
British Standard Specification for Bayonet lampholders

Douilles à baïonnette — Spécifications

Glühlampenbajonettfassungen

Foreword

This British Standard has been prepared under the direction of the Electrical Illumination Standards Committee and is a revision of BS 5042 : Part 1 : 1981. Attention is drawn to the fact that this standard is not effective until 31 December 1987 at which time BS 5042 : Part 1 : 1981* will be withdrawn.

Parts 2 and 4 of BS 5042 have been revised and re-numbered as follows.

BS 5042 : Part 2 : 1978, 'Edison screw lampholders' has been revised and is published as BS 6776 : 1986 which is the English language version of EN 60 238.

BS 5042 : Part 4 : 1973, 'Built-in lampholders and starterholders for tubular fluorescent lamps' has also been revised and is published as BS 6702 : 1986, 'Lampholders for tubular fluorescent lamps and starterholders' which is the English language version of EN 60 400.

This standard specifies requirements and tests for the safety of B15 and B22 lampholders and their dimensional interchangeability with corresponding lamp caps.

The principal change from BS 5042 : Part 1 : 1981 is the introduction of requirements for resistance to fire and tracking. The opportunity has, however, been taken to replace the dimensional requirements for lampholders and gauges with cross-references to BS 5101.

This British Standard calls, in clauses 20 and 21, for the use of substances and/or procedures that may 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.

There is at present no IEC or CENELEC standard for bayonet lampholders.

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

* BS 5042 Specification for lampholders and starterholders
Part 1. Bayonet lampholders

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Specification

1 Scope

This British Standard specifies requirements and tests to check the safety in service and the dimensional interchangeability of bayonet lampholders as listed in table 1 for use with corresponding bayonet lamp caps as specified in BS 5101 : Part 1, and for use on supply voltages up to 250 V.

Table 1. International designations (in accordance with BS 5101)	
Lampholder	Lamp cap
B15d	B15d/19
B15d	B15d/24 × 17
B15d	B15d/27 × 22
B15d	B15d/29 × 26
B22d	B22d/22
B22d	B22d/25 × 26
B22d-3 (90°/135°)	B22d-3 (90°/135°)/25 × 26

Lampholders specified by this standard are suitable for use with tungsten filament lamps complying with BS 5971 : Part 1 and having B15d or B22d caps. Special constructions may be necessary to accommodate lamps of other types, particularly with regard to their maximum current demand. Lampholders marked T1 or T2, as specified in 7.1, are intended for use where the relevant working temperatures, specified in item (d) of clause 6, are not exceeded. Guidance on the use of lampholders marked T1 or T2 is given in appendix A.

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

2 Definitions

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

2.1 Materials

2.1.1 plastics lampholder. A lampholder, the exterior of which is made wholly of plastics material (see note).

2.1.2 ceramic lampholder. A lampholder, the exterior of which is made wholly of ceramic material (see note).

2.1.3 metal lampholder. A lampholder, the exterior of which is made wholly or partly of metal (see note).

NOTE to 2.1. The exterior is any part of the lampholder which, when wired and fully assembled and fitted with the testing device shown in figure 1, can be touched directly by test finger II specified in BS 3042.

2.2 Means of fixing

2.2.1 cord grip lampholder. A lampholder incorporating a method of retaining a flexible cord by which it may be suspended (see figure 2(a)).

2.2.2 threaded entry lampholder. A lampholder incorporating a threaded component at the point of entry of the supply wires permitting the lampholder to be mounted on a mating threaded support (see figure 2(b)).

2.2.3 backplate lampholder. A lampholder so designed as to be suitable for mounting, by means of an associated or integral backplate, directly on a supporting surface or appropriate conduit box (see figure 2(c)).

2.3 switched lampholder. A lampholder provided with an integral switch to control the supply to the lamp.

2.4 terminal and contact mechanism. A part, or an assembly of parts, providing a means for connecting a conductor, a surface to make contact with the lamp cap contacts and a resilient means to maintain contact pressure.

2.5 rising terminal. A terminal designed to rise and fall on insertion of a lamp cap.

2.6 non-rising terminal. A terminal designed not to rise and fall on insertion of a lamp cap.

2.7 shade ring. An annular component having an internal thread or other means to engage with a corresponding means on the lampholder body and primarily intended to support a shade.

2.8 skirt (plastics lampholders only). A component similar to a shade ring but having a longer cylindrical form to extend to the full length of the lampholder body.

2.9 protective shield (plastics lampholders only). A component similar to a skirt but having a flared open end to protect the user from accidental contact with the lamp cap (see figure 3).

2.10 union ring. A cylindrical component that joins separate external parts of the lampholder.

2.11 dome. That part of a cord grip or threaded entry lampholder that shields the connecting terminals.

2.12 body. That part or combination of parts of the lampholder on which the contact mechanism, corresponding lamp, separate dome, shade ring or other parts may be fixed.

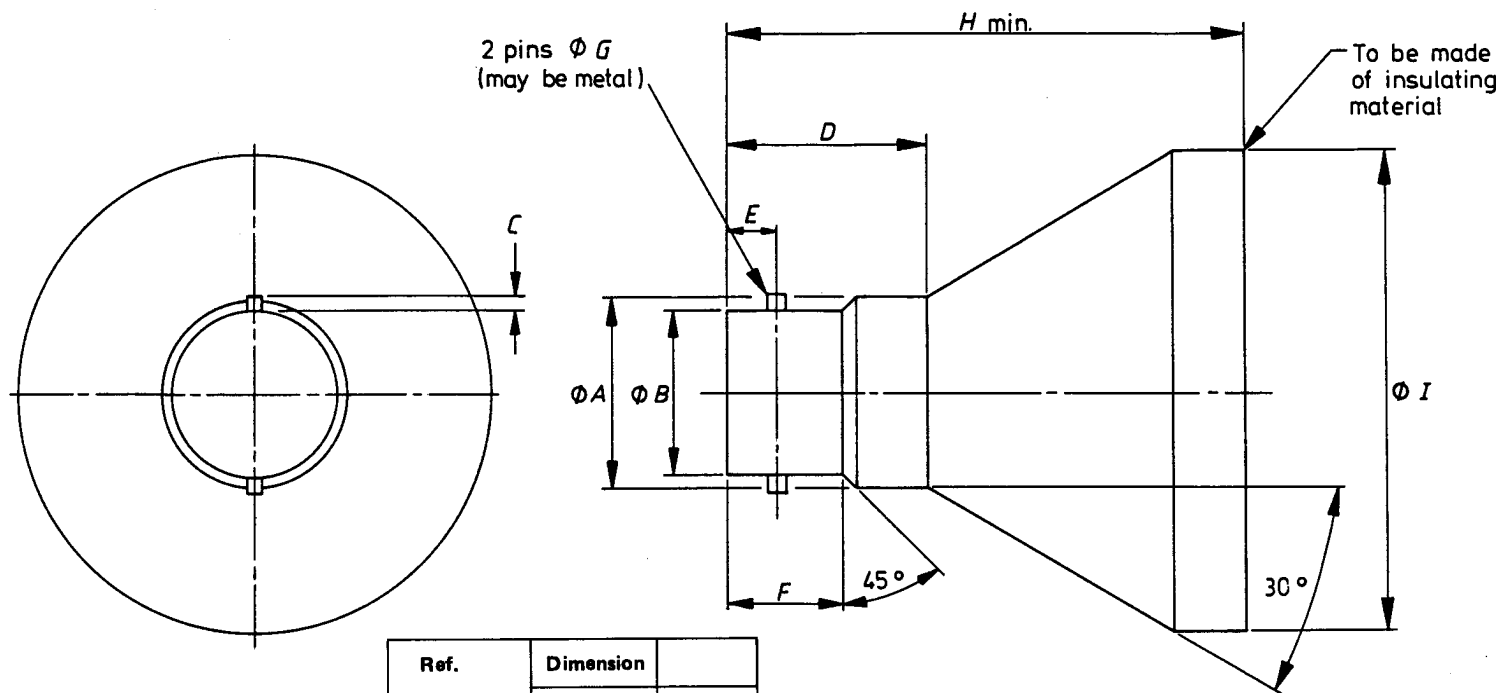
2.13 type test. A test or series of tests made on a type test sample, for the purpose of checking compliance of the design of a given product with the requirements of the relevant standard.

2.14 type test sample. A sample consisting of one or more similar units submitted by the manufacturer or responsible vendor for the purpose of a type test.

3 General requirements

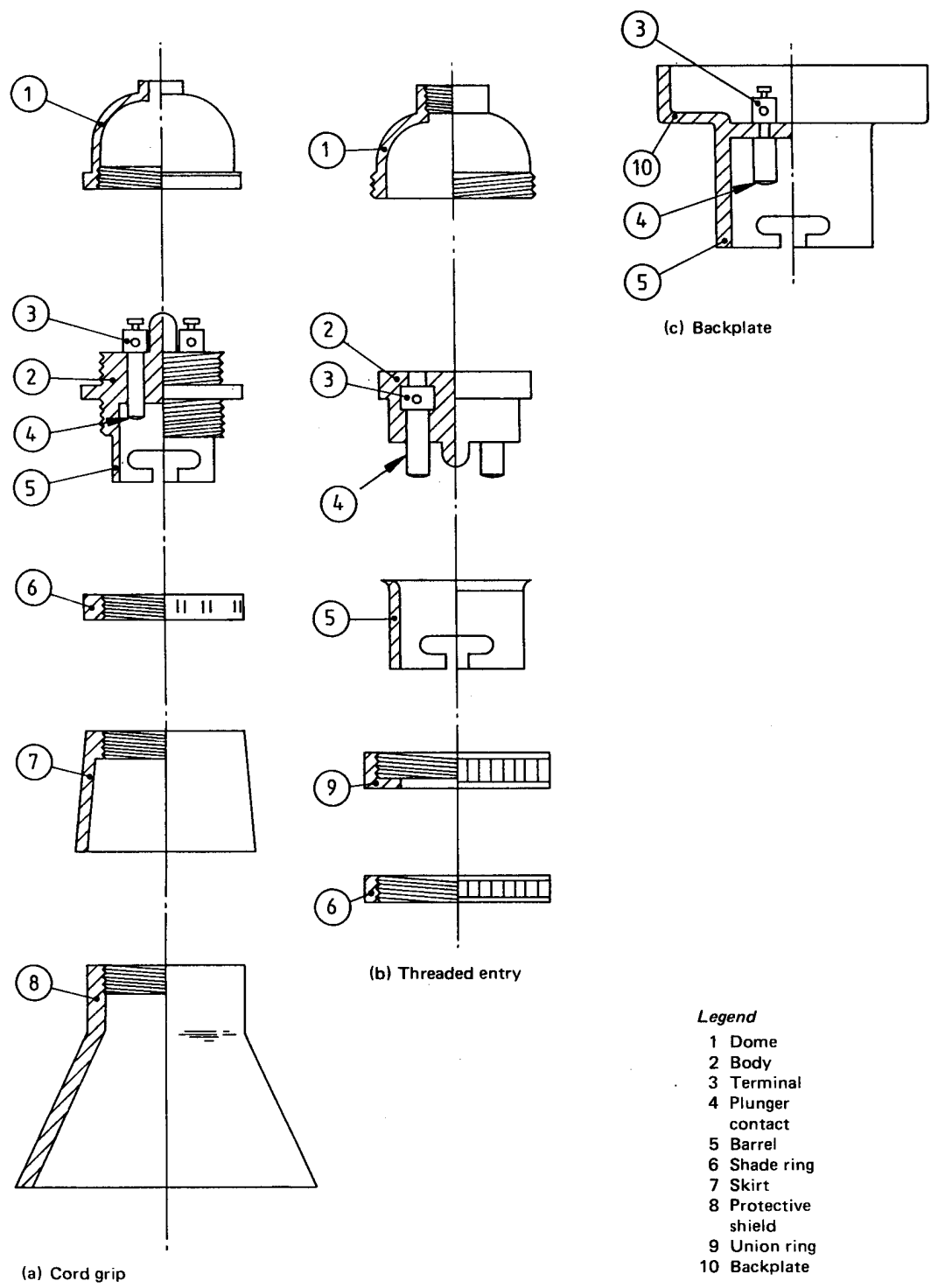
Lampholders shall be so designed and constructed that, in normal use, their performance is reliable and without danger to the user or surroundings.

Compliance shall be checked by carrying out all the relevant tests specified.



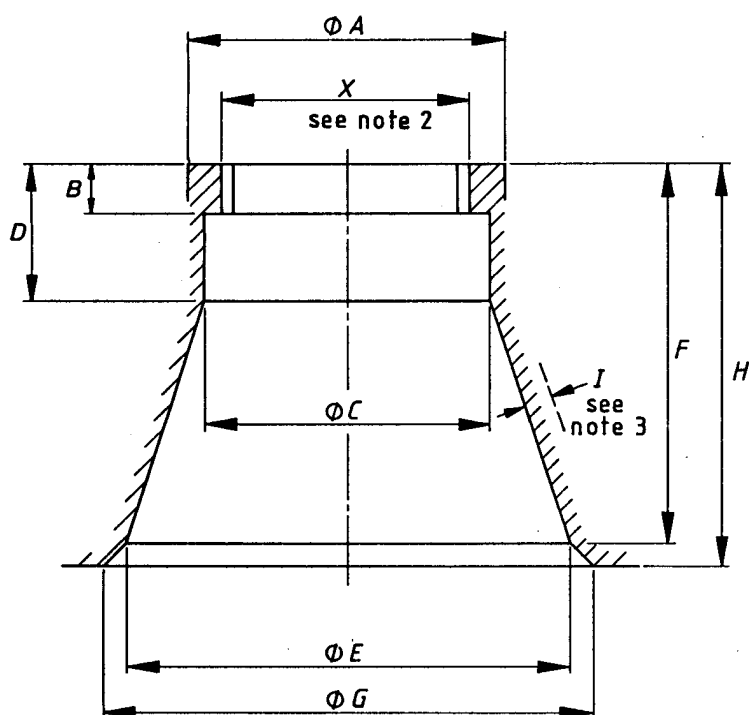
Ref. dim.	Dimension	
	B15d	B22d
	mm	mm
A	17.1	26.45
B	15.25	22.15
C	1.1	2.70
D	26.0	27.00
E	6.4	6.90
F	15.5	15.50
G	2.2	2.20
H	70.0	70.00
I	55.0	65.00

Figure 1. Testing device for protection against shock



NOTE. This figure is not intended to govern design. It is for general guidance only.

Figure 2. Types of bayonet lampholder



Ref. dim.	Dimensions	
	min.	max.
A	mm 31.75	—
B	4.75	—
C	29.0	—
D	—	13.5
E	45.0	—
F	38.0	—
G	48.0	49.5
H	39.0	40.0
I	1.5	—

NOTE 1. The drawing is intended only to indicate the dimensions that comply with the requirements of BS 161.

NOTE 2. There is to be no encroachment within the shaded profile except that the flared entry, defined by dimensions E , F , G and H may be of any convenient profile provided it does not encroach upon dimension E . Dimension X denotes a female thread or other means of attachment to a corresponding lampholder.

NOTE 3. There are to be at least three ventilation apertures, in the wall of the shield, having an aggregate area not less than 115 mm^2 and the width of each aperture shall not exceed 6.5 mm. The 1.5 mm wall thickness may be reduced adjacent to these apertures.

Figure 3. Dimensions for protective shield for B22d lampholders

4 Requirements for type testing

4.1 Tests according to this standard are type tests.

NOTE. The tests may be made by either the manufacturer, the responsible vendor, or may be made on their behalf by any competent testing laboratory or certification authority.

4.2 Except where otherwise specified in this standard, the type test sample shall be tested as presented for test and installed as in normal use, in an ambient temperature of $20 \pm 5^\circ\text{C}$.

The type test sample shall consist of lampholders which are of normal production.

4.3 All inspections and tests shall be carried out in the following sequence and order of clauses.

(a) *Unswitched lampholders* (type test sample consisting of eight lampholders)

(1) inspection of three lampholders: clauses 3 to 12 and 15

(2) general testing of three lampholders: clauses 9 to 12, 14 to 19

(3) materials testing of two lampholders: clauses 20 and 21

(b) *Switched lampholders* (type test sample consisting of 11 lampholders)

(1) inspection of three lampholders: clauses 3 to 13 and 15

(2) general testing of three lampholders: clauses 9 to 12, 14 to 19

(3) switched lampholder tests on three lampholders: clause 13

(4) materials testing of two lampholders: clauses 20 to 21

4.4 If no lampholder fails in the complete series of tests specified in 4.3, then lampholders of that type shall be deemed to comply with this standard.

If one lampholder fails in any group in the complete series of tests specified in 4.3, then lampholders of that type shall be deemed to have failed to comply with this standard, unless that lampholder can be shown to be not representative of normal production or design, in which case a further set of lampholders shall be submitted to the test or tests in that group. Generally it will be necessary only to repeat the test in which failure occurs. However, if the lampholder fails in the tests specified in clauses 14 to 19 inclusive, the tests shall be repeated from the tests of clause 14 onwards.

An additional type test sample may be submitted, together with the first type test sample, in case one lampholder fails, in which case the additional type test sample shall then be tested and shall only be rejected if a further failure occurs. If the additional type test sample is not submitted at the same time, a failure of one lampholder shall entail a rejection. If there is no failure in this re-test then lampholders of that type shall be deemed to comply with this standard.

If more than one sample fails in the complete series of tests specified in 4.3 then lampholders of that type shall be deemed to have failed to comply with this standard.

NOTE. In view of the duration of the test procedure, lampholders differing only in detail but having the same constructional principle and materials may be covered by a single series of type tests.

5 Ratings

5.1 Lampholders shall be rated at 250 V.

5.2 The current rating shall be 2 A, unless otherwise marked (see item (b) of 7.1).

5.3 The temperature ratings shall be T1 or T2 as specified in item (d) of clause 6.

6 Classification

Lampholders are classified as follows.

(a) According to the material of the exterior (see 2.1) as:

- (1) plastics lampholder;
- (2) ceramic lampholder;
- (3) metal lampholder.

(b) According to means of fixing (see 2.2) as:

- (1) cord grip lampholder;
- (2) threaded entry lampholder;
- (3) backplate lampholder;
- (4) lampholders with other fixing means.

(c) Accordingly (see 2.3) as:

- (1) switched lampholders;
- (2) unswitched lampholders.

(d) According to temperature rating as:

- (1) T1: suitable for applications where the temperature on the lamp cap does not exceed 165°C ;
- (2) T2: suitable for applications where the temperature on the lamp cap does not exceed 210°C .

NOTE. The continued use of T1 lampholders is subject to review.

7 Marking

7.1 Lampholders shall be marked with:

- (a) rated voltage, i.e. 250 V;
- (b) rated current, if other than 2 A;
- (c) T-rating assigned by the manufacturer, i.e. T1 or T2;
- (d) name or trademark of manufacturer or responsible vendor;
- (e) either a unique catalogue number or an identifying reference;

NOTE. An identifying reference may include numbers, letters, colour, etc. to identify the lampholder by reference to the manufacturer's catalogue or similar literature.

- (f) for switched lampholders, the symbol for the nature of supply, if limited to a.c. only, and, if the switch is single pole, identification of the terminal in the switched pole by the letter L.

NOTE. Lampholders may be marked, at the discretion of the manufacturer, with the number of this British Standard, i.e. BS 5042*.

7.2 If symbols are used for marking, 'A' shall denote amperes, 'W' watts, 'V' volts and '~' alternating current. The symbol for earth shall be either:

- (a)  earth (ground) in accordance with data sheet 417-IEC-5017-a of BS 6217 : 1981; or
- (b)  protective earth (ground) in accordance with data sheet 417-IEC-5019-a of BS 6217 : 1981.

NOTE 1. The symbol for protective earth is preferred. The symbol for earth will be withdrawn at a future revision of this standard.

NOTE 2. A simplified form of marking is permitted for T-rating and voltage; e.g.:

$$\frac{T1}{250} \text{ or } \frac{T2}{250}$$

7.3 An earthing terminal shall be indicated by the symbol for earth or protective earth as specified in 7.2. The symbol shall not be placed on screws, removable washers, shade rings or other easily removable parts.

NOTE. By 'easily removable parts' is meant those parts that may be undone when wiring the lampholder.

7.4 Marking shall be durable and legible.

Compliance with 7.1 to 7.3 shall be checked by inspection, and compliance with 7.4 by rubbing the marking lightly for 15 s with a cloth soaked in water and again for 15 s with a cloth soaked in petroleum spirit after which the marking shall be legible. The petroleum spirit shall be in accordance with the specification given in appendix B.

NOTE. Marking produced by engraving, stamping or a moulding process is deemed to comply without test.

7.5 A metal lampholder intended for retail sale (see 11.3) shall have the following warning notice attached or incorporated in the associated packaging:

'THIS LAMPHOLDER MUST BE EARTHED'

7.6 A metal lampholder intended as a replacement component (see 11.3) shall be provided with the warning notice as specified in 7.5 and, in addition, shall be provided with a clear description of the means by which earthing is intended to be achieved.

7.7 A threaded entry lampholder, without means for restraining the flexible cord (see the note to 12.8), intended for retail sale, shall have the following warning notice attached or incorporated in the associated packaging:

'Do not connect this lampholder to a flexible cord, which may be subject to tension in normal use, unless means are provided to relieve the conductors from strain and means are provided to protect the insulation.'

8 Dimensions and gauges

8.1 Lampholders shall comply with figures 3 and 4, and also with sheets 7005-10 (B22d), 7005-10A(B22d-3) or 7005-16(B15d) of BS 5101 : Part 2.

Compliance shall be checked by measurement and by the application of the appropriate gauge specified in BS 5101 : Part 3, i.e. sheets 7006-12 and 7006-13, before the tests specified in clauses 13 and 17 and by the appropriate gauges given in BS 5101 : Part 3, i.e. sheets 7006-12A and 7006-12B(B22d) and sheets 7006-12C and 7006-12D(B15d).

8.2 No specific screw threads are specified for use in threaded entry lampholders.

NOTE. The following screw threads are, however, recommended:

for B15 lampholders: M10 X 1;

for B22 lampholders: M10 X 1 or M13 X 1.

Where M10 or M13 screw threads are used, they shall comply with figure 5. Compliance shall be checked by measurement and by means of the gauge in figure 6. In case of doubt, the gauge shall be introduced into the entry by applying a torque of 0.5 N·m.

8.3 If threaded entries and set screws are used, the dimensions shall be not less than the following nominal values:

<i>Length of thread:</i>	mm
metal entry	3.0
entry of insulating material	5.0
<i>Nominal diameter of set screws:</i>	
screw with head	2.5
screw without head	3.0

Negative deviation from the nominal values of thread diameter shall not exceed 0.15 mm.

Compliance shall be checked by measurement.

If it is necessary to take the lampholder apart to check compliance with 8.2 or 8.3, such checking shall be done after measuring in accordance with clause 16.

9 Protection against electric shock

9.1 Lampholders shall be so designed that live parts of the lampholder are not accessible when the lampholder is fitted with a testing device as shown in figure 1.

Compliance shall be checked by the application of test finger II specified in BS 3042.

9.2 Terminals shall be so located that, after correct fitting of the conductors, there is no risk of accidental contact between live parts or between such parts and accessible metal parts.

Compliance shall be checked by inspection.

* Marking BS 5042 on or in relation to a product is a claim by the manufacturer that the product has been manufactured to 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 should be addressed to the appropriate certification body.