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Edition 1.1 2023-04
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Miscellaneous lampholders –
Part 2-3: Particular requirements – Lampholders for double-capped linear LED lamps

Douilles diverses pour lampes –
Partie 2-3: Exigences particulières – Douilles pour lampes LED linéaires à deux culots

IEC 60838-2-3:2016-05+AMD1:2023-04 CSV(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MISCELLANEOUS LAMPHOLDERS –

Part 2-3: Particular requirements – Lampholders for double-capped linear LED lamps

FOREWORD

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 60838-2-3 edition 1.1 contains the first edition (2016-05) [documents 34B/1851/FDIS and 34B/1857/RVD] and its amendment 1 (2023-04) [documents 34B/2150/CDV and 34B/2167/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60838-2-3 has been prepared by subcommittee 34B: Lamp caps and holders, of IEC technical committee 34: Lamps and related equipment.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-3 is to be used in conjunction with the latest edition of IEC 60838-1 and its amendments. It was established on the basis of the fifth edition (2016) of that standard.

A list of all parts in the IEC 60838 series, published under the general title *Miscellaneous lampholders*, can be found on the IEC website.

In this standard the following print types are used:

– *test specifications and compliance statements: in italic type*;

– NOTES: in small roman type.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under 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- withdrawn,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
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MISCELLANEOUS LAMPHOLDERS –

Part 2-3: Particular requirements – Lampholders for double-capped linear LED lamps

1 Scope

This part of IEC 60838-2 applies to lampholders for double-capped linear LED lamps intended for building-in (to be used for general lighting service and with caps as listed in Annex A). Lampholders within the scope of this standard do not include heat management.

Double-capped linear LED lamps can also be used with lampholders originally been designated for other technologies. The requirementsfor these lampholders are covered by separate standards.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Clause 2 of IEC 60838-1 applies, together with the following additions.

IEC 60061-2, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders*

IEC 60061-3, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3: Gauges*

IEC 60838-1, *Miscellaneous lamp holders – Part 1: General requirements and tests*

IEC 62504, *General lighting – Light emitting diode (LED) products and related equipment – Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60838-1 and in IEC 62504, as well as the following apply.

3.1
independent lampholder
lampholder so designed that it can be mounted separately from a luminaire, while at the same time providing all the necessary protection according to its classification and marking

[SOURCE: IEC 60238:2004, 2.5]

3.2
flexible lampholder for linear double-capped LED lamp
flexible lampholder
lampholder in which the base of each holder is rigidly mounted in the luminaire but which has one or both of the lampholders so designed as to allow axial movement of the contacts

Note 1 to entry: This note applies to the French language only.

[SOURCE: IEC 60400:2008 and IEC 60400:2008/AMD1:2011, 2.3, modified]

3.3
inflexible lampholder for linear double-capped LED lamp
inflexible lampholder
lampholder intended for rigid mounting and in which no axial movement of the contacts is provided or is needed, either for the insertion and removal of the lamp or as compensation for variation in lamp lengths

[SOURCE: IEC 60400:2008, 2.4, modified]

3.4
flexibly mounted lampholder for linear double-capped LED lamp
flexibly mounted lampholder
pair of lampholders which do not in themselves provide for any axial movement of the contact system but which are intended to be mounted in a luminaire in a specified manner so that the combination provides the necessary axial movement of the contact system

[SOURCE: IEC 60400:2008, 2.5, modified]

4 General requirements

The requirements of Clause 4 of IEC 60838-1 apply.

5 General conditions for tests

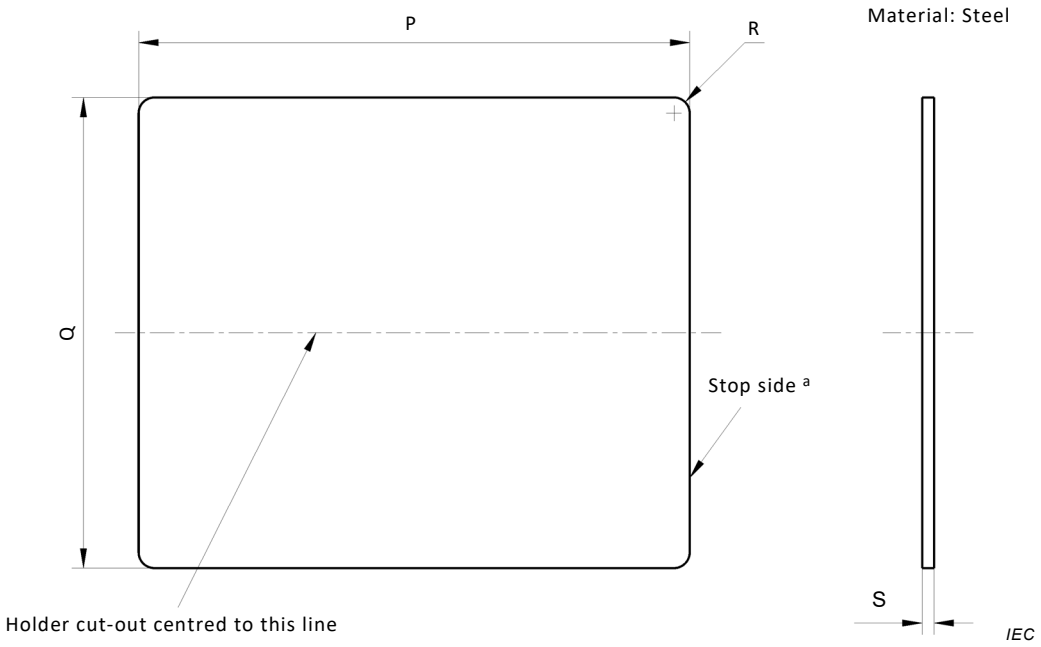
5.1 GX16t-5 lampholders

The requirements of Clause 5 of IEC 60838-1 apply together with the following additions.

5.1 In the case of flexible and inflexible lampholders (see 3.2 and 3.3 respectively), the specimens are mounted on two pairs of mounting sheets as specified in Figure 1.

One pair of holders is mounted so as to represent the minimum mounting distance for this pair of holders according to the manufacturer's mounting instructions; the other pair is mounted at the maximum distance. The matching mounting sheets are marked.

Together with these specimens, the manufacturer's mounting instructions (see 8.1) shall be supplied.



Key

[a] This side shall be marked.

For holders requiring a vertical mounting surface, a steel angle shall be added to the mounting sheet.

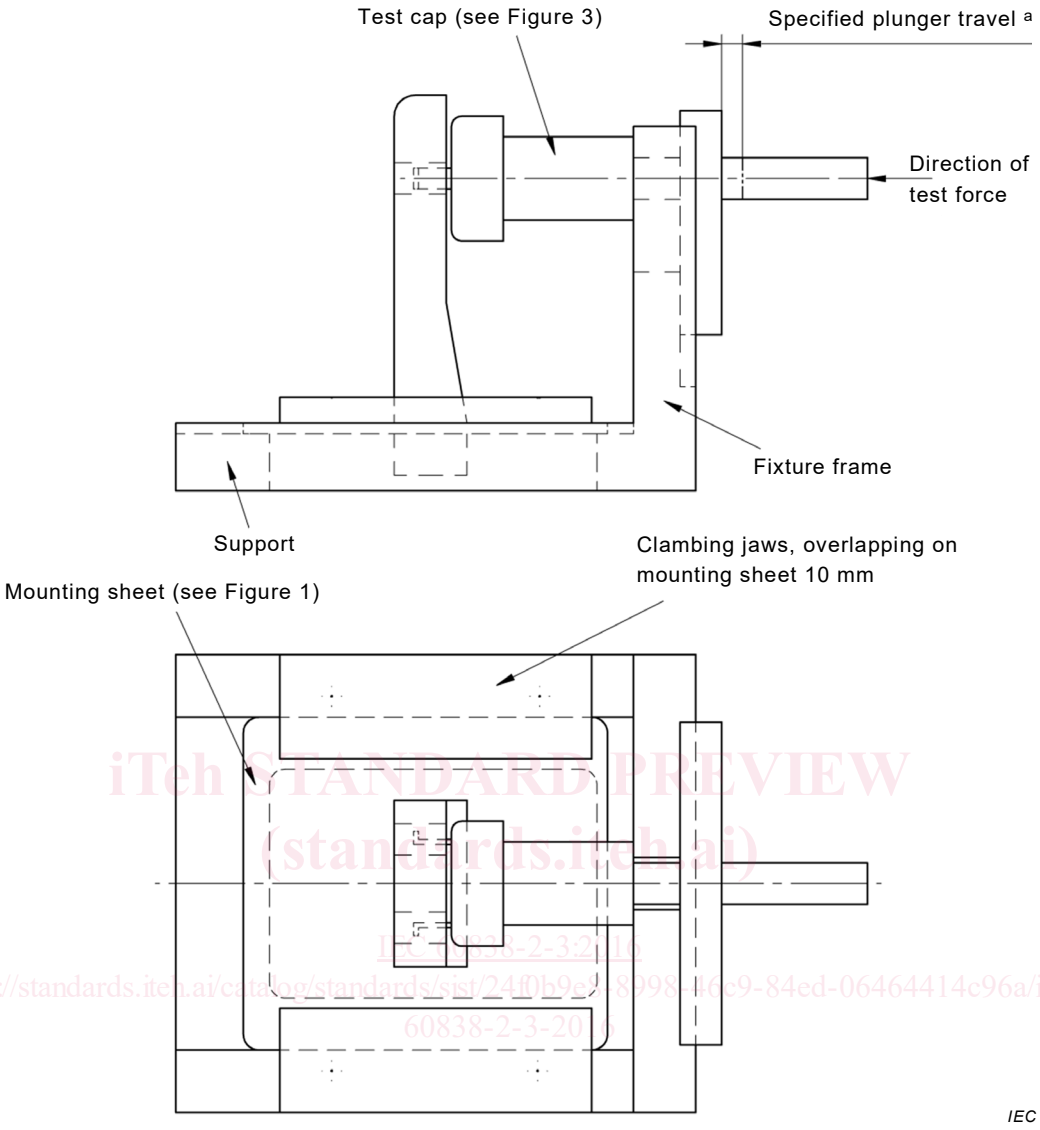
When applying a force of 50 N to this angle in the height and in the direction of the lampholder axis, the lampholder shall not deviate by more than 0,2 mm from its original position.

The drawing is intended only to illustrate the essential dimensions of the mounting sheet.

Reference	Dimension mm	Tolerance mm
P	70	±0,1
Q	60	±0,1
R	2	±0,5
S [b]	1,0	±0,05
[b] If the holder is designed for a lower material thickness, only the area required for the mounting of the holder is reduced to this specific value.		

Figure 1 – Mounting sheet

In case of doubt as to whether a lampholder GX16t-5 provides the required axial movement of the contacts, a test with the device shown in Figure 2 may be carried out.



Key

The fixture shown is intended for testing single lampholders. For testing twin-lampholders, modifications will be necessary.

PURPOSE: To check, in case of doubt, whether the lampholder shall be considered as a flexible or an inflexible one.

TESTING: The holder, mounted on the mounting sheet, is placed on the support and the test cap is inserted into the holder. The mounting sheet is then moved in such a way that the test cap[b] is fixed between holder and fixture frame without clearance. In this position the mounting sheet is fixed by the use of the clamping jaws. A force is applied via the plunger to the test cap until the specified plunger travel[a] is achieved. The force required shall not exceed 30 N for lampholders GX16t-5. This procedure is repeated 10 times.

After this test, no clearance shall exist between test cap and fixture frame, nor between test cap and holder. If the holder complies, it is deemed to be a flexible lampholder; if not it is an inflexible one.

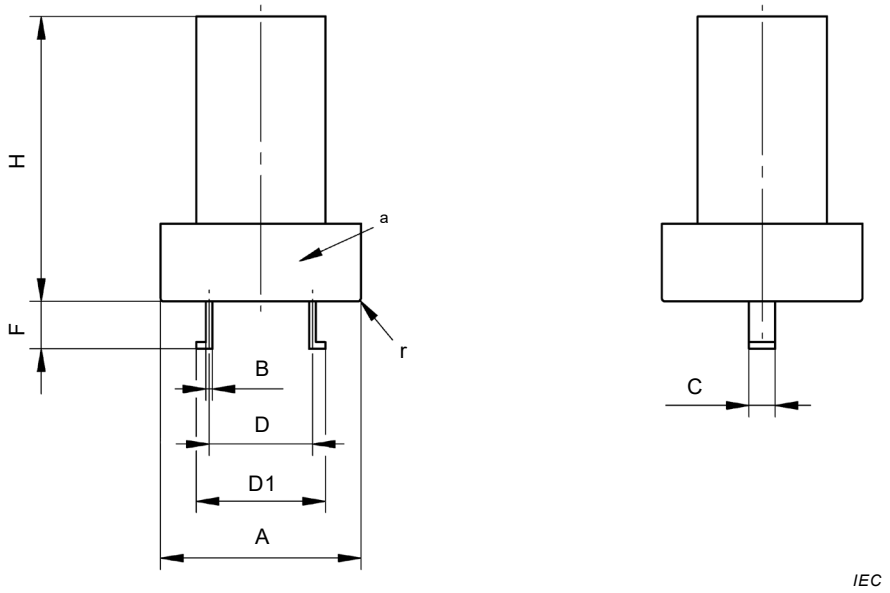
[a] The plunger travel is equal to the required minimum axial contact movement, which is:

– for a pair of holders: 3 mm (under consideration) + mounting tolerance, according to the manufacturer's instructions (see 7.1 of IEC 60838-1).

If the combined pair of holders consists of two flexible holders, each holder has to provide half of the required contact movement.

[b] The relevant test caps are described in Figure 3.

Figure 2 – Fixture for the testing of lampholder flexibility



Key

[a] This part of the gauge and the cap pins shall be of hardened steel.

Reference	Dimension mm	Tolerance mm
A [b]	26,5	±0,1
B	1,0	±0,02
C	4,0	±0,02
D	16,00	±0,05
D1	20,0	±0,05
F	7,31	±0,05
H [b]	35,0	±0,1
r [b]	0,5	+0,3 –0,0

[b] These test caps differ from the test caps used in Clause 13 by the material and the additional dimensions A, H and r.

Figure 3 – Test cap GX16t-5

5.2 GJ6.6 lampholders

For a pair of GJ6.6 inflexible lampholders, the axial tolerances shall conform to IEC 60061-2, sheet 7005-188-1 (Mounting distance of a combined pair of inflexible lampholders).

NOTE GJ6.6 lampholders are classified as inflexible (see 3.3).

6 Classification

The requirements of Clause 6 of IEC 60838-1 apply together with the following additions.

6.1 According to the flexibility for axial movement of lamp length:

– flexible lampholders;
– inflexible lampholders.

7 Marking

The requirements of Clause 7 of IEC 60838-1 apply together with the following additions.

7.1 The instructions supplied by the holder manufacturer or responsible vendor in order to ensure correct mounting and operation of a pair of holders for linear double-capped LED lamps shall contain at least the following information:

– method of mounting: for flexibly mounted holders, it shall be clearly stated whether both or only one of the methods of mounting is intended;

NOTE A pair of flexible holders could consist of two holders each having a spring or one holder having a spring and a second without a spring. The two methods of mounting are with and without a separate spring for flexible mounting.

– mounting distance, with tolerance or reference to standard sheets;

– which holders shall be used as a pair;

– required mounting plate thickness, if the holder is designed for screwless mounting.

The above information may be part of the manufacturer's or responsible vendor's catalogue.

Compliance is checked by inspection.

8 Protection against electric shock

The requirements of Clause 8 of IEC 60838-1 apply together with the following additions.

8.1 GX16t-5 contact making during insertion

Protection against electric shock shall be ensured when a lamp is inserted into a lampholder at an angle not greater than 5° from the axis of the normal inserted position of the lamp.

Lampholders incorporating a rotating part shall be tested with this part in the position of normal lamp insertion.

NOTE 1 For further information see Figure C.1 d).

Compliance is checked as follows:

– *by means of the gauge B as per IEC 60061-3, standard sheet 7006-183B (Double ended "GO" gauges for a combined pair of lampholders) and the standard test finger specified in IEC 60529.*

NOTE 2 To prevent electrical contact between the test finger and the metal body of gauge II, the "cap" face of the gauge is covered with insulating material, having a thickness not exceeding 0,1 mm.

8.2 GJ6.6 contact making during insertion

GJ6.6t, GJ6.6d-1 and GJ6.6d-2 lampholders shall provide protection against electric shock during the lamp insertion to the holder.

Compliance is checked by measurement or by using the contact making test gauge for holders specified in IEC 60061-3, sheet 7006-188-X.

NOTE 1 GJ6.6 lamps are inserted by snapping into the lampholder. The orientation is mechanically ensured prior to making electrical contact. Mechanical protection against electric shock is provided by inaccessible electrical contacts.

NOTE 2 The IEC 60061-3 gauges for GJ6.6 fits are under development.