

**FINAL VERSION**

**VERSION FINALE**

---

**Miscellaneous lampholders –  
Part 1: General requirements and tests**

**Douilles diverses pour lampes –  
Partie 1: Exigences générales et essais**



## CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	6
4 General requirement.....	10
5 General conditions for tests .....	10
6 Classification .....	11
7 Marking .....	12
8 Protection against electric shock .....	14
9 Terminals .....	15
10 Provision for earthing .....	16
11 Construction .....	17
12 Moisture resistance, insulation resistance and electric strength .....	18
13 Mechanical strength .....	20
14 Screws, current-carrying parts and connections.....	21
15 Creepage distances and clearances .....	21
16 Endurance .....	25
17 Resistance to heat and fire .....	26
18 Resistance to excessive residual stresses (season cracking) and to rusting .....	29
Annex A (informative) Lampholders covered by this standard .....	31
Annex B (normative) Suitable metals .....	33
Annex C (normative) Season cracking/corrosion test .....	34
Annex D (normative) Pendulum impact test apparatus .....	36
Annex E (informative) Clauses containing new or more stringent requirements with respect to the previous edition .....	38
Bibliography.....	39
Figure 1 – Ball-pressure test apparatus .....	27
Figure D.1 – Impact test apparatus .....	36
Figure D.2 – Mounting fixture.....	37
Table 1 – Minimum values of insulation resistance.....	19
Table 2 – Height of fall.....	20
Table 2a – Minimum distances for AC sinusoidal voltages up to 30 kHz – Impulse withstand category II.....	22
Table 2b – Minimum distances for AC sinusoidal voltages up to 30 kHz – Impulse withstand category III.....	23
Table 3 – Minimum distances for ignition pulse voltages or equivalent peak voltages $U_p$ .....	24
Table A.1 – Lampholders covered by this standard .....	31
Table C.1 – Test solution .....	34

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### MISCELLANEOUS LAMPHOLDERS –

#### Part 1: General requirements and tests

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

#### **DISCLAIMER**

**This Consolidated version is not an official IEC Standard and has been prepared for user convenience. Only the current versions of the standard and its amendment(s) are to be considered the official documents.**

**This Consolidated version of IEC 60838-1 bears the edition number 5.1. It consists of the fifth edition (2016-05) [documents 34B/1850A/FDIS and 34B/1856/RVD] and its amendment 1 (2017-02) [documents 34B/1888/FDIS and 34B/1891/RVD]. The technical content is identical to the base edition and its amendment.**

**This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.**

International Standard IEC 60838-1 has been prepared by subcommittee 34B: Lamp caps and holders, of IEC technical committee 34: Lamps and related equipment.

This fifth edition constitutes a technical revision.

The significant technical changes in this edition with respect to the previous edition include the introduction of new or revised requirements for single and dual contact ignition voltages, steel test caps and brass test caps and an Annex E listing amended requirements/clauses which require products to be retested.

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

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 type is used:

– *compliance statements: in italic 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 "<http://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
- amended.

## MISCELLANEOUS LAMPHOLDERS –

### Part 1: General requirements and tests

#### 1 Scope

This part of IEC 60838 applies to lampholders of miscellaneous types intended for building-in (to be used with general purpose light sources, projection lamps, floodlighting lamps and street-lighting lamps with caps as listed in Annex A) and the methods of test to be used in determining the safe use of lamps in lampholders.

This part of IEC 60838 also covers lampholders which are integral with a luminaire. It covers the requirements for the lampholder only.

This part of IEC 60838 also covers lampholders integrated in an outer shell and dome similar to Edison screw lampholders. Such lampholders are further tested in accordance with the relevant clauses of IEC 60238.

Requirements for lampholders for tubular fluorescent lamps, Edison screw lampholders and bayonet 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.

IEC 60061 (all parts), *Lamp caps and holders together with gauges for the control of interchangeability and safety* (available at <http://std.iec.ch/iec60061>)

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 60068-2-75:2014, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*  
IEC 60112:2003/AMD1:2009

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60238, *Edison screw lampholders*

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*