 *Text deleted* A1

8.1 General

Terminals for use with boxes shall be pillar terminals A1 or terminals formed from the body of the box where a conductor is clamped by the end of a screw A1.

The means of clamping the conductors in the terminals may be used to hold the terminals in place or prevent them from turning but shall not be used to fix any other component.

Terminals shall not have holes intended for use with thread-forming or thread-cutting screws.

8.2 Earthing terminals

[A1] *Text deleted.* **[A1]**

The body of the earthing terminal shall be made of brass or other metal no less resistant to corrosion, unless it is a part of the metallic box in which case the screw or nut shall be of brass or another metal no less resistant to corrosion.

9 **[A1]** *Text deleted.* **[A1]**

10 Mechanical strength

10.1 **[A1]** *Text deleted.* **[A1]**

10.2 Performance of screw threads **[A1]** of mounting lugs **[A1]**

Screw threads of the mounting lugs shall be subjected to testing in accordance with **15.4.2**. After the test there shall be no damage to the screw threads which impairs their further use.

10.3 Strength of mounting lugs

After testing in accordance with **15.4.3** the box shall accept the appropriate gauges shown in Figures 12 to 15 and shall conform to **[A1]** BS EN 60670-1:2005, Clause **10** **[A1]**.

There shall be no damage to the mounting lugs which impairs their further use.

11 **[A1]** *Text deleted.* **[A1]**

12 **[A1]** *Text deleted.* **[A1]**

13 **[A1]** *Text deleted.* **[A1]**