

Specification for

Lampholders for tubular fluorescent lamps and starterholders

The European Standard EN 60400 : 1992 has the status of a
British Standard

Cooperating organizations

The European Committee for Electrotechnical Standardization (CENELEC), under whose supervision this European Standard was prepared, comprises the national committees of the following countries:

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Norway
France	Portugal
Germany	Spain
Greece	Sweden
Iceland	Switzerland
Ireland	United Kingdom

This British Standard, having been prepared under the direction of the Electrical Illumination Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 May 1992

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The following BSI references relate to the work on this standard:
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Amendments issued since publication

Amd. No.	Date	Text affected

Amendment No. 1
published and effective from 15 March 1995
to BS EN 60400 : 1992

Specification for lampholders for tubular fluorescent lamps
and starterholders

NOTE. The English language version of European Standard EN 60400 : 1992 was implemented in the United Kingdom by the publication of BS EN 60400 : 1992. This amendment implements amendment A1 to EN 60400 : 1992.

This amendment together with the European Standard EN 60400 : 1992 has the status of a British Standard.

Revised text

National foreword

In paragraph 1, line 3, after 'lamps and starterholders', insert 'including amendment A1'.

In paragraph 1, line 5, after 'IEC 400 : 1991' insert ', as amended by amendment No. 1 : 1993,'.

AMD 8540/March 1995

EN amendment title page and foreword

After the existing EN title page and foreword, insert the attached EN amendment title page (foreword on reverse).

AMD 8540/March 1995

Text of EN 60400

Amend the text of European Standard EN 60400 in accordance with the details given on the attached pages.

AMD 8540/March 1995

UDC 621.316.583/584.032.434-777.001.33.001.4.002.2(083.71)

Descriptors: Holder for fluorescent tubes, holder for external starting devices, requirements, testing, definitions

Amendment A1 to the English version of EN 60400

Lampholders for tubular fluorescent lamps and starterholders

(IEC 400 : 1991/A1 : 1993)

Douilles pour lampes tubulaires à fluorescence et
douilles pour starters
(CEI 400 : 1991/A1 : 1993)

Lampenfassungen für röhrenförmige
Leuchtstofflampen und Starterfassungen
(IEC 400 : 1991/A1 : 1993)

This amendment A1 modifies the European Standard EN 60400 : 1992. It was approved by CENELEC on 1993-12-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

At the request of the CENELEC Technical Committee TC 34Z, Luminaires and associated equipment, amendment 1 : 1993 to the International Standard IEC 400 : 1991 was submitted to the CENELEC Unique Acceptance Procedure (UAP) in April 1993 for acceptance as a European Standard.

The text of the International Standard was approved by CENELEC as amendment A1 to EN 60400 : 1992 on 1993-12-08.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1995-04-01
- latest date of withdrawal of
conflicting national standards (dow) 1995-04-01

For products which have complied with EN 60400 : 1992 before 1995-04-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-04-01.

Subclause 1.1, third paragraph

Instead of: ... in accordance with the following subclauses of IEC 238: 9.4; 9.5; 9.6; 10.3; 11.7; 12; 13.2; 13.5; 13.6; 13.7; 14; 16.3; 16.4; 16.5 and 16.9.

Read: ... in accordance with the following subclauses of IEC 238: 8.4; 8.5; 8.6; 9.3; 10.7; 11; 12.2; 12.5; 12.6; 12.7; 13; 15.3; 15.4; 15.5 and 15.9.

2 Definitions

Add the following definition:

2.14 rated pulse voltage: The highest peak value of pulse voltages the holder is able to withstand.

Subclause 4.5, note, first paragraph

Instead of: ... clause 123 onwards.

Read: ... clause 12 onwards.

letter d)

Instead of: (see note to clause 6);

Read: (see note to clause 5);

7 Marking

7.1 Amend item c) to read:

- c) rated voltage in volts and rated pulse voltage in kV, if applicable;

Subclause 7.4, last indent:

Instead of: (for example 0,5 □).

Read: (for example 0,5 □).

10 Construction

10.3.1 Replace the text of the note by the following:

NOTE - For other lampholder constructions, for example where the contact is made by a sleeve over the pins, a test for checking the contact force is under consideration.
Contact making at the pin ends is not recommended for new lampholder design.

14 Mechanical strength

14.1 Add the following note at the end of this subclause:

NOTE - The mechanical strength of lampholders used in luminaires or other equipment may have to be checked by means of the spring operated impact apparatus.
In IEC 598-1, the test impact energy used varies from 0,2 Nm to 0,7 Nm depending on component material and luminaire type.

15 Screws, current-carrying parts and connections

15.6 Add the following text before the note:

The tests of clause 18 will show whether current-carrying parts are equivalent to copper in respect to current-carrying capacity, mechanical strength and corrosion likely to be met in normal service.

16 Creepage distances and clearances

Delete table 3 and replace by the following new tables and notes:

Table 3a – Minimum distances for a.c. (50 Hz/60 Hz) sinusoidal voltages

Distances mm	Rated voltage V				
	150	250	500	750	1 000
1. Between live parts of different polarity, and 2. Between live parts and accessible metal parts, or the outer surface of parts of insulating material which are permanently fixed to the holder¹, including screws or devices for fixing covers or fixing the holder to its support – Creepage distances Insulation PTI² ≥ 600 PTI < 600 – Clearances					
	1,4	1,7	3	4	5,5
	1,6	2,5	5	8	10
	1,4	1,7	3	4	5,5
3. Between live parts and the mounting surface or a loose metal cover, if any, if the construction does not ensure that the values under item 2 are maintained under the most unfavourable circumstances – Clearances					
	3,2	3,6	4,8	6	8
NOTES ¹ The distances between live contacts and the lampholder face (reference plane) shall, however, be in accordance with the relevant standard sheets of IEC 61-2. The distances for starter holders shall be in accordance with figures 10 and 10a. ² PTI (Proof Tracking Index) in accordance with IEC 112*. a) In the case of creepage distances to parts not energized or not intended of being earthed, where no tracking can occur, the values specified for material with PTI ≥ 600 apply for all materials (in spite of the real PTI). For creepage distances subjected to working voltages of less than 60 s duration, the values specified for materials with PTI ≥ 600 apply for all materials. b) For creepage distances not liable to contamination by dust or moisture, the values specified for material with PTI ≥ 600 apply (independent of the real PTI). 3 The distances specified in the table apply to appliance level installation category in accordance with IEC 664 and 664A** and refer to pollution degree 2, where normally only non-conductive pollution occurs but occasionally a temporary conductivity caused by condensation must be expected. Extension of the table to cover other installation categories or higher pollution degrees, is under consideration. 4 Information on standard ratings for specific holder types is given in clause 5.					

* IEC 112: 1979, Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions.

** IEC 664: 1980, Insulation co-ordination within low-voltage systems including clearances and creepage distances for equipment.

IEC 664A: 1981, First complement.

Table 3b – Minimum distances for non-sinusoidal pulse voltages

Rated pulse voltage (peak kV)	2	2,5	3	4	5	6	8
Minimum clearance (mm)	1	1,5	2	3	4	5,5	8

For distances subjected to both sinusoidal voltages and non-sinusoidal pulse voltages, the minimum required distance shall not be less than the highest value indicated in either table.

Creepage distances shall not be less than the required minimum clearance.

Figures 14 to 20, and 23, and 25 to 29

Change the tolerance for reference E from:

$\pm 0,05$ to $\pm 0,02$ mm.

Amendment No. 2
published and effective from 15 September 1995
to BS EN 60400 : 1992

Specification for lampholders for tubular fluorescent lamps
and starterholders

NOTE. This amendment is being issued to correct errors in Amendment 1 to BS EN 60400.

Amendment 1 to BS EN 60400 : 1992 was issued to implement amendment A1 to EN 60400 : 1992, which in turn implemented amendment 1 to IEC 400 : 1991. However, some of the instructions in amendment 1 to BS EN 60400 are not applicable to BS EN 60400 because CENELEC common modifications to IEC 400 either have already implemented the relevant changes or have deleted the text to which they refer.

Corrections

Instruction to amend subclause 1.1, third paragraph

Delete this instruction

AMD 8765/September 1995

Instructions to amend subclause 4.5, note, first paragraph and letter d)

Delete these instructions.

AMD 8765/September 1995

Instruction to amend subclause 7.4, last indent

Delete this instruction

AMD 8765/September 1995

Instruction to amend figures 14 to 20, and 23, and 25 to 29

Delete this instruction

AMD 8765/September 1995



Amendment No. 3
published and effective from 15 September 1995
to BS EN 60400 : 1992

Specification for lampholders for tubular fluorescent lamps
and starterholders

NOTE 1. The English language version of European Standard EN 60400 : 1992 was implemented in the United Kingdom by the publication of BS EN 60400 : 1992. This amendment implements Amendment A2 to EN 60400.

This amendment together with Amendment A1 and European Standard EN 60400 : 1992 has the status of a British Standard.

NOTE 2. Amendment 2 to BS EN 60400 : 1992 was issued to correct errors in Amendment 1 to BS EN 60400 : 1992.

Revised text

National foreword (as amended by amendment No. 1)

In paragraph 1, line 3, after 'including amendment A1' insert 'and amendment A3'.

In paragraph 1, line 5, after 'as amended by amendment No. 1 : 1993' insert 'and amendment No. 3 : 1995'.

AMD 8803/September 1995

EN amendment title page and foreword

After the existing EN amendment title page and foreword, insert the attached EN amendment title page (foreword on reverse).

AMD 8803/September 1995

Text of EN 60400

Amend the text of European Standard EN 60400 in accordance with the details given on the attached pages.

AMD 8803/September 1995

UDC 621.316.583/584.032.434.-777.001.33.001.4.002.2(083.71)
ICS 29.140.10

Descriptors: Holder for fluorescent tubes, holder for external starting devices, requirements, testing, definitions

English version

Lampholders for tubular fluorescent lamps and starterholders

(IEC 400 : 1991/A2 : 1994)

Douilles pour lampes tubulaires à fluorescence et
douilles pour starters
(CEI 400 : 1991/A2 : 1994)

Lampenfassungen für röhrenförmige
Leuchtstofflampen und Starterfassungen
(IEC 400 : 1991/A2 : 1994)

This amendment A2 modifies the European Standard EN 60400 : 1992; it was approved by CENELEC on 1995-02-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The text of amendment 2 : 1994 to the International Standard IEC 400 : 1991, prepared by SC 34B, Lamp caps and holders, of IEC TC 34, Lamps and related equipment, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A2 to EN 60400 : 1992 on 1995-02-15 without any modification.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-03-15
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-03-15

For products which have complied with EN 60400 : 1992 and its amendment A1 : 1994 before 1996-03-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-03-15.

7 Marking *

letter d)

Instead of: (see note to clause 6);

Read: (see note to clause 5);

(Delete the last three lines of page 3, Amendment 1: 1993).

10 Construction

Subclause 10.3.1

Delete the note and replace it by the following test requirement and note:

For G5 and G13 lampholders, where contact is made by a tubular shaped contact, the contact force is checked with single pin gauge E according to the current edition of standard sheet 7006-69E of IEC 61-3.

Each contact of the lampholder shall retain the gauge with a force of at least 0,5 N (under consideration).

The test shall be carried out after the test with the "Go" gauges as mentioned in sub-clause 10.5 d).

NOTE – Contact making at the pin ends is not recommended for new lamp holder designs.

For lampholders G20: (under consideration).

The fourth paragraph from the bottom of the page upwards, which starts reading:

For bi-pin lampholders G5, G13 and G20, requiring a lateral push-in motion ... ,

shall be amended to read as follows:

For bi-pin lampholders G5, G13, 2G13 and G20, requiring a lateral push-in motion ... ,

14 Mechanical strength

Subclause 14.3, second paragraph, replace the text after the first two dashes by the following:

- 7006-47C, gauge I for lampholders G5;
- 7006-60C, gauge I for lampholders G13;

17 Resistance to heat, fire and tracking

Subclause 17.1

Add the following text after the first note:

Lampholders incorporating a rotating part, having a protrusion in the middle to create an air gap between the cap face and the holderface, shall be fixed by a separate mounting device on the test cap of figure 9, according to the manufacturer's instructions. (See 7.3).

During the test there shall be no clearance between the protrusion of the rotating part and the test cap.

*These instructions are not relevant as the note to clause 5 has been deleted by CENELEC common modifications to IEC 400 : 1991 and clause 7 letter d) amended accordingly.

Contents

	Page
Cooperating organizations	Inside front cover
National foreword	i
Foreword	2
Text of EN 60400	3
National annex NA (informative)	Inside back cover
National annex NB (informative)	Inside back cover
National annex NC (informative)	Inside back cover

National foreword

This British Standard has been prepared under the direction of the Electrical Illumination Standards Policy Committee and is the English language version of EN 60400, 'Lampholders for tubular fluorescent lamps and starterholders', published by the European Committee for Electrotechnical Standardization (CENELEC). It was derived by CENELEC from IEC 400 : 1991 published by the International Electrotechnical Commission (IEC).

The CENELEC common modification has been implemented at the appropriate place in the text and is indicated by a side line in the margin. The original IEC text that has been modified by CENELEC has been quoted in national annex NA.

This British Standard supersedes BS 6702 : 1991 which is withdrawn.

In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

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

Descriptors: Holder for fluorescent tubes, holder for external starting devices, requirements, testing, definitions

English version

Lampholders for tubular fluorescent lamps and starterholders

(IEC 400 : 1991, modified)

Douilles pour lampes tubulaires à fluorescence
et douilles pour starters
(CEI 400 : 1991, modifiée)

Lampenfassungen für röhrenförmige
Leuchtstofflampen und Starterfassungen
(IEC 400 : 1991, modifiziert)

This European Standard was approved by CENELEC on 1991-12-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The International Standard IEC 400 : 1991, together with a CENELEC common modification, was submitted to the CENELEC members for Unique Acceptance in February 1991. It was approved by CENELEC as EN 60400 on 10 December 1991.

The following dates were fixed:

- latest date of publication
of an identical national
standard (dop) 1992-12-01
- latest date of withdrawal
of conflicting national
standards (dow) 1992-12-01

For products which have complied with EN 60400 : 1989 before 1992-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-12-01.

Annexes designated 'normative' are part of the body of the standard. In this standard, annex ZA is normative.

CONTENTS

Clause	Page
1 General	4
1.1 Scope	4
1.2 Normative references	4
2 Definitions	5
3 General requirement	7
4 General conditions for tests	7
5 Electrical rating	8
6 Classification	9
7 Marking	9
8 Protection against electric shock	12
9 Terminals	13
10 Construction	15
11 Resistance to dust and moisture	20
12 Insulation resistance and electric strength	20
13 Endurance	22
14 Mechanical strength	23
15 Screws, current-carrying parts and connections	25
16 Creepage distances and clearances	28
17 Resistance to heat, fire and tracking	29
18 Resistance to excessive residual stresses (season cracking) and to rusting	33
Figures	35
Annex A – List of lampholders covered by this standard	73
Annex B – Season cracking / corrosion test	74
Annex ZA	76

LAMPHOLDERS FOR TUBULAR FLUORESCENT LAMPS AND STARTERHOLDERS

1 General

1.1 Scope

This International Standard states the technical and dimensional requirements for lamp-holders for tubular fluorescent lamps and for starterholders, and the methods of test to be used in determining the safety and the fit of the lamps in the lampholders and the starters in the starterholders.

This standard covers independent lampholders and lampholders for building-in, used with tubular fluorescent lamps provided with caps as listed in annex A, and independent starterholders and starterholders for building-in, used with starters in accordance with IEC 155, intended for use in a.c. circuits where the working voltage does not exceed 1 000 V r.m.s.

This standard also covers lampholders for single capped tubular fluorescent lamps integrated in an outer shell and dome similar to Edison screw lampholders (e.g. for G23 and G24 capped lamps). Such lampholders shall further be tested in accordance with the following subclauses of IEC 238: 8.4; 8.5; 8.6; 9.3; 10.7; 11; 12.2; 12.5; 12.6; 12.7; 13; 15.3; 15.4; 15.5 and 15.9.

Lampholders designed with a barrel thread for shade holder rings shall comply with the current edition of IEC 399.

As far as it applies, this standard also covers combinations of lampholders and starterholders as well as lampholders or combinations which are wholly or partly integral with the luminaire. It also applies, as far as is reasonable, to lampholders and starterholders other than the types explicitly mentioned above and to lamp connectors.

Where the term "holders" is used in the standard, both lampholders and starterholders are intended.

1.2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication of this standard, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC publications quoted:

61: *Lamp caps and holders together with gauges for the control of interchangeability and safety.*

61-1: *Lamp caps and holders together with gauges for the control of interchangeability and safety, Part 1: Lamp caps.*

61-2: *Lamp caps and holders together with gauges for the control of interchangeability and safety, Part 2: Lampholders.*

61-3: *Lamp caps and holders together with gauges for the control of interchangeability and safety, Part 3: Gauges.*

68-2-20: (1979), *Environmental testing, Part 2: Tests - Test T: Soldering.*

81: (1984), *Tubular fluorescent lamps for general lighting service.*

112: (1979), *Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions.*

155: (1983), *Starters for tubular fluorescent lamps.*

238: (1991), *Edison screw lampholders.*

352-1: (1983), *Solderless connections, Part 1: Solderless wrapped connections - General requirements, test methods and practical guidance.*

399: (1972), *Standard sheets for barrel thread for E14 and E27 lampholders with shade holder ring.*

529: (1976), *Degrees of protection provided by enclosures (IP Code).*

598-1: (1986), *Luminaires, Part 1: General requirements and tests.*

695-2-1: (1980), *Fire hazard testing, Part 2: Test methods; Glow-wire test and guidance.*

695-2-2: (1980), *Fire hazard testing, Part 2: Test methods; Needle-flame test.*

Other publication quoted:

ASTM D 785-65: 1981.

2 Definitions

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

2.1 rated voltage: A voltage declared by the manufacturer to indicate the highest working voltage for which the holder is intended.

2.2 working voltage: The highest r.m.s. voltage which may occur across any insulation, transients being disregarded, both when the lamp or starter is operating under normal conditions and when the lamp or starter is removed.

2.3 flexible lampholders for linear double-capped fluorescent lamps: A pair of lampholders 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 to provide compensation for variations in lamp lengths and, where necessary, to permit insertion and removal of the lamp.

NOTE - In case of doubt whether a lampholder G5 or G13 provides the required axial movement of the contact a test with the device shown in figure 3 may be carried out.

2.4 Inflexible lampholders for linear double-capped fluorescent lamps: A pair of lampholders 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.

2.5 flexibly mounted lampholders for linear double-capped fluorescent lamps: A 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.

NOTE - Lampholders of this type may or may not be suitable for rigid mounting also.

2.6 lamp connectors: A set of contacts mounted on flexible conductors which provide for electrical contact but do not support the lamp.

2.7 holder for building-in: A holder designed to be built into a luminaire, an additional enclosure or the like.

2.7.1 unenclosed holder: A holder for building-in so designed that it requires additional means, for example an enclosure, to meet the requirements of this standard with regard to protection against electric shock.

2.7.2 enclosed holder: A holder for building-in so designed that on its own it fulfills the requirements of this standard with regard to protection against electric shock and IP classification, if appropriate.

2.8 Independent holder: A holder so designed that it can be mounted separately from a luminaire and at the same time providing all the necessary protection according to its classification and marking.

2.9 rated operating temperature: The highest temperature for which the holder is designed.

2.10 rated lampholder rearside temperature: The rearside temperature for lampholders G13 with T-marking ascertained by test b) of 17.1.

2.11 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.

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

2.13 live part: A conductive part which may cause an electric shock.

3 General requirement

Holders shall be so designed and constructed that in normal use they function reliably and cause no danger to persons or surroundings.

In general, compliance is checked by carrying out all the tests specified.

In addition, the enclosure of independent holders shall comply with the appropriate requirements of IEC 598-1, including the classification and marking requirements of that standard.

4 General conditions for tests

4.1 Tests according to this standard are type tests.

NOTE - The requirements and tolerances permitted by this standard are related to testing of a type test sample submitted for that purpose.

Compliance of the type test sample does not ensure compliance of the whole production of a manufacturer with this safety standard.

In addition to type testing, conformity of production is the responsibility of the manufacturer and may include routine tests and quality assurance.

4.2 *Unless otherwise specified, the tests are made at an ambient temperature of $20\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ and with the holder in the most unfavourable position for normal use.*

4.3 *The tests shall be carried out in the order of the clauses, unless another succession of tests is specified.*

Holders intended to provide an IP classification greater than IP20 shall be subjected to the tests of 11.1 and 11.2 after the test of 17.1.

4.4 *The tests and inspections are carried out on a total of:*

- *8 pairs of matching lampholders intended for linear double-capped fluorescent lamps;*

NOTE - If a pair of lampholders consists of identical holders, it is sufficient for one holder instead of one pair to be subjected to all the tests, except for the test of item d) of 10.5, where one pair is needed.

- *8 specimens intended for single-capped fluorescent lamps and 8 starterholders;*

in the order of the clauses, as follows:

- *2 pairs or 2 specimens: clause 5 up to and including clause 16 (except for 9.2 and 9.5);*

NOTE - The tests of 9.2 are carried out on the number of separate specimens as required by the relevant standards.

- *3 pairs or 3 specimens: 9.5 and 17.1;*
- *2 pairs or 2 specimens: 17.2 up to and including 17.5 (of which one specimen for the test of 17.2 and the other for the tests of 17.4 and 17.5);*

- 1 pair or 1 specimen: 17.6 and clause 18.

In the case of flexible and inflexible lampholders G5 or G13 (see 2.3 and 2.4 respectively) the specimens are mounted on two pairs of mounting sheets as specified in figure 2.

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.

In special cases, it may be necessary to test more than the specified number of specimen.

Together with these specimen, the manufacturer's mounting instructions (see 7.3) shall be supplied.

For holders intended to provide an IP classification greater than IP20 with detachable gaskets having a maximum operating temperature different from the values in 17.1, an additional set of gaskets shall be supplied with the specimen, together with information on their maximum operating temperature (this is part of the manufacturer's mounting instructions).

NOTE - This does not refer to detachable gaskets at the mounting surface of the holder, see 17.1.

4.5 *Holders are deemed to comply with this standard if no specimen fails in the complete series of tests specified in 4.4.*

If one specimen fails in one test, that test and the preceding ones which may have influenced the result of that test are repeated on another set of specimens to the number required by 4.4, all specimen of which shall then comply with the repeated tests and with the subsequent tests. Holders are deemed not to comply with this standard if there are more failures than that of one specimen in one of the tests.

NOTE - In general, it will only be necessary to repeat the relevant test, unless the specimen fails in the tests according to clause 13 or 14, in which case the tests shall be repeated from the test according to clause 12 onwards.

A second type test sample, which may be required should one specimen fail, may be submitted together with the first sample.

If the additional type test sample is not submitted at the same time, a failure of one specimen entails a rejection.

5 Electrical rating

The electrical rating shall be:

- not less than 125 V and not more than 1 000 V a.c. r.m.s.;
- not less than 125 V and not more than 250 V a.c. r.m.s. for lampholders G5;
- not less than 1 A;
- not less than 2 A for lampholders G13, 2G13, G20, Fa6, Fa8 and R17d.