

**TEST REPORT
IEC 61184
Bayonet lampholders**

Report Number..... : **46047**
Date of issue : 14th April 2014
Total number of pages : 25

Applicant's name..... : S Lilley & Son Ltd
Address..... : 80 Alcester Street, Birmingham B12 0QE

Test specification:

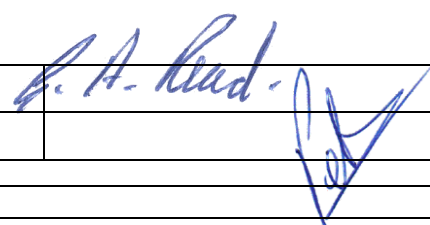
Standard : IEC 61184: 2008 (Third edition) + A1: 2011
Test procedure..... : Nemko Ltd
Non-standard test method..... : N/A

Test Report Form No. : IEC61184B
Test Report Form(s) Originator..... : IMQ S.p.A.
Master TRF : Dated 2013-01

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Test item description..... : **B22d Lampholders**
Trade Mark : Lilley
Manufacturer..... : S Lilley & Son Ltd
Model/Type reference : BC 9-10-S (SL 3000 Series)
Ratings..... : B22d T2, 2A, 250V

| | | |
|--|----------------------------|---|
| Testing procedure and testing location: | | |
| <input checked="" type="checkbox"/> | Testing Laboratory: | Nemko Ltd |
| Testing location/ address | | 15 Chelsea Fields Estate, Western Road, London SW19 2QA |
| Tested by (name + signature) | | Gary A Read  |
| Approved by (name + signature) | | Peter Cross |

Summary of testing:

Tests carried out (name of test and clause)

| | |
|-----------|--|
| Clause 5 | Standard ratings |
| Clause 6 | Classification |
| Clause 7 | Marking |
| Clause 8 | Dimensions |
| Clause 9 | Protection against electric shock |
| Clause 10 | Terminals |
| Clause 11 | Provision for earthing |
| Clause 12 | Construction |
| Clause 13 | Switched Lampholders |
| Clause 14 | Moisture resistance, insulation resistance and electric strenght |
| Clause 15 | Mechanical Strenght |
| Clause 16 | Screws, current-carrying parts and connections |
| Clause 17 | Creepage distances and clearances |
| Clause 18 | General resitance to heat |
| Clause 19 | Resistance to heat, fire and tracking |
| Clause 20 | Resistance to excessive residual stress (season cracking) and to rusting |

Summary of compliance :
These lampholders were found to comply with IEC 61184:2008 + A1:2011 / EN 61184:2008

List of countries addressed:
The product fulfils the requirements of AS/NZS 61184 : 2007. See attachment for Australia & New Zealand differences.

Copy of marking plate



Photographic identification



Lampholders covered under the scope of this report

| Model No | Lampholder Description |
|-----------------|--|
| 3013E | 1/2" x 26 tpi threaded entry (Screw Terminals) |
| 1014E | M13 x 1mm Pitch threaded entry (Screw Terminals) |
| 1013E | M10 x 1mm Pitch threaded entry (Screw Terminals) |
| 2013E | 1/8" IP threaded entry (Screw Terminals) |
| 3113E | 1/2" x 26 tpi threaded entry (Screw Terminals) |
| 1114E | M13 x 1mm Pitch threaded entry (Screw Terminals) |
| 1113E | M10 x 1mm Pitch threaded entry (Screw Terminals) |
| | |
| 1013P | M10 x 1mm Pitch threaded entry (Screwless Terminals) |
| 1014P | M13 x 1mm Pitch threaded entry (Screwless Terminals) |
| 2013P | 1/8" IP threaded entry (Screwless Terminals) |
| 3013P | 1/2" x 26 tpi threaded entry (Screwless Terminals) |

| | |
|---|--|
| Test item particulars | |
| Type of lampholder: | |
| - plastic lampholder | No |
| - ceramic lampholder..... | No |
| - metal lampholder..... | Yes |
| - ordinary lampholder..... | Yes |
| - drip-proof lampholder | No |
| - threaded entry lampholder | Yes |
| - cord grip lampholder | Yes |
| - backplate lampholder | No |
| - other lampholder | No |
| - B15d lampholder | No |
| - B22d lampholder | Yes |
| - BY22d lampholder..... | No |
| - switched lampholder | Yes |
| - enclosed lampholder | Yes |
| - unenclosed lampholder | No |
| - independent lampholder | No |
| - partly reinforced insulated lampholder | No |
| - enclosed reinforced insulated lampholder | No |
| Rated operating temperature (°C) (T marked lampholder: Txxx or T1 or T2) | T2 |
| Possible test case verdicts: | |
| - test case does not apply to the test object..... | N/A |
| - test object does meet the requirement | P (Pass) |
| - test object does not meet the requirement | F (Fail) |
| Testing | |
| Date of receipt of test item | 20 th March 2014 |
| Date (s) of performance of tests | 21 st March 2014 to 11 th April 2014 |

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Name and address of factory (ies)..... : S Lilley & Son Limited
80 Alcester Street
Birmingham
B12 0QE
England

General product information: See page 5 of this report

| IEC 61184 | | | |
|------------------|--|-------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 3 | GENERAL REQUIREMENTS (Sample 1, 2 and 3) | | |
| | The lampholder is so designed and constructed that in normal use it functions reliably and causes no danger to persons or surroundings | | P |
| | Compliance is checked by the tests specified | | P |
| | Compliance of independent lampholder with EN 60598-1 | | N/A |
| 4 | GENERAL CONDITIONS FOR TESTS (Sample 1, 2 and 3) | | |
| 4.2 | Tests are made at an ambient temperature of 20° C ± 5° C, unless otherwise specified, the samples are tested as delivered and installed as in normal use without lamps | | P |
| 5 | STANDARD RATINGS (Sample 1, 2 and 3) | | |
| 5.1 | Rated voltage 250 V | | P |
| | B15d not intended for use in circuits with ignitors | | N/A |
| | B22d not to be used in circuits with ignitors without lampholder manufacturer approval | | P |
| | BY22d intended for use in circuits with ignitor circuits | | N/A |
| 5.2 | Rated current in accordance with required values | | P |
| 6 | CLASSIFICATION (See front page) (Sample 1, 2 and 3) | | |
| 7 | MARKING (Sample 1, 2 and 3) | | |
| 7.1 | Lampholders marked with: | | |
| | - rated voltage (V) | 250V | P |
| | - rated operating temperature Txxx, T1 or T2 | T2 | P |
| | - for ceramic type, rated operating temperature stated on lampholder or in manufacturer's catalogue | | N/A |
| | - mark of origin | Lilley | P |
| | - type reference | BC 9-10-S (3000 Series) | P |

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|-----------|---|----------------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - rated current (A) | 2A | P |
| | - IP number | | N/A |
| | - for single pole switched lampholder, switched pole | Double Pole Switch | N/A |
| | - the distances for impulse withstand category II stated in manufacturer's instructions or the like. | Information available on request | P |
| | Enclosed reinforced insulated lampholders offer an adequate level of protection for use in luminaires where they are accessible in normal use. This information is indicated in the manufacturer's catalogue or the like. | | N/A |
| | For partly reinforced insulated lampholders, sufficient creepage distances and clearances to outer accessible surfaces will require additional protection to some parts of the lampholder by the luminaire design or by use of additional attachment(s) or cover(s). This information is indicated in the manufacturer's catalogue or the like. | | N/A |
| 7.2 | Required symbol used: | | |
| | - for current | | N/A |
| | - for voltage | | P |
| | - for direct current | | N/A |
| | - IP number | | N/A |
| 7.3 | IP number on the outside of the lampholder | | N/A |
| 7.4 | Earthing terminal (if any) indicated by the symbol | | P |
| | The symbol not placed on screws, removable washers or other removable parts | | P |
| 7.5 | Where the terminal size specified in 10.2 is not complied with: | | |
| | - value shown in mm ² followed by a small square : | | N/A |
| | - for unenclosed lampholders relevant information stated in manufacturer's instructions | | N/A |
| 7.6 | The marking according to 7.1 to 7.5 durable and legible: | | |
| | - after test with water, 15 s | | P |
| | - after test with petroleum spirit, 15 s | | P |
| 7.7 | Special warning notice for UK. | Not for retail use in UK | N/A |

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|------------------|--|--------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 8 | DIMENSIONS (Sample 1, 2 and 3) | | |
| 8.1 | Dimensions measured according to Standard Sheets 7005-10 and 7005-16, respectively. | | P |
| | Compliance with gauges according to IEC 60061-3 | | P |
| | Dimensions for shade holder ring in accordance with IEC 60399 and fig. 8 | Figure 8 only applicable | P |
| 8.2 | Threaded entry lampholder provided with the following screw threads (fig. 13): | | |
| | - for B15d: M10x1 | | N/A |
| | - for B22d: M10x1 or M13x1 | M10 / M13 | P |
| | Compliance with gauges according to fig. 14 | | P |
| 8.3 | Dimensions of threaded entries and set screws in accordance with table 1 | | |
| | length of thread: | | |
| | - metal (mm).....: | 3.2mm | P |
| | - insulating material (mm) | | N/A |
| | diameter of set screw: | | |
| | - with head (mm) | 2.9mmØ | P |
| | - without head (mm) | | N/A |
| 9 | PROTECTION AGAINST ELECTRIC SHOCK (Sample 1, 2 and 3) | | |
| 9.1 | Live parts not accessible when lampholder fitted with testing device (fig. 7) | | P |
| | For independent and enclosed lampholders, compliance checked with the standard test finger of IEC 60529 | | N/A |
| 9.2 | No metal parts other than terminals and contact mechanism become live in normal service either before, during or after insertion of the lamp | | P |
| 9.3 | Parts providing protection against accidental contact shall: | | |
| | - have sufficient mechanical strength to withstand such forces as may arise during removal and replacement | | P |
| | - withstand normal stresses arising from the fitting of corresponding lamps and shades | | P |
| | Possible to remove and replace a corresponding normal lamp or shade without removing parts providing protection against accidental contact | | P |

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|-----------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.4 | External parts of drip-proof lampholders made of insulating material | | N/A |
| | Lacquer or enamel not used to provide adequate protection | | N/A |

| | | | |
|-----------|--|--|-----|
| 10 | TERMINALS (Sample 1, 2 and 3) | | |
| | The lampholder provided with: | | |
| | - terminals with screw clamping | 3013E, 1014E, 1013E, 2013E, 3113E, 1114E, 1113E | P |
| | - screwless terminals | 1013P, 1014P, 2013P, 3013P | P |
| | - tabs or pins for push-on connections | | N/A |
| | - posts for wire wrapping | | N/A |
| | - soldering lugs | | N/A |
| | - connecting leads | | N/A |
| 10.2 | Terminals suitable for the connection of: | | |
| | - for lampholders B15d and B22d with M10x1 threaded entry: 0.5 to 1.0 mm ² | | P |
| | - for other lampholders B22d: 0.5 to 2.5 mm ² | | P |
| 10.3 | The lampholder provided with: | | |
| | - Screw terminals complying with Section 14 of IEC 60598-1 | (see Annex3) | P |
| | Dimension of terminals of the pillar type according to Table 2: | | |
| | - nominal thread diameter | | P |
| | - diameter of the hole for conductor | | P |
| | - difference between diameter of the hole and diameter of the screw, max. 0,6 mm | | P |
| | - length of threaded part of the terminal screw | | P |
| | - screwless terminals complying with Section 15 of IEC 60598-1 | (see Annex4) | P |
| 10.4 | Terminals so located that there is no risk of accidental contact between live parts and accessible parts during test with a 4 mm long escaped wire from a stranded conductor | | P |
| 10.5 | The requirements of 10.3 do not apply to lampholders which are intended to be factory-mounted and which are provided with connecting leads (tails), tab-terminals or equal means | | N/A |

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|-----------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Lampholders intended to be factory-mounted provided with: | | |
| | - connecting leads (tails) | | N/A |
| | - tab-terminals | | N/A |
| | - other equally effective means | | N/A |
| | Heat resistant leads connected by: | | |
| | - soldering | | N/A |
| | - welding | | N/A |
| | - crimping | | N/A |
| | Insulation of the leads complying with IEC 60227 or IEC 60245 or subclause 5.3 in IEC 60598-1 | | |
| | Test: see 18.2 | | N/A |
| | After the test, the lampholders show no damage within the meaning of this standard. | | N/A |

| | | | |
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| 11 | PROVISION FOR EARTHING (Sample 1, 2 and 3) | | |
| 11.1 | The earthing means do not interfere with clearance or creepage distance or with normal functioning | | P |
| | For metal lampholders, the earthing means in effective electrical contact with exposed non-current carrying metal parts | | P |
| | Metal parts of cord anchorage insulated from earthing circuit | | N/A |
| 11.2 | Earthing terminal complies with clause 10 | | P |
| | Clamping means are such that: | | |
| | - Screw terminals not possible to loosen by hand | | P |
| | - Screwless terminals not possible to loosen unintentionally by hand | | N/A |
| 11.3 | Metal lampholders intended to be earthed are so designed that accessible external metal parts can be connected electrically to earth | | P |
| | Accessible metal parts without earthing terminal: | | |
| | - allow reliable earthing | | P |
| | - have earth continuity between outer shell and dome unless screened by double or reinforced insulation | | P |
| | Test to be performed after 14.3. | | P |

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|------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 11.4 | No risk of corrosion resulting from contact with the copper conductor | | P |
| | The screw or the body of the earthing terminal made of brass or other metal no less resistant to corrosion | | P |
| | Contact surfaces are bare metal | | P |
| 12 | CONSTRUCTION (Sample 1, 2 and 3) | | |
| 12.1 | The contact-making faces are smooth and so shaped at their edges that they do not prevent easy insertion and removal of a corresponding lamp | | P |
| | The contact profiles are in accordance with IEC 60061-2: | | |
| | - for B22b, Standard Sheet 7005-10 | | P |
| | - for B15b, Standard Sheet 7005-16 | | N/A |
| | The contact force (N) in compliance with Table 3 | | P |
| 12.2 | The various parts of the lampholder are reliably connected together | | P |
| | Devices for fixing shades so designed that the lampholder is not dismantled by rotating the shade ring | | P |
| | In cord grip or threaded entry lampholders where protection against accidental contact with live parts is provided by a dome screwing directly on to a body, or by a dome or other parts secured by a union ring, such parts are attached by at least one and three-quarter turns of thread | | N/A |
| 12.3 | Outer edge of screwed type of shade ring facilitates turning by hand | | P |
| 12.4 | Union ring: | | |
| | - facilitates turning by hand | | P |
| | - retains the parts of the lampholder in concentric positions | | P |
| | - prevents relative rotation | | P |
| 12.5 | Separate interior member supporting current-carrying parts keyed | | P |
| 12.6 | The space in the dome is ample for fitting cable with specified cross-sectional area | | P |
| | No sharp edges or a shape likely to damage the insulation of the conductors | | P |

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|-----------|---|-------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | The threaded entry provided with means to prevent the conduit from entering too far | Stop provided | P |
| | Test with lampholder screwed onto a conduit of 100 mm length | | P |
| | After dismantling, cables or cord not damaged | | P |
| | The lampholder fixed to a nipple or conduit with the specified torque | M10 – 1Nm / M13 – 1.3Nm | P |
| | The nipple or conduit does not enter the space for the supply wires in the dome | | P |
| | The lampholder does not show any change impairing its further use | | P |
| 12.7 | It is possible to lock the threaded entry on the conduit | | N/A |
| | It is possible to operate the locking device from the inside, if provided as part of the lampholder | | N/A |
| | For lampholders having an integral locking device, by the test of 15.2 | | N/A |
| 12.8 | Cord anchorage relieves the conductor from strain and prevents twisting | | N/A |
| | The outer covering of the cord is gripped in the lampholder | | N/A |
| | The outer covering of the cord is protected from abrasion | | N/A |
| | It is clear how relief from strain and prevention of twisting shall be effected | | N/A |
| | Not possible to push the cord into the lampholder to such an extent that the cord is subjected to undue mechanical or thermal stress | | N/A |
| | Methods such as tying the cord into a knot or tying the ends with strings are not used | | N/A |
| | Cord anchorage made of insulating material or provided with a fixed insulating lining if an insulation fault on the cord can make accessible metal parts live | | N/A |
| | Cord anchorage is so designed that: | | |
| | - at least one part is fixed to or integral with the lampholder | | N/A |
| | - it is suitable for the different types of flexible cord which may be connected to the lampholder | | N/A |

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|-----------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - it does not exert excessive pressure on the cord | | N/A |
| | - it is unlikely to be damaged when tightened or loosened as in normal use | | N/A |
| | Cord anchorage suitable for flexible cords of the following types: | | |
| | - 60245 IEC 51 | | N/A |
| | - 60245 IEC 53 or the like | | N/A |
| | - 60227 IEC 52 | | N/A |
| | Not possible to push the cord further into the lampholder after connection | | N/A |
| | Pull test 100 times and torque test according to Table 4 | | N/A |
| | Test repeated with specified types of cord and cross-sectional area | | N/A |
| | No damage to the flexible cord during the test | | N/A |
| | After the test: | | |
| | - no displacement of cable or cord by more than 2 mm | | N/A |
| | - no noticeable movement of the conductors in the terminals | | N/A |
| 12.9 | Suspension devices shall have no accessible metal parts which can become alive, even in the event of a fault in the lampholder | | N/A |
| | Suspension devices intended to be screwed into a threaded entry lampholder comply with the requirements of 12.8 | | N/A |
| 12.10 | For backplate lampholders, the cable entries allow the introduction of cable covering, conduit or trunking so far as to afford mechanical protection | | N/A |
| | Installation test according to 10.2 | | N/A |
| 12.11 | Backplate lampholder, other than for building-in, provided with holes for fixing screws | | N/A |
| | Holes for the fixing screws comply with gauge (Fig. 3) | | N/A |
| | The bush enters the recess of the screw head | | N/A |
| 12.12 | Insulating barriers provided between terminals of the rising type | | N/A |

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|-----------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Terminals of the rising type not permitted in backplate lampholders other than those specifically intended for building-in | | N/A |
| 12.13 | The lampholder not fitted with a socket-outlet | | N/A |

| 13 | SWITCHED LAMPHOLDERS (Sample 7, 8 and 9) | | |
|------|--|----|-----|
| 13.1 | Other lampholders than ordinary lampholders not provided with switches | | P |
| 13.2 | No accidental contact between supply conductors and moving parts of the switch | | P |
| | Test by fitting conductors according to 10.4 | | P |
| 13.3 | Switch operating member effectively insulated from live parts | | P |
| | If broken, switch operating member does not expose live parts | | P |
| 13.4 | Switches are capable of making and breaking a load comprising a general lighting service (GLS) tungsten filament lamp | | P |
| | Operating temperature T | T2 | P |
| | 200 operations at 1,1 x Un, 1,25 In and 0,6φ | | N/A |
| | 20 000 operations at Un, In and 1φ | | P |
| | For T1 or T2 rated lampholder test with 20 000 movements in a shade and with a load as specified in 18.5 and item a) of 18.6 | | P |
| | The lampholder withstands the tests in 14.3 | | P |
| | The lampholder in satisfactory working order | | P |

| 14 | MOISTURE RESISTANCE, INSULATION RESISTANCE AND ELECTRIC STRENGTH (Sample 4, 5 and 6) | | |
|------|--|--|-----|
| | Drip-proof construction provides the necessary degree of protection against ingress of water | | N/A |
| | Electric strength test as specified in 14.3 | | N/A |
| | Inspection shows that no water has entered to an appreciable extent | | N/A |
| 14.2 | Humidity treatment: | | |
| | - 48 h for ordinary lampholders | | P |
| | - 168 h for IPX1 drip-proof lampholders | | N/A |

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|-----------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | No damage to the lampholder | | P |
| 14.3 | a) Minimum insulation resistance at 500 V d.c.: between live parts of different polarity (2 MΩ): | | |
| | - with test cap (fig. 10 or 11) | >100MΩ | P |
| | - on the empty lampholder | >100MΩ | P |
| | b) Minimum insulation resistance at 500 V d.c.: Between live parts connected together and external metal parts, fixing screws of the base and of the enclosure, accessible assembling screws and metal foil in contact with the surface of external insulating parts (4 MΩ): | | |
| | - with test cap (fig. 10 or 11) | >100MΩ | P |
| | - on the empty lampholder | >100MΩ | P |
| | c) Minimum insulation resistance at 500 V d.c.: between accessible metal parts and metal foil on the inside of insulating lining, if any (4 MΩ) | >100MΩ | P |
| | Electric strength test for 1 min: | | |
| | - between live parts of different polarity (2U + 1000 V) | 1500Vrms | P |
| | - between live parts connected together and external metal parts, fixing screws of the base and of the enclosure, accessible assembling screws and metal foil in contact with the surface of external insulating parts (2U + 1000 V) | 1500Vrms | P |
| | - between accessible metal parts and metal foil on the inside of insulating lining, if any (2U + 1000 V) | 1500Vrms | P |
| | - between live parts and other metal parts in switched lampholders (switch closed and open) (2U + 1000 V) | 1500Vrms | P |
| | No flashover or breakdown occurs | | P |

| | | | |
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| 15 | MECHANICAL STRENGTH (Sample 4, 5 and 6) | | |
| 15.1 | Strength to withstand the stresses of normal operation in service checked by suspending a mass of 5 kg evenly from the bayonet slots for 1 h (Fig. 1) | | P |
| | The lampholder shows no deterioration impairing its further use | | P |
| 15.2 | The mounting in the threaded entry by means of the attachment thread checked by clockwise application of the specified torque for 1 min | | P |

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|-----------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | If a locking device is provided, its efficiency checked after tightening the set screw with an anti-clockwise torque for 1 min as specified in clause 16 | | P |
| | The lampholder shows no deformation or damage impairing its further use | | |
| 15.3 | The mechanical strength of the external parts is checked for the following means of protection: | | |
| | - Domes and union rings removed and replaced 10 times, tightening each time with the specified torque | | P |
| | - Screwed shade rings or equivalent parts tightened 10 times with half the torque specified for domes and union rings | | P |
| | - External protective parts of other means of protection dismantled and assembled 10 times, applying after each assembly a clockwise and an anti-clockwise axial torque, as for domes and union rings, for 5 s | | P |
| | The lampholder shows no change impairing its further use and protecting properties | | P |
| 15.4 | The strength of the connection between dome and threaded entry checked as indicated in fig. 2 | | P |
| | A sag of max. 5 mm measured at the end of the mandrel | | P |
| | Repeated test, if necessary, shows no damage impairing the normal use of the lampholder | | P |
| 15.5 | a) Impact test, 4 blows applied by pendulum apparatus according to IEC 60068-2-75: | | |
| | - ceramic parts (100 mm) | | N/A |
| | - other materials (150 mm) | | N/A |
| | No serious damage | | N/A |
| | Creepage distances and clearances not reduced below values of Cl. 17 | | N/A |
| 15.6 | Pressure test on external metal parts. | | |
| | Pressure according to Table 6 for 1 min | | P |
| | Maximum deformation: | | |
| | - during the test | 0.125mm | P |
| | - after the test | Nil | P |
| 15.7 | Entry spouts and glands tightened with appropriate torque for 1 min | | N/A |

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|------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Glands, spouts and enclosure show no damage | | N/A |
| 15.8 | Backplate lampholder fixed by means of screws to a rigid flat steel sheet. | | |
| | Torque test 1,2 Nm on 4 mm screws | | N/A |
| | Test on lampholder specifically intended for building-in | | N/A |
| | No damage impairing further use | | N/A |
| 16 | SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS (Sample 4, 5 and 6) | | |
| | Screws, current-carrying parts and mechanical connections withstand mechanical stresses | | P |
| | Compliance with Table 7 and subclauses 4.11 and 4.12 of IEC 60598-1 | | P |
| 17 | CREEPAGE DISTANCES AND CLEARANCES (Sample 4, 5 and 6) | | |
| 17.1 | Creepage distances and clearances not less than the values specified in table 8; all distances apply in every position of the plunger. | | P |
| | - Creepage distance | | |
| | Between live parts of different polarity: | | |
| | - insulation with PTI ≥ 600 (mm) | | N/A |
| | - insulation with PTI ≤ 600 (mm) | 8.2mm | P |
| | Between live parts and external metal parts, if not lined with insulating material, including screws of backplate lampholders: | | |
| | - insulation with PTI ≥ 600 (mm) | | N/A |
| | - insulation with PTI ≤ 600 (mm) | >10mm | P |
| | - Clearances | | |
| | Clearances distances in the case of backplate lampholders: | | |
| | - Between live parts and mounting surface (mm) | | N/A |
| | - Between live parts and the boundary of the space for the supply wires (mm) | | N/A |

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|-----------|---|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 18 | GENERAL RESISTANCE TO HEAT (Sample 4, 5 and 6) | | |
| 18.2 | A solid steel test cap inserted into the lampholder in vertical position and the lampholder is placed in a heating cabinet maintained at the specified temperature for 48 h | | N/A |
| | After cooling down, without the test cap, the contact force test repeated in accordance with 12.1 | | N/A |
| | Pull test for connecting leads with 20 N for 1 min according to 10.5 | | N/A |
| 18.3 | The lampholder connected with cables of maximum cross-sectional area according to 10.2 and terminal screws tightened with 2/3 of the torque specified in 16 | | P |
| | After loading the lampholder for 1 h with 1,25 times rated current, the temperature rise of the terminals does not exceed 45 K | Test Current 2.5A Screwless Terminals 29.6/31.8K, 30.8/34.2K, 28.7/32.6K Screw Terminals 16.4/16.9K, 15.2/16.1K, 18.8/19.5K | P |
| | The conductors are not damaged after the test | | P |
| 18.4 | The lampholder with a solid steel test cap inserted placed in a heating cabinet maintained for 168 h at the temperature specified in Table 10 or marked temperature T plus 35 K | | N/A |
| | At the end of the test the sample shows no: | | |
| | - reduction of the protection against electric shock | | N/A |
| | - loosening of electrical contacts | | N/A |
| | - cracks, swelling or shrinking | | N/A |
| | - sealing compound flowing out | | N/A |
| | Shade ring or skirt, if provided, removable and replaceable without damage | | N/A |
| | No deformation impairing safety or further use | | N/A |
| | Compliance checked by the gauges according to Standard Sheets 7006-12C and 12D or 7006-12A and 12B | | N/A |

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|-----------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | The lampholder withstands the mechanical strength tests in accordance with 15.2, 15.3 and 15.5 but the torque reduced to 50 % and the height of fall reduced to 50 mm | | N/A |
| 18.5 | Lampholders marked T1 or T2 provided with an open-ended cylindrical metal shade (Fig. 12) and wired with 0.5 mm ² conductors | T2 120°C | P |
| 18.6 | Prepared test sample subjected to cycling test of 12 or 25 consecutive cycles as specified in Table 11, each cycle consisting of 3 consecutive periods | | P |
| 18.7 | After the test in 18.6, and after having cooled to room temperature, the lampholder is examined to determine the following: | | |
| | a) Lampholder not so deformed as to prevent proper acceptance of corresponding lamp cap with dimensions according to IEC 60061-1 | | P |
| | b) Shade ring or skirt or protective shield removable and replaceable without damage | | P |
| | c) Metal parts attached to insulated parts still held | | P |
| | d) The force required to depress each contact mechanism still satisfactory according to 12.1 | | P |
| | e) Compliance with 14.3 | | P |
| | - Repeated test of 9.3 | | P |
| | - Repeated test of 15.3 | | P |

| | | | |
|-----------|--|-------------|-----|
| 19 | RESISTANCE TO HEAT, FIRE AND TRACKING (Sample 10, 11) | | |
| 19.1 | Ball pressure test on parts retaining contacts at temperature according to 18.4 or, for lampholders marked T1 or T2 at 125 °C | | P |
| | Diameter of impression not exceeding 2 mm (mm)..: | 1.18mmØ | P |
| | Ball-pressure test on external parts, including those with a conductive exterior, at temperature according to 18.4 or, for lampholders marked T1 or T2 at 125 °C | | N/A |
| | Diameter of impression not exceeding 2 mm (mm)..: | | N/A |
| | Not applicable for integral lampholders | | N/A |
| 19.3 | Glow-wire test 650 °C on parts providing protection against electric shock, including those with a conductive exterior | Body Insert | P |

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|------------------|--|----------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Any flame or glowing extinguished within 30 s, and any flaming drops do not ignite tissue paper | | P |
| 19.4 | Needle-flame test 10 s on parts retaining live parts in position | Body Insert | P |
| | Any self-sustaining flame extinguished within 30 s, and any flaming drops do not ignite tissue paper | No ignition | P |
| 19.5 | Tracking test on parts retaining live parts in position of lampholders other than ordinary | Ordinary Lampholders | N/A |
| | Lampholder withstands 50 drops without failure at PTI 175 | | N/A |

| | | | |
|-----------|--|--|---|
| 20 | RESISTANCE TO SEASON CRACKING AND TO RUSTING (Sample 10 and 11) | | |
| 20.1 | Contacts and other parts of copper or copper alloy do not show any cracks after the test in ammonium chloride solution, inspected at 8 x optical magnification | | P |
| 20.2 | No signs of rust after the prescribed test | | P |

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|---|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| ANNEX 3: screw terminals (test made on separate samples) | | | |

| | | | |
|-------------|--|---|-----|
| (14) | SCREW TERMINALS | | |
| (14.2) | Type of terminal | Pillar | — |
| | Rated current (A) | 2A | — |
| (14.3.2.1) | One or more conductors | One | P |
| (14.3.2.2) | Special preparation | | N/A |
| (14.3.2.3) | Terminal size | 2 | P |
| | Cross-sectional area (mm ²) | 1.0mm ² - 2.5mm ² | P |
| (14.3.3) | Conductor space (mm) | 2.2mm | P |
| (14.4) | Mechanical tests | | |
| (14.4.1) | Minimum distance | | P |
| (14.4.2) | Cannot slip out | | P |
| (14.4.3) | Special preparation | | P |
| (14.4.4) | Nominal diameter of thread (metric ISO thread) | 2.91mm | P |
| | External wiring | | N/A |
| | No soft metal | | P |
| (14.4.5) | Corrosion | | P |
| (14.4.6) | Nominal diameter of thread (mm) | 2.91mm | P |
| | Torque (Nm) | 0.5Nm | P |
| (14.4.7) | Between metal surfaces | | P |
| | Lug terminal | | N/A |
| | Mantle terminal | | N/A |
| | Pull test; pull (N) | 50Nm | P |
| (14.4.8) | Without undue damage | | P |

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|---|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| ANNEX:4 screwless terminals (test made on separate samples) | | | |

| | | | | | | | | |
|-------------|--|---------------------------|-----|-----|-----|-----|-----|---|
| (15) | SCREWLESS TERMINALS | | | | | | | |
| (15.2) | Type of terminal | Spring Permanent | | | | | — | |
| | Rated current (A) | 2A | | | | | — | |
| (15.3.1) | Material | | | | | | P | |
| (15.3.2) | Clamping | Spring Clamping | | | | | P | |
| (15.3.3) | Stop | Part of the terminal | | | | | P | |
| (15.3.4) | Unprepared conductors | Consolidated | | | | | P | |
| (15.3.5) | Pressure on insulating material | | | | | | P | |
| (15.3.6) | Clear connection method | | | | | | P | |
| (15.3.7) | Clamping independently | Single conductor | | | | | P | |
| (15.3.8) | Fixed in position | In body insert moulding | | | | | P | |
| (15.3.10) | Conductor size | 0.75 – 1.0mm ² | | | | | P | |
| | Type of conductor | Solid | | | | | P | |
| (15.5.1) | Terminals internal wiring | | | | | | | |
| (15.5.1.1) | Pull test spring-type terminals (4 N, 4 samples) | | | | | | N/A | |
| (15.5.1.2) | Pull test pin or tab terminals (4 N, 4 samples) | | | | | | N/A | |
| | Insertion force not exceeding 50 N | | | | | | N/A | |
| (15.5.2) | Permanent connections: pull-off test (20 N) | | | | | | P | |
| (15.6) | Electrical tests | | | | | | | |
| | Voltage drop (mV) after 1 h (4 samples) | 3.2 | 3.0 | 3.1 | 2.9 | 2.9 | 3.3 | P |
| | Voltage drop of two inseparable joints | | | | | | N/A | |
| | Number of cycles | 10/25 | | | | | — | |
| | Voltage drop (mV) after 10th | 3.5 | 3.3 | 3.4 | 3.1 | 3.2 | 3.6 | P |
| | Voltage drop (mV) after 25th | 3.7 | 3.4 | 3.6 | 3.3 | 3.6 | 3.8 | P |
| | After ageing, voltage drop (mV) after 10th | | | | | | N/A | |
| | After ageing, voltage drop (mV) after 25th | | | | | | N/A | |

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|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|---------|
| Clause | Requirement + Test | | | | | | | | | | Result - Remark | Verdict |
| | After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) | | | | | | | | | | | N/A |
| (15.7) | Terminals external wiring | | | | | | | | | | | N/A |
| | Terminal size and rating | | | | | | | | | | | N/A |
| (15.8.1) | Pull test spring-type terminals or welded connections (4 samples); pull (N) | | | | | | | | | | | N/A |
| | Pull test pin or tab terminals (4 samples); pull (N) | | | | | | | | | | | N/A |
| (15.9) | Contact resistance test | | | | | | | | | | | |
| | Voltage drop (mV) after 1 h | | | | | | | | | | | |
| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| voltage drop (mV) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | Voltage drop of two inseparable joints | | | | | | | | | | | N/A |
| | Voltage drop after 10th alt. 25th cycle | | | | | | | | | | | |
| | Max. allowed voltage drop (mV) | | | | | | | | | | | — |
| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| voltage drop (mV) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | Voltage drop after 50th alt. 100th cycle | | | | | | | | | | | |
| | Max. allowed voltage drop (mV) | | | | | | | | | | | — |
| terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| voltage drop (mV) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | Continued ageing: voltage drop after 10th alt. 25th cycle | | | | | | | | | | | |
| | Max. allowed voltage drop (mV) | | | | | | | | | | | — |
| terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| voltage drop (mV) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | Continued ageing: voltage drop after 50th alt. 100th cycle | | | | | | | | | | | |
| | Max. allowed voltage drop (mV) | | | | | | | | | | | — |
| terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| voltage drop (mV) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

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|-----------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

Attachment 1 : Australian and New Zealand national differences

| AS / NZS 61184 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| (20) | RESISTANCE TO HEAT, FIRE AND TRACKING | | |
|----------|---|---|-----|
| (19.1) | Ball pressure test on parts retaining contacts at temperature according to 19.4 or 125°C for E5 and E10 (not applicable to integral lampholders) Sample 7 | | |
| | Diameter of impression not exceeding 2mm Sample 7 | 1.18mmØ | P |
| | Ball pressure test on external parts, including those with a conductive exterior at temperature according to 19.4 (no test for E5 or E10) Sample 7 | Metal Barrel | N/A |
| | Diameter of impression not exceeding 2mm Sample 7 | | N/A |
| | Not applicable on integral lampholders | | N/A |
| (19.2.1) | External Parts of insulating material | | N/A |
| (19.2.2) | Glow wire test 750°C on parts providing protection against electric shock, including those with a conductive exterior and parts of insulating material retaining ELV parts in position (Sample 8) | | P |
| | Any flame or glowing extinguished within 30 s and any flaming drops do not ignite tissue paper (Sample 8) | Extinguished immediately on removal of of the heat source | P |
| (19.2.3) | No flame | | N/A |
| | Any flame or glowing extinguished within 30 s and any flaming drops do not ignite tissue paper (Sample 8) | Extinguished immediately on removal of of the heat source | P |
| (19.3) | Tracking test on parts retaining live parts or ELV parts in position of drip proof lampholders (Sample 9) | Ordinary Lampholder | N/A |
| | Lampholder withstands 50 drops without failure at PT1175 (Sample 9) | | N/A |