

METAL KALIP SANAYİ VE TİCARET A.Ş. TEST REPORT

REPORT NUMBER

202200889IST-001

ISSUE DATE

06-02-2023

TOTAL NUMBER OF PAGES

80

PROJECT NUMBER

IST22Q.0699.00

NAME OF TESTING LABORATORY PREPARING THE REPORT

INTERTEK TEST HİZMETLERİ A.Ş. ELECTRIC LABORATORY



© 2023 INTERTEK

TEST RAPORU**/TESTING REPORT**

| | |
|--|---|
| Proje No: /Project Number | IST22Q.0699.00 |
| Firma İsmi: /Company Name | METAL KALIP SANAYİ VE TİCARET A.Ş. |
| Firma Adresi: /Company Address | Osmangazi Mahallesi Fevzi Çakmak Caddesi No: 31 Esenyurt / Kiraç – İSTANBUL/ TÜRKİYE |
| Kontak Kişi & Pozisyonu: /Contact & Position | Vedat ÇELİK & Quality Manager |

Deney laboratuvarı olarak faaliyet gösteren Intertek Test Hizmetleri A.Ş. TÜRKAK'tan AB-0823-T ile yukarıda belirtilen standartlara göre akredite edilmiştir.

Intertek Test Hizmetleri AS was accredited by TÜRKAK under registration number AB-0823-T for standards specified above as test laboratory"

Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.

Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metotları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda belirtilmiştir.

The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

Aksi talep edilmediği sürece Intertek Türkiye Elektrik Laboratuvarı paylaşılan risk karar kuralını uygulamaktadır.

The Intertek Turkey Electrical Laboratory applies the shared risk decision rule unless otherwise requested.

Sonuçlar, yaklaşık %95'lik bir güven düzeyi veren 2 kapsama faktörü k kullanılarak hesaplanan genişletilmiş bir belirsizlikle rapor edilir.

The results are reported with an expanded uncertainty calculated using a coverage factor k of 2 which gives a level of confidence of approximately 95%.

Bu rapor laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz, üçüncü şahıslarla paylaşılamaz ve reklam aracı olarak kullanılamaz.

This report cannot be partially copied and reproduced, shared with third parties and used as an advertising tool without the written permission of the laboratory.

İmzasız raporlar geçersizdir.

Testing reports without signature are not valid.

Numune müşteri tarafından sağlanmıştır ve raporda verilen ölçüm sonuçları sadece test edilen numune için geçerlidir.

Sample has been provided by the customer and measurement results are only valid for the appliance which are tested.

Bu test raporunda (*) ile işaretlenen testler , bu laboratuvarın TÜRKAK akreditasyon kapsamında yer almamaktadır.

Tests marked with () in this test report are not within the scope of TÜRKAK accreditation of this laboratory*

| | |
|--|---|
| TEST REPORT IEC 60884-2-5 Plugs and socket-outlets for household and similar purposes Part 2: Particular requirements for adaptors | |
| Report Number.: | 202200889IST-001 |
| Date of issue | 06.02.2023 |
| Total number of pages.....: | 80 |
| Name of Testing Laboratory preparing the Report.....: | Intertek Test Hizmetleri A.S. Electrical Laboratory |
| Applicant's name.....: | METAL KALIP SANAYİ VE TİCARET A.Ş. |
| Address | Osmangazi Mahallesi Fevzi Çakmak Caddesi No: 31 Esenyurt / Kiraç – İSTANBUL/ TÜRKİYE |
| Test specification: | |
| Standard | IEC 60884-2-5:2017 for use in conjunction with IEC 60884-1:2002, IEC 60884-1:2002/AMD1:2006, IEC 60884-1:2002/AMD2:2013 |
| Test procedure | LVD Scheme |
| Non-standard test method | N/A |
| TRF template used | IECEE OD-2020-F1:2021, Ed.1.4 |
| Test Report Form No.....: | IEC60884_2_5F |
| Test Report Form(s) Originator: | IMQ S.p.A. |
| Master TRF | Dated 2022-06-21 |
| Copyright © 2022 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02. | |
| General disclaimer: 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 NCB. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report. | |



AB-0823-T

202200889IST-001

02-23

Report No. 202200889IST-001

| | |
|--------------------------------------|--|
| Test item description : | Surge Protected Plug-Socket With Two USB and Surge Protected Plug-Socket |
| Trade Mark : | NILSON, INTUM, SLINK, KOÇTAŞ BASIC |
| Manufacturer | METAL KALIP SANAYİ VE TİCARET A.Ş. |
| Model/Type reference | NILSON: 40130105,40130106,40130107,40130108,40130195, 40130196, 40130197, 40130198 INTUM: 40130191,40130192 SLINK: 40130193,40130194 KOÇTAŞ BASIC: 90130105,90130106,90130107,90130108 |
| Ratings | 16A, 250 V~, 2P+E, Class I, IP4X |

| | | |
|---|--|--|
| Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): | | |
| <input checked="" type="checkbox"/> | CB Testing Laboratory: | Intertek Test Hizmetleri A.S. Electrical Laboratory |
| Testing location/ address.....: | | Merkez Mahallesi Sanayi Caddesi No:23 Altındağ Plaza 34197 Yenibosna-Istanbul/TÜRKİYE |
| Tested by (name, function, signature).....: | | Ahmet Samed YORULMAZ Project Engineer |
| Approved by (name, function, signature)....: | | Yusuf İdris MERAL Team Leader |
| | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 1: | |
| Testing location/ address.....: | | |
| Tested by (name, function, signature).....: | | |
| Approved by (name, function, signature)....: | | |
| | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 2: | |
| Testing location/ address.....: | | |
| Tested by (name + signature) | | |
| Witnessed by (name, function, signature) .: | | |
| Approved by (name, function, signature)....: | | |
| | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 3: | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 4: | |
| Testing location/ address.....: | | |
| Tested by (name, function, signature).....: | | |
| Witnessed by (name, function, signature) .: | | |
| Approved by (name, function, signature)....: | | |
| Supervised by (name, function, signature) : | | |
| | | |

Report No. 202200889IST-001

| | |
|--|---|
| List of Attachments (including a total number of pages in each attachment): -Photos (4 pages) | |
| Summary of testing: The EUT is in compliance with the requirements of the applied standards within this test report. | |
| Tests performed (name of test and test clause): IEC 60884-2-5:2017 IEC 60884-1:2002, IEC 60884-1:2002/AMD1:2006, IEC 60884-1:2002/AMD2:2013 All clauses applied as applicable; See tables at the end of this report for the tests results: Cl.12, Cl.14, Cl.17, Cl.19, Cl.20, Cl.21, Cl.22, Cl.25, Cl.26, Cl.27, Cl.28 40130106 and 40130105 were tested completely. | Testing location: Intertek Test Hizmetleri A.Ş. Electrical Laboratory Merkez Mahallesi Sanayi Caddesi No:23 Altındağ Plaza 34197 Yenibosna-Istanbul/TÜRKİYE |
| Summary of compliance with National Differences (List of countries addressed): N/A | |

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☐ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☒ Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

LMS-EMEA-TR-QC-12, 06.09.2019, Elektrik Laboratuvarı Metot Doğrulama/Verifikasyonu Belirsizlik Hesaplama Prosedürü

LMS-EMEA-TR-FM-16, 05.08.2019, Elektrik Laboratuvarı Metrolojik İzlenebilirlik Prosedürü

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



| | |
|---|--|
| Test item particulars | Surge Protected Plug-Socket With Two USB and Surge Protected Plug-Socket' |
| Classification of installation and use | Class I portable appliance for household use |
| Supply Connection | N/A |
| 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 | 09.08.2022-08.11.2022 |
| Test item receipt number | S22.749, S22.750, S22.751, S22.752, S22.753, S22.754, S22.755, S22.756, S22.757, S22.758, S22.759, S22.760, S22.1006, S22.1177 |
| Test item serial number | 8697480291718, 8697480291701 |
| Date (s) of performance of tests | 16.08.2022- 21.10.2022 |
| General remarks: | |
| "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. | |
| Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator. | |
| Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1: | |
| The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable Not for a CB certificate. |
| When differences exist; they shall be identified in the General product information section. | |
| Name and address of factory (ies) : METAL KALIP SANAYİ VE TİCARET A.Ş. Osmangazi Mh. Fevzi Çakmak Cd. No: 31 34522 Esenyurt / Kırşehir – İSTANBUL | |

General product information and other remarks:

The tested appliance is Class I portable Adaptor with two USB input appliance for household use. It has 2 models, with USB and without USB. USB output is 5V 2A. It is a current protected device and there is a thermal cut-out.

The product has IP4X protection but no water protection. There is supply cord in the product.

There is no technical difference between the models.

Electrical ratings;

250V, 16A, 3500W, 2P+E, IP4X

| Brand | Model |
|--------------|---|
| NILSON | 40130105,40130106,40130107,40130108, 40130195,40130196,40130197,40130198 |
| INTUM | 40130191,40130192 |
| SLINK | 40130193,40130194 |
| KOÇTAŞ BASIC | 90130105,90130106,90130107,90130108 |






General view of the appliances

Test item particulars:**Standard Sheet** : IEC 60884-2-5**Rated current (A) and/or power (W)** : 16A / 3500W**Rated voltage (V)** : 250V**Degree of protection of enclosures (IP Code)**..... : ☐ IP2X / ☐ IPX4 / ☐ IPX5 / ☒ **IP4X and IPX0****Provision for earthing** : ☐ without earthing contact / ☒ with earthing contact**Method of connecting the cable** : ☒ rewirable intermediate adaptor /
☐ non-rewirable intermediate adaptor**Type of cable** : N/A**Nominal cross-sectional areas (mm²)** : N/A**Type of terminals** : ☒ screw-type / ☐ screwless (rigid) / ☐ screwless (rigid and flexible)**Type of connections** : ☒ soldered / ☐ welded / ☐ crimped / ☒ other**Socket-outlets:****Degree of protection against electric shock** : ☐ normal protection / ☒ increased protection**Existence of enclosures** : ☐ unenclosed / ☒ enclosed**Existence of shutters** : ☐ without shutters / ☒ with shutters**Method of application / mounting of the socket-outlet** : ☐ surface-type / ☐ flush-type / ☐ semi-flush-type /
☐ panel type / ☐ architrave-type / ☒ portable-type /
☐ table-type (single / multiple) / ☐ floor recessed type / ☐ appliance type**Method of installation** : ☐ design A / ☐ design B**Plugs:****Class of equipment** : ☐ 0 / ☒ I / ☐ II**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)**General remarks:**

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--|---|----------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 8 | MARKING | | |
| 8.1 | Accessories marked with: | | P |
| | <i>Replacement of the first dashed item:</i> | | — |
| | - rated current (A) or rated power (W) or both..... : | 16A, 3500W | P |
| | - rated voltage (V) | 250V | P |
| | - symbol for nature of supply | ~ | P |
| | - manufacturer's or responsible vendor's name | NILSON, INTUM, SLINK, KOÇTAŞ BASIC | P |
| | - type reference | NILSON: 40130105,40130106, 40130107,40130108,40130195, 40130196, 40130197, 40130198 INTUM: 40130191,40130192 SLINK: 40130193,40130194 KOÇTAŞ BASIC: 90130105,90130106, 90130107,90130108 | P |
| | - first digit for the degree of protection IP | IP4X | P |
| | - second digit for the degree of protection IP | IPX0 | P |
| | Socket-outlets with screwless terminals marked with: | | — |
| | - the length of insulation to be removed | | N/A |
| | - an indication of the suitability to accept rigid conductors only (if any) | | N/A |
| | <i>Addition:</i> | | — |
| | The marking for the rated power, if any, shall be completed by the word MAX. | | P |
| | The rated power and/or rated current marking shall be easily discernible until the last plug is connected. | | P |
| | Fused adaptors shall be marked to indicate the presence of a fuse within the adaptor and this marking may be in the form of a symbol. | | N/A |
| | Fused adaptors shall be marked with the rated current and type of fuse on the fuse-holder or in the proximity of the fuse. | | N/A |
| | An instruction, which may be a symbol or a sentence, warning against inserting an adaptor into another adaptor shall be provide by the | | P |

| IEC 60884-2-5 | | | |
|---------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | manufacturer on: - the adaptor or - the smallest package or - the instruction sheet. | | |
| 8.2 | When using symbols, they must be as follows: A ; V ; ~ ; N ;  ; IPXX ; r ; W ;  |  | P |
| | Marking of rated current and voltage only with figures: may be used. | | P |
| | Marking for the nature of supply placed next to the marking for rated current and rated voltage. | | P |
| 8.3 | — | | — |
| 8.4 | — | | — |
| 8.5 | — | | — |
| 8.6 | — | | — |
| 8.7 | Marking durable and easily legible. Test: 15 s with water and 15 s with petroleum spirit | Written with laser | N/A |
| 8.8 | — | | — |
| 9 | CHECKING OF DIMENSIONS | | |
| 9.1 | Accessories and surface-type mounting boxes shall comply with the appropriate standard sheets and corresponding gauges, if any | See Annex | P |
| | Insertion of plugs into fixed or portable socket-outlets shall be ensured by their compliance with the relevant standard sheets | | P |
| | Compliance checked by insertions, withdrawals, measurement and by means of gauges with manufacturing tolerances as shown in table 2 | See Annex | P |
| 9.2 | It is not possible to engage a plug with: | | — |
| | - a socket-outlet having a higher voltage rating or a lower current rating; | | P |
| | - a socket-outlet with a different number of live poles (exception admitted provided that no dangerous situation can arise); | | P |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - a socket-outlet with earthing contact, if the existing plug of the present national system is a plug for class 0 equipment; | | N/A |
| | Engagement of an existing plugs on the present national system for equipment of class 0 or of class I with a socket-outlet exclusively designed to accept plugs for class II equipment, not possible | | N/A |
| | Impossibility of insertion checked by applying a gauge, for 1 min, with a force of: | | — |
| | - 150 N (rated current $\leq 16A$); | | P |
| | - 250 N (rated current $> 16A$) | | N/A |
| | Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ C$ | | P |
| 9.3 | Deviations from standard sheets made only if they provide technical advantage and do not affect the purpose and safety of accessories complying with standard sheet. | | P |

| | | | |
|-------------|--|--|---|
| 10 | PROTECTION AGAINST ELECTRIC SHOCK | | |
| 10.1 | Fixed / portable socket-outlets and plugs when engaged shall be so designed that live parts are not accessible | | P |
| | <i>This clause of Part 1 is applicable except:</i> | | — |
| | <i>Replacement of the second and the fifth paragraphs:</i> | | — |
| | Live parts shall not be accessible when the plug part of an adaptor is in partial or complete engagement with a socket-outlet of the same system | | P |
| | Test with the standard test finger, test probe B of IEC 61032, in every possible position | | P |
| | Accessories with elastomeric or thermoplastic material: additional test carried out at $35 ^\circ C \pm 2 ^\circ C$ with a straight unjointed test finger, test probe 11 of IEC 61032 (75 N for 1 min) | | P |
| | During the test: accessories shall not deform, and no live parts shall be accessible | | P |
| | Plugs and portable socket-outlets pressed with a force of 150 N for 5 min as shown in figure 8: specimens shall not show deformation | | P |
| 10.2 | Accessible parts in normal use (with exception of small screws and the like, isolated from live parts, for fixing main parts): shall be made of insulating material | | P |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | However, they may be made of metal if the requirements of 10.2.1 or 10.2.2 are fulfilled | | P |
| 10.2.1 | Accessible metal parts are protected by supplementary insulation made by insulating linings or insulating barriers | | N/A |
| | Insulating linings or insulating barriers cannot be removed without being permanently damaged | | N/A |
| | Insulating linings or insulating barriers cannot be replaced in an incorrect position and, if they are omitted, accessories are rendered inoperable or manifestly incomplete | | N/A |
| | There is no risk of accidental contact between live parts and accessible metal parts | | N/A |
| 10.2.2 | Accessible metal parts are reliably connected, through a low-resistance connection, to the earth during fixing | | P |
| | Compliance is checked by inspection and by the tests of 11.5 | | P |
| 10.3 | It shall not be possible to make contact between a pin of a plug and a live socket-contact of an adaptor or between a pin of an adaptor and a live socket contact of a socket-outlet, of the same system, while any other current-carrying pin is accessible | | P |
| | Compliance is checked by manual test / gauges (tolerances as specified in table 2) | | P |
| | Accessories of elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C | | P |
| | Socket-outlets of rubber or polyvinyl chloride: test carried out with a force of 75 N for 1 min | | P |
| 10.4 | External parts of plugs shall be of insulating material (exception for parts fulfilling the requirements of 10.2.1 or 10.2.2 of IEC 60884-1:2002 + AMD1:2006 + AMD2:2013) | | N/A |
| | Compliance is checked by inspection and by tests of 10.2.1 or 10.2.2 | | N/A |
| 10.5 | <i>Replace the first paragraph by:</i> | | — |
| | Shuttered socket-outlets parts of adaptors: live parts are not accessible, without a plug in engagement, when checked with the gauges shown in figures 9 and 10 | | P |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | The gauges shall be applied to the entry holes corresponding to live contacts only and shall not touch live parts | | P |
| | Live contacts are automatically screened when the plug is withdrawn | | P |
| | Shutters shall be so designed that a plug is inserted with the same movement in a socket-outlet with shutters as in a socket-outlet without shutters | | P |
| | Means cannot easily be operated by anything other than a plug and shall not depend upon parts which are liable to be lost | | P |
| | Compliance is checked by inspection and by the above gauges | | P |
| | The gauge of fig. 9 is applied to the shutters with a force of 20 N, in the most unfavourable position, successively in three directions, to the same place for 5 s in each of three directions. | | P |
| | During each application it shall not be rotated, and it shall be applied in such a way that the force is maintained. When moving the gauge from one direction to the next, no force is applied but the gauge shall not be withdrawn. | | P |
| | The gauge of fig. 10 is applied with a force of 1 N in three directions for 5 s in each direction, with independent movements, withdrawing the gauge after each movement. | | P |
| | Accessories with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C | | P |
| 10.6 | Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug | | P |
| | Test plug is inserted into the socket-outlet with a force of 150 N for 1 min | | — |
| | After this test: socket-outlet shall still comply with the requirements of clause 9 | | P |
| 10.7 | <i>Replace the first two paragraphs by:</i> | | — |
| | Socket-outlet with or without lid, classified according to 7.2.1 b), increased protection: live parts shall not be accessible with a test wire Ø 1 mm (fig. 10). | | P |

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | The test wire is applied with a force of 1 N on all accessible surfaces, in the most unfavourable conditions, without a plug inserted, with the lid, if any, open. | | P |
| | Accessories with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C | | P |
| 10.101 | Removal of the fuse and / or fuse carrier shall not result in live parts becoming accessible when the adaptor is in full engagement with a socket-outlet | | P |
| | Compliance is checked, in case of doubt, by applying the test probe 13 (IEC 61032), 5 N max | | P |
| | For pins with thermoplastic material bodies, the test is performed at an ambient temperature of (35 ± 2) °C, keeping both pins and gauge at this temperature. | | P |
| | The gauge shall not touch live parts. | | P |

| | | | |
|-------------|--|--|-----|
| 11 | PROVISION FOR EARTHING | | |
| 11.1 | Earth connection is made before the current-carrying contacts of the plug become live | | P |
| | Current-carrying pins shall separate before the earth connection is broken | | P |
| 11.2 | Earthing terminals of rewirable accessories comply with clause 12 | | N/A |
| | They shall be of the same size as the corresponding terminals for the supply conductors | | N/A |
| | Earthing terminals of rewirable accessories: internal | | N/A |
| | Earthing terminals of fixed socket-outlets: | | — |
| | - fixed to the base, or | | N/A |
| | - to a part reliably fixed to the base | | N/A |
| | Earthing contacts of fixed socket-outlets: | | — |
| | - fixed to the base, or | | N/A |
| | - fixed to the cover (automatically and reliably connected to the earthing terminal when the cover is put in place; contact pieces being silver-plated or having a protection not less resistant). | | N/A |
| | This connection shall be ensured under all conditions | | P |
| | Except as mentioned above, parts of the earthing circuit shall be in one piece or reliably connected together by riveting, welding, or the like | | P |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 11.3 | Accessible metal parts of fixed socket-outlets: permanently and reliably connected to the earthing terminal | | N/A |
| 11.4 | Socket-outlets, having an IP>X0, with enclosure of insulating material, having more than one cable inlet, provided with: | | N/A |
| | - an internal fixed earthing terminal, or | | N/A |
| | - adequate space for a floating terminal (test connection using the type of terminal specified by the manufacturer), unless | | N/A |
| | - earthing terminal of socket-outlet itself allows the connection of an incoming and an outgoing earthing conductor | | N/A |
| 11.5 | Connection between earthing terminal and accessible metal parts shall be of low resistance | | P |
| | Test current equal to 1,5 times the rated current or 25 A (A): 25A | | — |
| | In no case shall the resistance exceed 0,05 Ω (Ω) ... : 0.021 Ω | | P |
| 11.6 | Fixed socket-outlets according to item b) of 7.2.5, shall have the earthing socket contact and its terminal electrically separated from any metal mounting means or other exposed conductive parts which may be connected to the protective earthing circuit of the installation | | N/A |

| | | |
|--------|--|-----|
| 12 | TERMINALS | |
| 12.1 | General | — |
| | All the test on terminals, with the exception of the test of 12.3 11 and 12.3.12, shall be made after the test of clause 16 | — |
| | <i>Replacement of the second paragraph:</i> | — |
| 12.1.1 | Adaptors with a cable outlet and rewirable intermediate adaptors shall be provided with terminals with screw clamping. | N/A |
| | Pre-soldered flexible conductors used: pre-soldered area outside the clamp area of screw-type terminals | N/A |
| | Clamping means of terminals: not serve to fix any other components | N/A |
| 12.1.2 | Non-rewirable accessories shall be provided with soldered, welded, crimped or equally effective permanent connections : | N/A |
| | Screwed or snap-on connections shall not be used | N/A |
| | Connections made by crimping a pre-soldered flexible conductor are not permitted unless... | N/A |

| IEC 60884-2-5 | | | |
|---------------|---|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 12.2 | Terminals with screw clamping for external copper conductors | | — |
| 12.2.1 | Accessories shall be provided with terminals which shall allow the proper connection of copper conductors, as shown in table 3 | | P |
| | Rated current (A); Type of accessories | 16A | — |
| | Type of conductor (rigid / flexible) | Flexible | — |
| | Smallest / largest cross-sectional area (mm ²) | From 1 up to 1.5 mm ² | — |
| | Diameter of the largest conductor (mm) | 1.73mm | — |
| | Figure of terminal | 2 | — |
| | Minimum diameter D (minimum dimensions) of conductor space: required (mm); measured (mm) : | 1.7mm;1.83mm | P |
| 12.2.2 | Terminals shall allow the conductor to be connected without special preparation | | P |
| 12.2.3 | Terminals have adequate mechanical strength | | P |
| | Screws and nut for clamping the conductors shall have metric ISO thread or a comparable thread | | P |
| | Screws shall not be of soft metal such as zinc or aluminium | | P |
| 12.2.4 | Terminals shall be resistant to corrosion | | P |
| 12.2.5 | Screw-type terminals clamp the conductor(s) without undue damage | | P |
| | Test with apparatus shown in figure 32: | | — |
| | - type of conductors | rigid solid / rigid stranded / flexible | — |
| | - number of conductors | 3 | — |
| | - smallest cross-sectional area (mm ²) (table 3); diameter of bushing hole (mm); height H (mm); mass (kg) | 0.75mm ² ;6.5mm:260mm:0.4kg | P |
| | - largest cross-sectional area (mm ²) (table 3); diameter of bushing hole (mm); height H (mm); mass (kg) | 1.5mm ² ;6.5mm:260mm:0.4kg | P |
| | - nominal diameter of thread (mm); torque according to table 6 (Nm) | 0.8Nm | — |
| | During the test: conductor shall neither slip out of the clamping unit, nor break near clamping unit, nor shall be damaged | | P |
| 12.2.6 | Terminals clamp the conductor reliably between metal surfaces | | P |

| IEC 60884-2-5 | | | |
|----------------|---|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Pull test (1 min): | | — |
| | - type of conductors | rigid solid / rigid stranded / flexible | — |
| | - number of conductors | 3 | — |
| | - smallest cross-sectional area (mm ²) (table 3); pull (N) | 0.75mm ² ;40N | P |
| | - largest cross-sectional area (mm ²) (table 3); pull (N) | 1.5mm ² ;40N | P |
| | - torque (Nm) (2/3 table 6) | 0.53Nm | — |
| | During the test: conductor shall not move noticeably | | P |
| 12.2.7 | Terminals shall be so designed or placed that the conductor cannot slip out while the clamping screws or nuts are tightened | | P |
| | - largest cross-sectional area (mm ²) (table 3) | 1.5mm ² | — |
| | - number of wires and nominal diameter of wires (table 5): | | P |
| | fixed socket-outlets: rigid solid conductors / rigid stranded conductors | <input type="checkbox"/> 1 x / <input type="checkbox"/> 7 x | — |
| | plugs and portable socket-outlets: flexible conductors | 1.5mm ² | — |
| | - terminals intended for looping-in 2 or 3 conductors: permissible number of conductors..... | 3 | — |
| | - torque (Nm) (2/3 table 6) | 0.53Nm | — |
| | After the test: no wire of the conductor escaped outside the clamping unit | | P |
| 12.2.8 | Terminals shall not work loose from their fixing to accessories | | |
| | Torque test: | | — |
| | - rigid solid copper conductor of the largest cross-sectional area (mm ²) (table 3) is placed in the terminal | - | — |
| | Screws and nuts tightened and loosened 5 times. Torque (Nm) (table 6 or appropriate figures 2, 3, 4). During the test: terminals shall not work loose and shall be not damage | | N/A |
| 12.2.9 | Clamping screws or nuts of earthing terminals shall be adequately locked against accidental loosening, and it shall not be possible to loosen them without the aid of a tool | | P |
| 12.2.10 | Earthing terminals: no risk of corrosion | | P |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Body of brass or other metal no less resistant to corrosion | | P |
| | If the body is a part of a frame or enclosure of aluminium alloy, precautions shall be taken to avoid the risk of corrosion | | P |
| 12.2.11 | Pillar terminals: distance g shall no less than the value specified in figure 34 2: required (mm); measured (mm) | 1.7mm | P |
| | Mantle terminals: distance g shall no less than the value specified in figure 37 5: required (mm); measured (mm) | | N/A |
| 12.3 | Screwless terminals for external copper conductors | | — |
| 12.3.1 | Screwless terminals of the type suitable for: | | — |
| | - for rigid copper conductors only, or | | |
| | - for both rigid and flexible copper conductors (tests carried out with rigid and then repeated with flexible conductors) | | N/A |
| 12.3.2 | Screwless terminals shall be provided with two clamping units each allowing the proper connection of rigid or of rigid and flexible conductors having nominal cross-sectional areas from 1,5 up to 2,5 mm² (table 7) | | N/A |
| | Two conductors to be connected: each conductor shall be introduced in a separate independent clamping unit | | N/A |
| 12.3.3 | Screwless terminals shall allow the conductor to be connected without special preparation | | N/A |
| 12.3.4 | Parts of screwless terminals intended to carry current shall be of materials as specified in 26.5 | | N/A |
| 12.3.5 | Screwless terminals shall clamp the specified conductors with sufficient contact pressure and without undue damage to the conductor | | N/A |
| | Conductor shall be clamped between metal surfaces | | N/A |
| 12.3.6 | It shall be clear how the connection and disconnection of the conductors is to be made | | N/A |
| | Disconnection of a conductor shall require an operation, other than a pull, so that can be made manually with or without a general-purpose tool | | N/A |
| | It shall not be possible to confuse the opening intended for the use of a tool to assist the connection or disconnection with the opening | | N/A |

| IEC 60884-2-5 | | | |
|----------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | intended for the conductor | | |
| 12.3.7 | Screwless terminals intended for the interconnection of two or more conductors: | | — |
| | - during insertion, operation of clamping means of one of the conductors is independent of operation of that for the other conductor(s); | | N/A |
| | - during disconnection, conductors can be disconnected either at the same time or separately; | | N/A |
| | - each conductor introduced in a separate clamping unit. | | N/A |
| | It shall be possible clamp securely any number of conductors up to the maximum as designed. Number of conductors; Nominal cross-sectional area (mm ²) : | | N/A |
| 12.3.8 | Screwless terminals of fixed socket-outlets: adequate insertion obvious and over-insertion prevented | | N/A |
| 12.3.9 | Screwless terminals properly fixed to the socket-outlets | | N/A |
| | They shall not work loose when conductors are connected or disconnected | | N/A |
| | Self-hardening resins used to fix terminals not subject to mechanical stress | | N/A |
| 12.3.10 | Screwless terminals shall withstand mechanical stresses occurring in normal use | | N/A |
| | Test: | | — |
| | Connection / disconnection 5 times: rigid solid conductor 2,5 mm ² | | N/A |
| | Connection / disconnection 5 times: rigid solid conductor 1,5 mm ² | | N/A |
| | Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull, the conductor shall not come out of the terminal | | N/A |
| | Connection / disconnection 1 time: rigid stranded conductor 2,5 mm ² | | N/A |
| | Connection / disconnection 1 time: rigid stranded conductor 1,5 mm ² | | N/A |
| | Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull, the conductor shall not come out of the terminal | | N/A |

| IEC 60884-2-5 | | | | | | | |
|---------------|---|---|---|---|---|---|---------|
| Clause | Requirement + Test | Result - Remark | | | | | Verdict |
| | Additional test on terminals intended for both rigid and flexible conductors: | | | | | | — |
| | Connection / disconnection 5 times: flexible conductor 2,5 mm ² | | | | | | N/A |
| | Connection / disconnection 5 times: flexible conductor 1,5 mm ² | | | | | | N/A |
| | Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull, the conductor shall not come out of the terminal | | | | | | N/A |
| | Additional test with apparatus shown in figure 11: | | | | | | — |
| | - type of conductors | rigid solid / rigid stranded / flexible | | | | | — |
| | - number of conductors | | | | | | — |
| | - 1,5 mm ² ; diameter of bushing hole 6,5 mm; height H 260 mm; mass 0,4 kg | | | | | | N/A |
| | - 2,5 mm ² ; diameter of bushing hole 9,5 mm; height H 280 mm; mass 0,7 kg | | | | | | N/A |
| | During the test: conductors shall not move noticeably in the clamping unit | | | | | | N/A |
| | After these tests: neither terminals nor clamping means shall have worked loose and conductors shall show no deterioration | | | | | | N/A |
| 12.3.11 | Screwless terminals shall withstand electrical and thermal stresses occurring in normal use | | | | | | N/A |
| | Test a) carried out for 1 h connecting rigid solid conductors: | | | | | | N/A |
| | - test current (A) (table 10) | | | | | | — |
| | - nominal cross-sectional area (mm ²) | | | | | | — |
| | - screwless terminal number | 1 | 2 | 3 | 4 | 5 | — |
| | - voltage drop measured (mV) (requirement: ≤ 15 mV) | | | | | | N/A |
| | Test b) (temperature cycles test) carried out on terminals subjected to Test a): | | | | | | N/A |
| | - test current (A) (table 10) | | | | | | — |
| | - cross-sectional area (mm ²) | | | | | | — |
| | - screwless terminal number | 1 | 2 | 3 | 4 | 5 | — |
| | - voltage drop measured after the 24 cycle (requirement: ≤ 22,5 mV) | | | | | | N/A |
| | - voltage drop measured (mV) after 48 th cycle | | | | | | N/A |
| | - voltage drop measured (mV) after 72 nd cycle | | | | | | N/A |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | | | | |
|---------------|---|---|--|--|--|---------|
| Clause | Requirement + Test | Result - Remark | | | | Verdict |
| | - voltage drop measured (mV) after 96 th cycle | | | | | N/A |
| | - voltage drop measured (mV) after 120 th cycle | | | | | N/A |
| | - voltage drop measured (mV) after 144 th cycle | | | | | N/A |
| | - voltage drop measured (mV) after 168 th cycle | | | | | N/A |
| | - voltage drop measured (mV) after 192 nd cycle ... | | | | | N/A |
| | - requirement: ≤ 22,5 mV or 2 times 24 th cycle value (mV) | | | | | N/A |
| | After this test: inspection shall show no changes | | | | | N/A |
| | Mechanical strength test according 12.3.10: | | | | | N/A |
| | Connection / disconnection 5 times: rigid solid conductor 2,5 mm ² | | | | | N/A |
| | Connection / disconnection 5 times: rigid solid conductor 1,5 mm ² | | | | | N/A |
| | Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull, the conductor shall not come out of the terminal | | | | | N/A |
| | Connection / disconnection 1 time: rigid stranded conductor 2,5 mm ² | | | | | N/A |
| | Connection / disconnection 1 time: rigid stranded conductor 1,5 mm ² | | | | | N/A |
| | Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull, the conductor shall not come out of the terminal | | | | | N/A |
| | Additional test on terminals intended for both rigid and flexible conductors: | | | | | N/A |
| | Connection / disconnection 5 times: flexible conductor 2,5 mm ² | | | | | N/A |
| | Connection / disconnection 5 times: flexible conductor 1,5 mm ² | | | | | N/A |
| | Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull, the conductor shall not come out of the terminal | | | | | N/A |
| | Additional test with apparatus shown in figure 11: | | | | | N/A |
| | - type of conductors | rigid solid / rigid stranded / flexible | | | | — |
| | - number of conductors | | | | | — |
| | - 1,5 mm ² ; diameter of bushing hole 6,5 mm; height H 260 mm; mass 0,4 kg | | | | | N/A |
| | - 2,5 mm ² ; diameter of bushing hole 9,5 mm; height | | | | | N/A |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | | | |
|----------------|---|-----------------|-------|-------|---------|
| Clause | Requirement + Test | Result - Remark | | | Verdict |
| | H 280 mm; mass 0,7 kg | | | | |
| | During the test: conductors shall not move noticeably in the clamping unit | | | | N/A |
| | After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration | | | | N/A |
| 12.3.12 | Screwless terminals: connected rigid solid conductor remains clamped, even when it has been deflected during normal installation | | | | N/A |
| | Deflection test (principle of test apparatus shown in figure 12: | | | | N/A |
| | - test current (A) (equal rated current) | | | | — |
| | Smallest cross-sectional area (mm ²) (table 11) | | | | — |
| | Force (N) (table 12) | | | | — |
| | - screwless terminal number | 1 | 2 | 3 | — |
| | - starting point (X = deflection original point) | X | X+10° | X+20° | — |
| | - voltage drop measured (mV) (1 st deflection) | | | | N/A |
| | - voltage drop measured (mV) (2 nd deflection) | | | | N/A |
| | - voltage drop measured (mV) (3 rd deflection) | | | | N/A |
| | - voltage drop measured (mV) (4 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (5 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (6 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (7 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (8 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (9 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (10 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (11 th deflection) | | | | N/A |
| | - voltage drop measured (mV) (12 th deflection) | | | | N/A |
| | - requirement: ≤ 25 mV | | | | N/A |
| | Largest cross-sectional area (mm ²) (table 11) | | | | — |
| | Force (N) (table 12) | | | | — |
| | - screwless terminal number | 1 | 2 | 3 | — |
| | - starting point (X = deflection original point) | X | X+10° | X+20° | — |
| | - voltage drop measured (mV) (1 st deflection) | | | | N/A |
| | - voltage drop measured (mV) (2 nd deflection) | | | | N/A |

| IEC 60884-2-5 | | | | | |
|---------------|--|-----------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | | | Verdict |
| | - voltage drop measured (mV) (3 rd deflection) : | | | | N/A |
| | - voltage drop measured (mV) (4 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (5 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (6 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (7 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (8 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (9 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (10 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (11 th deflection) : | | | | N/A |
| | - voltage drop measured (mV) (12 th deflection) : | | | | N/A |
| | - requirement: ≤ 25 mV | | | | N/A |

| | | |
|-----------|---|------------|
| 13 | CONSTRUCTION OF FIXED SOCKET-OUTLETS | N/A |
|-----------|---|------------|

| | | |
|-------------|--|---|
| 14 | CONSTRUCTION OF ADAPTORS | |
| 14.1 | <i>Replacement of Part 1.</i> | — |
| | Adaptor cannot be opened by hand or by using a general purpose tool, for example a screwdriver used as such. | P |
| | exception is made for adaptors with a cable outlet and rewirable intermediate adaptors; they can be opened using a general purpose tool | P |
| 14.2 | <i>Replacement of the first paragraph of Part 1.</i> | — |
| | Pins of adaptors: adequate mechanical strength | P |
| | Compliance by test Clause 24 and for pins not solid: force of 100 N exerted on the pin for 1 min by means of a steel rod Ø 4,8 mm. Test made after clause 21. | P |
| | During the application of the force: reduction of the dimension of the pin shall not exceed 0,15 mm | P |
| | After removal of the rod: dimensions of the pin not changed by more than 0,06 mm | P |
| 14.3 | <i>Replacement of the first and second paragraphs of Part 1.</i> | — |
| | Pins of adaptors shall be: | — |
| | - locked against rotation, except where rotation is not likely to impair safety or function | P |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|----------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - impossible to remove without dismantling the adaptor | | P |
| | - adequately fixed in the body of the adaptor when the adaptor is wired and assembled as for normal use | | P |
| | Pins or contacts of adaptors: not possible to arrange in an incorrect position | | P |
| | Mechanical strength of the pins does not depend on the plastic material | | N/A |
| | <i>Compliance is checked by inspection; in case of doubt with the tests of 14.2 and 21</i> | | P |
| | The exposed surfaces of pins shall be smooth and without burrs or sharp edges | | P |
| | <i>Compliance is checked by inspection / manual test</i> | | — |
| 14.4 | <i>Replacement of the first paragraph of Part 1.</i> | | — |
| | Earthing contacts, phase contacts and neutral contacts of adaptors: | | P |
| | - locked against rotation | | P |
| | - removable only with the aid of a tool, after dismantling the adaptor | | P |
| 14.5 | Socket-contact assemblies: sufficient resiliency | | P |
| 14.6 | Pins and socket-contacts: resistant to corrosion and abrasion | | P |
| 14.7 | Enclosures of rewirable accessories: completely enclose terminals and ends of flexible cable. | | P |
| | Construction of rewirable accessories: | | P |
| | - conductors can be properly connected | | P |
| | - cores not pressed against each other | | P |
| | - cores of live conductor not in contact with accessible metal parts | | P |
| | - core of earthing conductor not in contact with live parts | | P |
| 14.8 | Rewirable accessories: terminal screws or nuts cannot become loose and fall out of position and establish an electrical connection between live parts and earthing terminal or metal parts | | P |
| 14.9 | Rewirable accessories with earthing contact: ample space for slack of earthing (test) | | P |

| IEC 60884-2-5 | | | |
|----------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Non-rewirable non-moulded-on accessories with earthing contact: current-carrying conductors stressed before the earthing conductor if the flexible cable slips in its anchorage | | N/A |
| 14.10 | Terminals of rewirable accessories and terminations of non-rewirable accessories: located and shielded that loose wires do not present a risk of electric shock | | P |
| 14.10.1 | Rewirable accessories: test with 6 mm free wire | | — |
| | free wire of a conductor connected to a live terminal shall not touch any accessible metal part or able to emerge from the enclosure | | P |
| | free wire of a conductor connected to an earthing terminal shall not touch a live part | | P |
| 14.10.2 | Non-rewirable, non-moulded-on accessories: test with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm | | — |
| | free wire of a conductor connected to a live termination shall not touch any accessible metal part or reduce creepage and clearance below 1,5 mm to the external surface | | N/A |
| | free wire of a conductor connected to an earth termination shall not touch any live part | | N/A |
| 14.10.3 | Non-rewirable, moulded-on accessories: | | — |
| | Verification of means to prevent stray wires reducing the minimum distance through insulation to external accessible surface below 1,5 mm | | N/A |
| 14.11 | <i>Replacement of the first line of first paragraph of Part 1. Addition of the word "securely" (AMD2:2013)</i> | | — |
| | For adaptors with a cable outlet and rewirable intermediate adaptors: | | P |
| | - clear how relief from strain and prevention of twisting is intended to be effected | | P |
| | - cord anchorage, or at least part of it, shall be integral with or securely fixed to one of the component parts of the plug or portable socket-outlet | | N/A |
| | - makeshift methods not used | | P |
| | - cord anchorage suitable for the different types of flexible cable which may be connected; screws, if any: not serve to fix any other component | | N/A |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - cord anchorages: of insulating material or provided with an insulating lining fixed to the metal parts | | N/A |
| | - metal parts of cord anchorages, including clamping screws: insulated from the earthing circuit | | N/A |
| 14.12 | Rewirable, non-rewirable, non-moulded on portable accessories: it shall be not possible to remove parts ensure protection against electric shock, without the use of a tool | | P |
| 14.13 | <i>Replacement of the first paragraph of Part 1.</i> | | — |
| | Covers of adaptors: bushes for entry holes for the pins shall not be removable from the outside or detached inadvertently from the inside, when the cover is removed | | N/A |
| 14.14 | Screws intended to allow access to interior of the accessory: captive | | P |
| 14.15 | <i>Replacement of the first paragraph of Part 1.</i> | | — |
| | Engagement of the plug part of adaptors: no projections other than pins | | P |
| 14.16 | <i>Replacement of the first paragraph of Part 1.</i> | | — |
| | Socket-outlet parts of adaptors not prevented by any projection from the engagement face | | P |
| 14.17 | Accessories having IP code higher than IP20 shall be enclosed accordingly, when fitted with cables. | No cable | N/A |
| | Plugs having IP code higher than IP20: adequately enclosed | | P |
| | Portable socket-outlets having IP code higher than IP20: adequately enclosed without a plug in engagement | | P |
| | Lid springs (if any): shall be made of corrosion resistant material | | N/A |
| 14.18 | Portable socket-outlets means for suspension from a wall or other mounting surfaces: the suspension means do not allow access to live parts | | P |
| | No free openings between space intended for suspension means fixed to the wall and live parts | | P |
| 14.19 | Combinations of portable accessories and switches, circuit-breakers or other devices shall comply with the relevant individual IEC | | P |

| IEC 60884-2-5 | | | |
|---------------|--|---------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | standards, if a relevant combined product standard does not exist. | | |
| 14.20 | Portable accessories: shall not be integral part of lampholders | | N/A |
| 14.21 | <i>This subclause of Part 1 is not applicable</i> | | — |
| 14.22 | <i>Replace the entire existing subclause by the following new (AMD2)</i> | | — |
| | Components (switches and fuses) incorporated in accessories: shall comply with the relevant IEC standard as far as it applies | No switch and fuses | N/A |
| | Components incorporated in portable accessories shall be so rated, or so protected, that overloading of either the component or the plug or socket-outlet cannot occur in normal use | | P |
| | Requirements for switches incorporated in portable accessories are detailed in Annex D | | N/A |
| | For portable socket-outlets and rewirable plugs the incorporated overcurrent protective device shall have a rated current equal to or less than the rated current of the accessory | | P |
| | Any other component(s), such as switches or control devices, have a rated current not less than (rated current referred to resistive load): | | — |
| | - the rated current of the accessory or | | P |
| | - the rated current of the incorporated overcurrent protective device, if any | | P |
| | For components having different rated current for resistive and inductive loads, the rated current to be referred to is the rated current for resistive load | | P |
| | For non-rewirable plugs, any other incorporated component(s), such as switches or control devices, have a rated current not less than: | | — |
| | - the test current for the combination of the accessory and the cable as indicated in Table 20, for Clause 21, or | | N/A |
| | - the rated current of the incorporated overcurrent protective device, if any | | N/A |
| | Any incorporated component(s) shall have a rated voltage not less than the rated voltage of the accessory | | N/A |
| | <i>Compliance is checked by inspection and, if necessary, by testing the component according to the relevant IEC standard</i> | | N/A |
| 14.23 | <i>Replacement of Part 1</i> | | — |

| IEC 60884-2-5 | | | |
|------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Adaptor shall not impose undue strain on fixed socket-outlet | | P |
| | Adaptor is inserted into a fixed socket-outlet. Each socket-outlet part is fitted with a relevant plug completed with 1 m of 0,75 mm ² flexible cable | | N/A |
| | The socket-outlet is pivoted about a horizontal axis through the axis of the live socket contacts at a distance of 8 mm behind the engagement face of the socket-outlet and parallel to this engagement face. | | P |
| | The additional torque which has to be applied to the socket-outlet in order to maintain the engagement face in the vertical plane shall not exceed 0,25 Nm. During the test, care shall be taken that the flexible cable hangs freely. | | P |
| 14.23.101 | Adaptors shall withstand lateral strain imposed by equipment likely to be introduced into them | | P |
| | Test is made 4 times, the adaptor being turned 90° after each engagement, 5 N for 1 min (device shown in fig. 13); the test is repeated for each socket-outlet part of the adaptor | | P |
| | During the test: device shall not come out | | P |
| | After the test: | | — |
| | - no damage | | P |
| | - adaptor complies with clause 22 | | P |
| 14.24 | Adaptors: can easily be withdrawn by hand from the relevant socket-outlet | | P |
| | Gripping surfaces shall be designed in such a way that the adaptor can be withdrawn without having to pull the flexible cable, if any | | P |
| | <i>Compliance is checked by inspection and in case of doubt by test.</i> | | — |
| 14.25 | <i>This subclause of Part 1 is not applicable</i> | | — |
| | <i>Addition:</i> | | — |
| 14.101 | The plug part of adaptors shall be provided with earthing pins or contacts if any one of the socket-outlet parts is provided with earthing pin or contact | | P |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | An adaptor allowing the connection between a socket-outlet with earthing contact with a plug without earthing contact for class zero equipment is not permitted | | N/A |
| 14.102 | Adaptors for use in polarized socket-outlets: internal connection shall ensure that plug pins, socket-contacts and terminals, if any, maintain the same polarity at the input and output parts of the adaptor | | P |
| 14.103 | Cable shall be considered as a bare conductor if the insulation is not equivalent to the IEC standard and it does not comply with the electric strength test according to 17.2 | | N/A |
| 14.104 | Provision shall be made within the body of a fused adaptor for fuse-link complying with IEC 60269-3, IEC 60127-2 or IEC 60127-3 as far as they reasonably apply | | N/A |
| | Fuse-link connected between an adaptor plug pin and the corresponding socket-contact(s) | | N/A |
| | Adaptors for use in polarized system: fuse-link shall be mounted between the line plug pin and the corresponding line socket-contact(s) | | N/A |
| | Fuse links shall not be fitted in the earthing circuit | | N/A |
| | Fuse-link cannot be left in inadequate contact when the adaptor is assembled | | N/A |
| 14.105 | Adaptors having a plug part standardized with a rated current of 2,5 A shall be provided with an overcurrent protective device rated 2,5 A or less | | P |
| 14.106 | Adaptors shall not have an enclosure that is shaped or decorated like a toy | | P |
| 14.107 | Adaptors shall not have any socket-outlet part which permits the insertion of a plug with a higher current rating than the rated current of the plug part of the adaptor, unless the adaptor is provided with an overcurrent protective device rated less than or equal to the rated current of the plug part | | P |
| 15 | INTERLOCKED SOCKET-OUTLET PARTS OF ADAPTORS | | |
| | <i>Replacement of the first paragraph:</i> | | — |
| | Socket-outlet parts of adaptors interlocked with a switch: | | — |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | plug cannot be inserted into or completely withdrawn from the adaptor while the socket-contacts are live | | N/A |
| | socket-contacts of the adaptor cannot be made live until a plug is almost completely in engagement | | N/A |

| | | | |
|-------------|--|--|-----|
| 16 | RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES, AND RESISTANCE TO HUMIDITY | | |
| 16.1 | Resistance to ageing | | — |
| | Accessories are resistant to ageing | | P |
| | Removed parts intended for decorative purposes only | | N/A |
| | Compliance is checked by the following test. | | P |
| | Accessories subjected to a test in a heating cabinet | | P |
| | Accessories having an IP code higher IPX0 assembled as specified in 16.2 | | N/A |
| | The temperature in the cabinet is $(70 \pm 2) ^\circ\text{C}$ | | P |
| | The specimens are kept in the cabinet for 168 h | | P |
| | After the treatment the specimens are removed from the cabinet and kept at a room temperature and relative humidity 45% - 55% for 96 h. | | P |
| | The specimens shall show no crack visible with normal or corrected vision without additional magnification, nor shall the material have become sticky or greasy; this being judged as follows: | | P |
| | - with the forefinger wrapped in a piece of rough cloth the specimen is pressed with a force of 5 N | | P |
| | - no traces of the cloth remain on the specimen and the material of the specimen shall not stick to the cloth | | P |
| | After the test the specimens shall show no damage | | |
| | AMD1:2006 - Add, after the fifth paragraph: | | — |
| | For portable socket-outlet, a test plug as... | | — |
| | For accessories having a lid, the test plug... the lid can be closed | | — |
| | For portable socket-outlet, after having withdrawn the test plug... contact pressure is checked... | | — |
| | AMD2:2013 - Replace in IEC 60884-1:2002 as amended by AMD1:2006, the two paragraphs inserted after the fifth paragraph, by the following: | | — |
| | For accessories having a lid, the lid is closed during the test | | — |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | For portable socket-outlets, the plug of the same system having the same rated current as the socket-outlet shall be inserted into the socket-outlet during the test. The plug can be suitably modified if necessary to allow the closure of the lid, if any. | | — |
| | For portable socket-outlet, after having withdrawn the test plug... contact pressure is checked... | | — |
| | IEC 60884-2-5:2017 - Replacement of the seventh, eighth and ninth paragraphs: | | — |
| | For adaptors, the plug of the national system shall be inserted into each socket-outlet part during the test. A plug available in the market can be suitably modified if necessary to allow the closure of the lid, if any. | | P |
| | Within a national system, the plug which is deemed to give the most severe condition shall be used for the test, where more than one plug type can be inserted in the socket-outlet part. | | P |
| | For adaptors: contact pressure of the contact assembly is checked as specified in 22.2 with the single-pin gauge. The gauge shall not fall from the contact assembly within 30 s. | | P |
| 16.2 | Protection provided by enclosures | | — |
| | Enclosures provide a degree of protection in accordance with the IP designation of the accessory | | P |
| 16.2.1 | Protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects | | — |
| | Accessories and their enclosures shall provide a degree of protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects | IP4X | P |
| | Fixed socket-outlets: mounted as in normal use on a vertical surface | | N/A |
| | Flush-type and semi-flush type socket-outlets: mounted in an appropriate box according to the manufacturer's instructions | | N/A |
| | Accessories with screwed glands or membranes fitted with flexible cables within the range specified in table 3: | | N/A |
| | - largest cross-sectional area (mm ²); type of cable (table 17) | | — |
| | - smallest cross-sectional area (mm ²); type of cable (table 17) | | — |
| | Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm) | | — |

| IEC 60884-2-5 | | | |
|-----------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Screws of the enclosure tightened with a torque equal to 2/3 of the torque given in table 6 (Nm) .. : | | — |
| 16.2.1.1 | Protection against access to hazardous parts | | — |
| | Appropriate test performed as specified in IEC 60529 (see also clause 10) | | P |
| 16.2.1.2 | Protection against harmful effects due to ingress of solid foreign objects | | — |
| | Appropriate test performed as specified in IEC 60529 | | P |
| | Test on accessories with IP5X (considered to be of category 2): dust shall not penetrate in a quantity to interfere with satisfactory operation or to impair safety | | N/A |
| | AMD2:2013 Test on accessories with IP6X (considered to be of category 1): dust shall not penetrate | | — |
| 16.2.2 | Protection against harmful effects due to ingress of water | | — |
| | Accessories and their enclosures provide a degree of protection against harmful effects due to ingress of water in accordance with their IP classification | IPX0 | P |
| | Appropriate test performed as specified in IEC 60529 under the following conditions: | | — |
| | Flush-type and semi-flush type socket-outlets: fixed in a vertical test wall using an appropriate box according to the manufacturer's instructions | | N/A |
| | Accessory suitable to be installed on a rough wall: test wall according to figure 15 is used | | N/A |
| | Surface-type socket-outlets mounted as for normal use in a vertical position and fitted with cables (having conductors of the largest and smallest nominal cross-sectional area given in table 3) or conduits or both in accordance with the manufacturer's instructions | | N/A |
| | - largest cross-sectional area (mm ²); type of cable (table 17) | | — |
| | - smallest cross-sectional area (mm ²); type of cable (table 17) | | — |
| | Portable socket-outlets tested on a plain, horizontal surface in a position as in normal use and fitted with flexible cables (having conductors of the largest and smallest nominal cross-sectional area given in table 3) according to table 17 | | N/A |
| | - largest cross-sectional area (mm ²); type of cable (table 17) | | — |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - smallest cross-sectional area (mm ²); type of cable (table 17) | | — |
| | Screws of enclosure tightened with a torque equal to 2/3 of the torque given in table 6 (Nm) | | — |
| | Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm) | | — |
| | Accessory with drain holes opened during the test: any accumulation of water proved by inspection | | N/A |
| | Socket-outlets tested without a plug in engagement | | N/A |
| | Plugs tested when in full engagement with: | | — |
| | - a fixed socket-outlets | | N/A |
| | - a portable socket-outlets | | N/A |
| | of the same system and with the same degree of protection against harmful effects due to ingress of water | | — |
| | Specimens withstand an electric strength test specified in 17.2 which is started within 5 min of completion of the IP test | | N/A |
| 16.3 | Resistance to humidity | | — |
| | Accessories proof against humidity which may occur in normal use | | P |
| | Compliance checked by a humidity treatment carried out in a humidity cabinet containing air with relative humidity maintained between 91 % and 95 % | | P |
| | Specimens kept in the cabinet for: | | — |
| | - two days (48 h) for accessories having IPX0 | | P |
| | - seven days (168 h) for accessories having IP>X0 | | N/A |
| | After this treatment the specimens show no damage | | P |

| | | | |
|---------------|--|----------------|---|
| 17 | INSULATION RESISTANCE AND ELECTRIC STRENGTH | | |
| 17.1.1 | For adaptors: insulation resistance (500 V d.c. for 1 min): | | |
| | a) between all poles connected together and a metal foil in contact with the outer surface of accessible external parts of insulating material including external assembly screws $\geq 5 \text{ M}\Omega$ | 500 M Ω | P |
| | b) between each pole in turn, and all others connected together $\geq 5 \text{ M}\Omega$ | 500 M Ω | P |
| | c) for adaptor with cable outlet and rewirable intermediate adaptors: between any metal part of | 500 M Ω | P |

| IEC 60884-2-5 | | | |
|---------------|--|--|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | any cable anchorage, including clamping screws, and the earthing pin or terminal, if any $\geq 5 \text{ M}\Omega$ | | |
| | e) for adaptor with cable outlet and rewirable intermediate adaptors: between any metal part of the cable anchorage and a metal rod of the maximum diameter of the flexible cable inserted in its place $\geq 5 \text{ M}\Omega$ | ... $\text{M}\Omega$ | N/A |
| 17.1.2 | — | | N/A |
| 17.2 | Electric strength, test voltage (a.c., for 1 min): | | |
| | a) test voltage (V) | <input type="checkbox"/> 1250 V / <input checked="" type="checkbox"/> 2000 V | P |
| | b) test voltage (V) | <input type="checkbox"/> 1250 V / <input checked="" type="checkbox"/> 2000 V | P |
| | c) test voltage (V) | <input type="checkbox"/> 1250 V / <input checked="" type="checkbox"/> 2000 V | P |
| | d) test voltage (V) | <input type="checkbox"/> 1250 V / <input checked="" type="checkbox"/> 2000 V | P |
| | e) test voltage (V) | <input type="checkbox"/> 1250 V / <input checked="" type="checkbox"/> 2000 V | P |
| | During the test no flashover or breakdown | | P |
| 18 | OPERATION OF EARTHING CONTACTS | | |
| | Earthing contacts provide adequate contact pressure and not deteriorate in normal use | | P |
| | Compliance checked by the tests of clauses 19 and 21 | | P |
| 19 | TEMPERATURE RISE | | |
| | <i>Replacement:</i> | | — |
| | Accessories shall be so constructed that they comply with the following temperature rise test | | P |
| | All adaptors are tested according to 19.101 | | P |
| | Adaptors with incorporated components are additionally tested according to 19.102 | | P |
| 19.101 | Adaptors shall be tested in a draught-free environment at the centre of a plane wooden sheet which shall be at least 20 mm thick, 500 mm wide, 500 mm high. | | P |
| | Socket-outlets parts of adaptor are tested using a test plug with brass pins having the minimum specified dimensions | | P |
| | Clamping units according to Fig. 44 are fitted on each pin of the plug part of the adaptor and are equipped with thermocouples. | | P |
| | An AC as specified is passed for 60 (0 +5) min. | | P |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Adaptor with a plug part having lateral earthing contacts or resilient earthing contacts are tested using a fixed socket-outlet complying with the relevant national standard and having as near to-average characteristics as can be selected, but with minimum size of the earthing pin, if any | | P |
| | The adaptor is inserted into the fixed socket-outlet and an alternating current as specified is passed for 60 (0 +5) min. | | P |
| | Adaptors with: - incorporate components connected in series to the line contacts are short circuited. - incorporate components connected in parallel to the line contacts are disconnected | | P |
| | Non-rewirable adaptors with a cable outlet / non-rewirable intermediate adaptors are tested with the cable supplied | | N/A |
| | Adaptors with a cable outlet / rewirable intermediate adaptors are fitted with flexible PVC conductors having a nominal cross-sectional area as shown in Table 101 | | P |
| | Adaptors with a cable outlet are tested as multi-way adaptors | | N/A |
| | Terminal screws torque: 2/3 of clause 12.2.8 | | P |
| | Length of conductors at least: 1 m | | P |
| | Test current: | 16A | P |
| a) | Through each separate socket-outlet part in turn: | | N/A |
| | 1) without incorporated overcurrent device: - $I_n \leq 10$ A, test current = 1,4 I_n - $I_n > 10$ A, test current = 1,25 I_n I_n = rated current of the plug that can be inserted. | | N/A |
| | 2) with incorporated overcurrent device: - conventional tripping/fusing current after 1 h (not higher the value of the first bullet) | | N/A |
| b) | Through all socket-outlet parts simultaneously, when the rated current of all the plugs that can be inserted are lower than the rated current of the plug part, dividing the total test current among the socket-outlet parts in proportion to the rated current of the plugs: | | N/A |

| IEC 60884-2-5 | | | |
|---------------|--|---------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 1) multi-way adaptors without incorporated overcurrent device: - $I_n \leq 10 \text{ A}$, test current = $1,4 I_n$ - $I_n > 10 \text{ A}$, test current = $1,25 I_n$ I_n = rated current of the adaptor | | N/A |
| | 2) multi-way adaptors with incorporated overcurrent device: - conventional tripping/fusing current after 1 h (not higher the value of the first bullet) | | N/A |
| | Test current shall flow through the phase contacts | | P |
| | Separate tests made passing the current through: | | P |
| | - the neutral contact, if any, and the adjacent phase contact (K) | | P |
| | - the earthing contact, if any, and the nearest phase contact (K) | | P |
| | The temperature rise of the terminals, terminations and clamping units according to Figure 44 determined by means of thermocouples shall not exceed 45 K | See appended tables | P |
| | For 25.3, temperature rise of external insulating material... shall also be determined | | P |
| 19.102 | in addition, adaptors with incorporated components are tested as in 19.101 item a), but: | | — |
| | - with the incorporated components not short circuited or disconnected. | | P |
| | - a test current which is the lowest between the current of the overcurrent device and the current of the plugs that can be inserted. | See appended table 19.102 | P |
| | - incorporated components other overcurrent device shall be operated during the test in the worst conditions regards to power dissipation. | | P |
| | Where incorporated components need their rated voltage to operate, the test voltage shall be the rated voltage. | | P |
| | Addition: the maximum temperature rise of - accessible metal parts: $\leq 30 \text{ K}$ - accessible non-metallic parts: $\leq 40 \text{ K}$ | See appended table 19.102 | P |
| 20 | BREAKING CAPACITY | | |
| | Accessories shall have adequate breaking capacity | | P |

| IEC 60884-2-5 | | | |
|---------------|--|----------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Compliance checked by testing: | | — |
| | socket-outlet parts of adaptors | | P |
| | plug part of adaptors with pins which are not solid | | P |
| | Test conditions: | | — |
| | - 100 strokes; rate of operation | 30 (15) strokes per minute | — |
| | - test voltage (1,1 Vn) | 275V | — |
| | - test current (1,25 In) (cos φ 0,6) | 20A | — |
| | During the test: no sustained arcing occurs | | P |
| | After the test: | | — |
| | - specimens show no damage impairing their further use; | | P |
| | - entry holes for the pins shall not show any damage which may impair the safety | | P |

| | | | |
|-----------|--|--|-----|
| 21 | NORMAL OPERATION | | |
| | Accessories shall withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use | | P |
| | Test pins / fixed socket-outlets shall be replaced after 4500 and 9000 strokes | | P |
| | AMD1:2006 - Replacement | | — |
| | NOTE 2: The procedure specified in Figure 43 shall be followed: <i>The manufacturer shall be permitted to indicate the point 1, 2 or 3, of Figure 43, the test shall begin. If point 2 or 3 are indicated, the test shall be performed on new specimens, that have previously been subjected to the test of clause 20, in the conditions required to the relevant starting points 2 or 3.</i> | | — |
| | Test performed shall begin: | | P |
| | Point 1: 10000 strokes with shutters - with current | | P |
| | Point 2: 10000 strokes, on new specimen, without shutters - with current | | N/A |
| | Point 3: 10000 strokes, on new specimen, made by hand, with shutters - with current | | N/A |
| | <i>Renumber NOTES 3, 4, 5, 6, 7 as NOTES 2, 3, 4, 5, 6</i> | | — |
| | AMD2:2013 - delete NOTE 1 and renumber NOTE 2 as NOTE 1 | | — |
| | Replace NOTE 3 by NOTE 2: | | — |
| | Renumber NOTES 4, 5, 6 as NOTES 3, 4, 5. | | — |

| IEC 60884-2-5 | | | |
|---------------|--|----------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | IEC 60884-2-5:2017 - Replacement of the second paragraph | | — |
| | Compliance checked by testing: | | — |
| | socket-outlet parts of adaptors | | P |
| | plug part of adaptors with resilient earthing socket-contacts | | P |
| | plug part of adaptors with pins which are not solid | | P |
| | Test performed on: | | — |
| | Plug part of adaptors is tested using a fixed socket-outlet complying with Part 1; characteristics as near to average as can be selected. | | P |
| | The specimens are tested at rated voltage, in a circuit with $\cos \varphi = 0,8 \pm 0,05$ with an alternating current as follows: | | P |
| | - for adaptors without incorporated overcurrent protective device, the test current being the rated current of the plug that can be inserted in the socket-outlet part | | N/A |
| | - for adaptors with incorporated overcurrent protective device, the test current being the rated current of the incorporated overcurrent protective device, but not higher than the rated current of the plug that can be inserted in the socket-outlet part | | P |
| | Each socket-outlet parts and plug part tested separately | | P |
| | The specimens are tested with: | | — |
| | - an alternating current as specified in table 20.... : | 16A | P |
| | - at rated voltage | 250V | P |
| | - $\cos \varphi = 0,8 \pm 0,05$: | $0,8 \pm 0,05$ | P |
| | The plug is inserted into and withdrawn from the socket-outlet part of the adaptor 10000 strokes; rate of operation | 30 (15) strokes per minute | — |
| | The plug part of the adaptor is inserted into and withdrawn from a socket-outlet 2000 strokes; rate of operation | 30 (15) strokes per minute | — |
| | Adaptors with incorporated components are tested with these components operating as in normal use | | P |
| | After the test the incorporated components shall be operating as in normal use | | P |
| | Test current is passed: | | — |

| IEC 60884-2-5 | | | |
|---------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - during each insertion and withdrawal of the plug ($I_n \leq 16A$) | | P |
| | - during alternate insertion and withdrawal, the other insertion and withdrawal being made without current flowing ($I_n > 16A$) | | N/A |
| | Period during test current is passed: $\leq 16 A$: 1,5 ($0 \pm 0,5$) s $> 16 A$: 3 ($0 \pm 0,5$) s | | P |
| | Earthing circuit: no current | | P |
| | Multiple socket-outlets: test carried out on one socket-outlet of each type and current rating | | N/A |
| | During the test: no sustained arcing occurs | | P |
| | After the test the specimens shall not show: | | — |
| | - wear impairing their further use; | | P |
| | - deterioration of enclosures, insulating lining or barriers; | | P |
| | - damage to the entry holes for the pins, that might impair proper working; | | P |
| | - loosening of electrical or mechanical connections; | | P |
| | - seepage of sealing compound | | P |
| | Shuttered socket-outlets: the following gauges shall not touch live parts when they remain under the relevant forces: | | — |
| | - gauge of figure 9 is applied with a force to of 20 N | | P |
| | - steel gauge of figure 10 is applied with a force of 1 N | | P |
| | Then the specimens shall comply with the requirements of clause 19, the test current being equal to the test current required for the normal operation test. | | P |
| | - temperature rise of terminals shall not exceed 45 K (K) | | P |
| | Separate tests made passing the current through: | | — |
| | - the neutral contact, if any, and the adjacent phase contact (K) | | P |
| | - the earthing contact, if any, and the nearest phase contact (K) | | P |
| | Electric strength (sub-clause 17.2), test voltage (a.c., for 1 min): | | — |
| | a) test voltage (V) | <input type="checkbox"/> 1000 V / <input checked="" type="checkbox"/> 1500 V | P |

| IEC 60884-2-5 | | | |
|---------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | b) test voltage (V) : | <input type="checkbox"/> 1000 V / <input checked="" type="checkbox"/> 1500 V | P |
| | c) test voltage (V) : | <input type="checkbox"/> 1000 V / <input checked="" type="checkbox"/> 1500 V | P |
| | d) test voltage (V) : | <input type="checkbox"/> 1000 V / <input type="checkbox"/> 1500 V | N/A |
| | e) test voltage (V) : | <input type="checkbox"/> 1000 V / <input type="checkbox"/> 1500 V | N/A |
| | During the test: no flashover or breakdown | | P |
| | Adaptors with pins which are not solid: test according to 14.2 | | N/A |
| | Force exerted measured in side earthing contacts not less than 60 % or 5 N (CEE 7 clause 18) : | | N/A |

| | | | |
|-------------|--|-----|-----|
| 22 | FORCE NECESSARY TO WITHDRAW THE PLUG | | |
| | <i>Replacement:</i> | | — |
| | Construction of adaptors shall allow the easy insertion and withdrawal of the plug, and prevent the plug from working out of the socket-outlet part of the adaptor in normal use | | P |
| | Rated current (A) : | 16A | P |
| | Number of poles : | 2 | P |
| 22.1 | Verification of the maximum withdrawal force (multi-pin gauge) | | |
| | - Maximum withdrawal force (N) : | 50N | — |
| | The plug shall not remain in the socket-outlet part of the adaptor | | P |
| 22.2 | Verification of the minimum withdrawal force (single-pin gauge) | | N/A |
| | - Minimum withdrawal force (N) : | N | — |
| | The plug shall not fall from each individual contact-assembly within 30 s | | N/A |

| | | | |
|-------------|--|--|-----|
| 23 | FLEXIBLE CABLES AND THEIR CONNECTION | | |
| 23.1 | <i>Replacement:</i> | | — |
| | Adaptor with cable outlet and rewirable intermediate adaptors shall be provided with a cord anchorage such that the conductors are relieved from strain, twisting where they are connected to the terminals and that their covering is protected from abrasion | | N/A |
| | The sheath of flexible cable shall be clamped within the cord anchorage | | N/A |
| | Non-rewirable intermediate adaptors: | | N/A |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - the cable is maintained in position - the terminations are relieved from strain and twisting | | |
| | The sheath of flexible cable shall be maintained inside the accessory | | N/A |
| 23.2 | Pull and torque test | | — |
| | Non-rewirable accessories: | | — |
| | - rating of accessory | | — |
| | - type of flexible cable; number of conductors and nominal cross-sectional area (mm ²) | | — |
| | - pull (100 times) (N) | | N/A |
| | - torque (1 min) as specified in table 18 (Nm) | | N/A |
| | After the test: | | — |
| | Displacement ≤ 2 mm | | N/A |
| | No break in the electrical connections | | N/A |
| | Rewirable accessories: | | — |
| | - rating of accessory | | — |
| | - clamping screws, if any, tightened with a torque equal to 2/3 of that specified in 12.2.8 (Nm) | | — |
| | - type of flexible cable; number of conductors and smallest nominal cross-sectional area (mm ²) as show in table 17 | | — |
| | - pull (100 times) (N) | | N/A |
| | - torque (1 min) as specified in table 18 (Nm) | | N/A |
| | After the test: | | — |
| | Displacement ≤ 2 mm | | N/A |
| | End of conductors have not moved noticeably in the terminals | | N/A |
| | Addition for rewirable accessories having rated current up to and including 16 A: | | N/A |
| | Suitable for fitting with the appropriate cable as shown in table 19 | | N/A |
| | Type of flexible cable; number of conductors and nominal cross-sectional area (mm ²) | | — |
| 23.3 | Replacement: | | — |
| | Non-rewirable intermediate adaptors intended for use with a flexible cable shall be provided with a | | N/A |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | flexible cable complying with IEC 227 or IEC 245: | | |
| | - for external conductors able to supply a current according to the rated characteristics of appliances | | N/A |
| | - for external flexible cable intended for control | | N/A |
| | External flexible cables intended for control shall comply with 14.103 | | N/A |
| | Flexible cables have the same number of conductors as there are poles in the adaptor with cable outlet or intermediate adaptor | | N/A |
| | Conductor connected to the earthing contact: identified by the colour combination green/yellow | | N/A |
| 23.4 | <i>Replacement:</i> | | — |
| | Non-rewirable intermediate adaptors with a flexible cable: designed that the flexible cable is protected against excessive bending | | N/A |
| | Guards shall be of insulating material and fixed in reliable manner | | N/A |
| | Flexing test (10.000 flexings): | | — |
| | - type of flexible cable and nominal cross-sectional area (mm ²) | | — |
| | - test current (A) | | — |
| | - mass (N) | | — |
| | During the test: no interruption of the test current and no short-circuit between conductors | | N/A |
| | Voltage drop test: test current (A); voltage drop (≤ 10 mV) | | N/A |
| | After the test: guard no separated from the body, insulation shows no sign of abrasion or wear, broken strands become no accessible | | N/A |
| 24 | MECHANICAL STRENGTH | | |
| | <i>As Part 1, except: replacement of first and second paragraphs</i> | | — |
| | Adaptors shall have adequate mechanical strength | | P |
| | <i>Compliance is checked by tests 24.2; 24.4; 24.5; 24.7; 24.8; 24.10; 24.19</i> | | — |
| 24.2 | Rewirable portable accessories are fitted with the flexible cable specified. | | N/A |
| | Screws: torque 2/3 of that specified in table 6. | | N/A |
| | Non-rewirable accessories are tested as delivered. | | N/A |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| AMD2 | Test Ed: Rough handling shocks, primarily for equipment-type specimen, procedure 2 of IEC 60068-2-32, the number of falls being: | | — |
| | Addition IEC 60884-2-5:2017: | | — |
| | For adaptors: - 50, if the mass does not exceed 50 g: <input checked="" type="checkbox"/> - 25, if the mass exceeds 50 g: <input type="checkbox"/> | | P |
| | After the test: | | — |
| | No part shall have become detached or loosened; | | P |
| | Pins shall not have become so deformed that the plug cannot be introduced into a socket-outlet and also fails to comply with the requirements of 9.1 and 10.3; | | P |
| | IEC 60884-2-5: Replacement of the last dashed item of the sixth paragraph | | — |
| | The pins shall not turn when a torque of 0,4 Nm is applied in one direction for 1 min and then in the opposite direction for 1 min. This test is not carried out where rotation of pins does not impair safety or function. | | P |
| AMD2 | The shutters of socket-outlets shall be tested again according to paragraph 21, from paragraph 19 to paragraph 24 (only the test of shutters) | | P |
| 24.3 | — | | N/A |
| 24.4 | Adaptors: impact test by means of an apparatus as shown in fig.27 | | P |
| | Apparatus and specimens are placed in a refrigerator at a temperature of $-15\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for at least 16 h | | P |
| | A weight of $1000 \pm 2\text{ g}$ is allowed to fall from a height of 100 mm | | P |
| | After the test: no damage | | P |
| 24.5 | Adaptors: compression test, 300 N for 1 min, position a) and b) (apparatus shown in fig. 8) | | N/A |
| | After the test: no damage | | N/A |
| 24.6 | — | | N/A |
| 24.7 | Replacement: | | — |
| | Pins of plug parts of adaptors with insulating sleeves: 20000 movements, 4 N. | | N/A |
| | After the test: no damage of pins; the insulating | | N/A |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | sleeve shall not have punctured or rucked up | | |
| 24.8 | <i>Replacement:</i> | | — |
| | Shuttered socket-outlet parts of adaptors: mechanical test carried out on specimens submitted to the normal operation test according to clause 21 | | P |
| | Force applied for 1 min against the shutter of an entry hole by means of one pin : <input type="checkbox"/> 40 N / <input checked="" type="checkbox"/> 75 N | | — |
| | Pin shall not come in contact with live parts | | P |
| | After the test: no damage | | P |
| 24.9 | Rewirable multiple socket-outlets are fitted with a flexible cable of the smallest cross-sectional area specified in table 3. | | N/A |
| | Test: 8 falls on the concrete floor from a height of 750 mm (fig. 29). | | N/A |
| | After the test: no damage, no part have become detached or loosened | | N/A |
| | Accessories having IP>X0 submitted again to the tests as specified in 16.2 | | N/A |
| | The shutters of multiple socket-outlets tested again according to Clause 21, from paragraph 19 up to paragraph 24 (only the tests of shutters) | | N/A |
| 24.10 | <i>Replacement of the second paragraph:</i> | | — |
| | Plug part of adaptors: pull test to verify the fixation of pins in the body of the adaptor (new specimens) | | P |
| | Maximum withdrawal force (table 16) applied for 1 min on each pin in turn, after the specimen has been placed at 70 °C for 1 h : | | — |
| | After the test: displacement of pins in the body of the adaptor ≤ 1 mm : | 0mm | P |
| 24.11 | — | | N/A |
| 24.12 | — | | N/A |
| 24.13 | — | | N/A |
| 24.14 | — | | N/A |
| 24.15 | — | | N/A |
| 24.16 | — | | N/A |
| 24.17 | — | | — |
| 24.18 | — | | — |
| 24.19 | <i>Replacement:</i> | | — |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Shroud of socket-outlets parts of adaptors: compression test at $(25 \pm 5) ^\circ\text{C}$ by means of the apparatus shown in figure 38 | | — |
| | Force applied: $20 \pm 2 \text{ N}$ | | N/A |
| | After 1 min and while the shrouds are still under pressure the dimensions shall comply with the appropriate standard sheet | | N/A |
| | Test repeated with the specimen rotated 90° | | N/A |

| | | | |
|-------------|---|---|-----|
| 25 | RESISTANCE TO HEAT | | |
| | As Part 1 | | — |
| 25.1 | Portable accessories: heating cabinet 100°C for 1 h | | P |
| | During the test: no change impairing their further use and sealing compound, if any, not flow | | P |
| | After the test: - There shall be no access to live parts - Markings shall still be legible | | P |
| 25.2 | Parts of insulating material of fixed socket-outlets necessary to retain current-carrying parts and parts of the earthing circuit in position, and parts of the front surface zone of 2 mm width surrounding the phase and neutral pin entry holes: ball-pressure test (1 h, 125°C) | | P |
| | After the test: diameter of impression $\leq 2 \text{ mm}$ | | P |
| 25.3 | For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h) | | P |
| | Test temperature ($^\circ\text{C}$) | <input checked="" type="checkbox"/> 70°C / <input type="checkbox"/> 40°C + highest temperature rise determined during the test of clause 19 | P |
| | After the test: diameter of impression $\leq 2 \text{ mm}$ | | P |
| 25.4 | Portable accessories: compression test (20 N, 1 h, 80°C) by means of the apparatus shown in figure 28 | | N/A |
| | After the test: no damage | | N/A |

| | | | |
|-------------|---|--|---|
| 26 | SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS | | |
| 26.1 | Connections withstand mechanical stresses | | P |
| | Thread-forming or thread-cutting screws used only if supplied together with the piece in which they are intended to be inserted | | P |
| | Thread-cutting screws intended to be used during | | P |

| IEC 60884-2-5 | | | |
|---------------|---|-------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | installation: captive | | |
| | Screws and nuts which transmit contact pressure: in engagement with a metal thread | | P |
| | Test: | | — |
| | - 10 times for screws in engagement with a thread of insulating material and for screws of insulating material | | P |
| | - 5 times for all other cases | | N/A |
| | - terminals: screw diameter (mm); torque (Nm); times | 2.88mm; 0.5Nm | — |
| | - earthing terminals: screw diameter (mm); torque (Nm); times | 3.34mm; 0.8Nm | — |
| | - assembly screws: screw diameter (mm); torque (Nm); times | 2.93mm; 0.5Nm | — |
| | - cord anchorage: screw diameter (mm); torque (Nm); times | No cord anchorage | — |
| | - other screws or nuts: diameter (mm); torque (Nm); times | No other screws | — |
| | During the test: no damage impairing the further use of the screwed connections | | P |
| 26.2 | Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured | | P |
| 26.3 | Contact pressure: not transmitted through insulating material other than ceramic, pure mica or other material no less suitable unless there is sufficient resiliency in metallic parts | | N/A |
| | Connections made by insulation piercing of tinsel cord reliable | | N/A |
| 26.4 | Screws and rivets locked against loosening and/or turning | | P |
| 26.5 | Current-carrying parts of metal having mechanical strength, electrical conductivity and resistance to corrosion adequate: | | P |
| | - copper; | | N/A |
| | - alloy with at least 58 % copper for parts made from cold-rolled sheet or with at least 50 % copper for other parts; | | N/A |
| | - stainless steel with at least 13 % chromium and not more than 0,09 % carbon | | P |
| | - steel with electroplated coating of zinc (ISO 2081), with thickness of at least: | | N/A |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|---|-------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 5 µm, service condition ISO no. 1, for ordinary equipment | | N/A |
| | 12 µm, service condition ISO no. 2, for splash-proof equipment | | N/A |
| | 25 µm, service condition ISO no. 3, for jet-proof equipment | | N/A |
| | - steel with electroplated coating of nickel and chromium (ISO 1456), with thickness of at least: | | N/A |
| | 20 µm, service condition ISO no. 2, for ordinary equipment | | N/A |
| | 30 µm, service condition ISO no. 3, for splash-proof equipment | | N/A |
| | 40 µm, service condition ISO no. 4, for jet-proof equipment | | N/A |
| | - steel with electroplated coating of tin (ISO 2093), with thickness of at least: | | N/A |
| | 12 µm, service condition ISO no. 2, for ordinary equipment | | N/A |
| | 20 µm, service condition ISO no. 3, for splash-proof equipment | | N/A |
| | 30 µm, service condition ISO no. 4, for jet-proof equipment | | N/A |
| | Current-carrying parts subjected to mechanical wear: not of steel with electroplated coating | | N/A |
| | Metals having a great difference of electrochemical potential: not used in contact with each other | | N/A |
| 26.6 | Contacts subjected to a sliding action: of metal resistant to corrosion | | N/A |
| 26.7 | Thread-forming screws and thread-cutting screws not used for the connection of current-carrying parts | | P |
| | Thread-forming screws and thread-cutting screws used to provide earthing connection: not necessary to disturb the connection and at least two screws are used for each connection | | P |
| 27 | CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND | | |
| 27.1 | Creepage distances, clearances and distances through sealing compound are not less than the values shown in table 23 | See appended table 27.1 | P |

| IEC 60884-2-5 | | | |
|---------------|---|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | <i>Replacement of the sixth paragraph:</i> | | — |
| | Adaptors are checked in engagement with a socket-outlet and with / without corresponding plugs fitted | | P |
| 27.2 | Insulating sealing compound: not protrude above the edge of the cavity in which it is contained | | N/A |
| 27.3 | Ordinary surface-type socket-outlets: no bare current-carrying strips at the back | | P |
| 28 | RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING | | |
| 28.1 | Resistance to abnormal heat and to fire | | P |
| 28.1.1 | Glow-wire test | | P |
| | For parts of fixed accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 850 °C | | P |
| | No visible flame and no sustained glowing or | | N/A |
| | Flame and glowing extinguish within 30 s | | P |
| | No ignition of the tissue paper | | P |
| | For parts of fixed accessories needed to retain the earth terminal in position in a box: test temperature 650 °C | | — |
| | No visible flame and no sustained glowing or | | P |
| | Flame and glowing extinguish within 30 s | | P |
| | No ignition of the tissue paper | | P |
| | For parts of portable accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 750 °C | | — |
| | No visible flame and no sustained glowing or | | P |
| | Flame and glowing extinguish within 30 s | | P |
| | No ignition of the tissue paper | | P |
| | For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: test temperature 650 °C | | — |
| | No visible flame and no sustained glowing or | | P |
| | Flame and glowing extinguish within 30 s | | P |
| | No ignition of the tissue paper | | P |
| 28.1.2 | Plug part of adaptors with pins provided with insulating sleeves: | | N/A |
| | Test temperature maintained for 3 h by means of the apparatus shown in figure 40 | <input type="checkbox"/> 120 °C / <input type="checkbox"/> 180 °C | — |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Impact test according to sub-clause 30.4 (mass 100 g, height 100 mm, 4 impacts): no cracks of the insulating sleeves | | N/A |
| 28.2 | Resistance to tracking | | |
| | Parts of insulating material retaining live parts in position of accessories having an IP code higher than IPX0: test voltage 175 V, 50 drops, solution A of IEC 60112 | | P |
| | No flashover or breakdown | | P |
| 29 | RESISTANCE TO RUSTING | | |
| | Ferrous parts protected against rusting | | P |
| | No signs of rust after 10 min in carbon tetrachloride, trichloroethane or equivalent degreasing agent, 10 min 10 % solution of ammonium chloride, 10 min in a box with air saturated with moisture and 10 min at 100 °C | | P |
| 30 | ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES | | |
| 30.1 | Pressure test at high temperature | | N/A |
| | Apparatus shown in figure 29, with the test specimen in position, maintained for 2 h at 200 °C. Force applied through the blade: 2,5 N | | N/A |
| | Thickness of insulation measured: before the test (mm); after the test (mm) | | — |
| | Thickness within the area of impression ≥ 50 % of the thickness measured before the test: percent value (%) | | N/A |
| 30.2 | Static damp heat test | | |
| | Set of 3 specimens submitted to two damp heat cycles in accordance with IEC 60068-2-30 | | N/A |
| | After the test: | | N/A |
| | Insulation resistance and electric strength test (clause 17) | | N/A |
| | Abrasion test (sub-clause 24.7) | | N/A |
| 30.3 | Test at low temperature | | |
| | Set of 3 specimens maintained at $-15\text{ °C} \pm 2\text{ °C}$ for 24 h | | N/A |
| | After the test: | | N/A |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Insulation resistance and electric strength test (clause 17) | | N/A |
| | Abrasion test (sub-clause 24.7) | | N/A |
| 30.4 | Impact test at low temperature | | |
| | Specimens maintained at $-15\text{ °C} \pm 2\text{ °C}$ for 24 h subjected to 4 impacts (mass 100 g, height 100 mm) by means of the apparatus shown in figure 30 rotating the specimen through 90° between impacts | | N/A |
| | After the test: no crack of the insulating sleeves | | N/A |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| AA | Annex AA “Travel adaptors” (normative) | | |
| | <ul style="list-style-type: none"> - Specific requirements for travel adaptors. - For some travel adaptors may be necessary to deviate from some requirements. - This annex supplements or modifies the corresponding clauses of the main part. - Where indicated the main part shall be adapted. | | — |
| 1 - 4 | Scope, normative references, definitions, general requirements | | |
| | The main part is applicable. | | — |
| 5 | GENERAL REMARKS ON TESTS | | |
| | The main part is applicable except: | | |
| 5.4 | Addition after the NOTE | | N/A |
| | The tests shall be performed for all possible combinations / working positions | | — |
| | Tests clauses 19, 20, 21: number of specimen may be reduced considering... | | — |
| | Round and flat plug pins: one of each type shall be tested | | — |
| 6 | RATINGS | | |
| | The main part is applicable except: | | |
| 6.102 | The current shall be the lowest of the: <ul style="list-style-type: none"> - The lowest current of the plug type(s) of the plug part - The highest current of the plug type(s) which can be inserted - The current of the overcurrent device, if any | | — |
| 7 | CLASSIFICATION | | |
| | The main part is applicable except: | | N/A |
| 7.2.2 | Dashed test a) socket-outlet without shutters... | delete | — |
| 8 | MARKING | | |
| 8.101 | Additional requirements for travel adaptors | | — |
| | - The manufacturer shall indicate on the adaptor and/or in the documentation accompanying the adaptor that the travel adaptor is for temporary use only and that it shall not be used permanently. | | N/A |
| | - The manufacturer shall indicate on the adaptor and/or in the documentation accompanying the | | N/A |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | adaptor the types of plugs and socket-outlets according to Figure AA.1 and the countries in which it is intended to be used. | | |
| 9 | CHECKING OF DIMENSIONS | | |
| 9.1 | <i>Replacement of the first paragraph:</i> | | — |
| | For travel adaptors the plug part and the socket-outlet part shall comply with the national specifications and standard sheets of the countries for which the manufacturer declares compatibility. | See Annex | N/A |
| | Deviations allowed if safety is not impaired: | | N/A |
| | - overlapping entry holes on the socket-outlet part | | N/A |
| | - plugs combining different national standards on the plug part | | N/A |
| | - outer body dimensions | | N/A |
| | Note 1, 2, 3, 4: additional informations | | — |
| 9.2 | <i>Addition after the first paragraph:</i> | | — |
| | Travel adaptors allowing temporary connection of a plug with a socket-outlet having a higher voltage rating are allowed, provided that the manufacturer gives information for the safe use directly on the travel adaptor, for example "DOES NOT CONVERT VOLTAGE". | | N/A |
| 10 | PROTECTION AGAINST ELECTRIC SHOCK | | |
| 10.1 | <i>Replacement of the second paragraph and NOTE:</i> | | — |
| | Live parts shall not be accessible when the plug part of a travel adaptor is in partial or complete engagement with a socket-outlet. | | N/A |
| | <i>Replacement of the sixth paragraph:</i> | | — |
| | For travel adaptors, the test finger is applied in every possible position when the travel adaptor is in partial or complete engagement with a socket-outlet. | | N/A |
| | <i>Addition NOTE 101</i> | | — |
| 10.3 | <i>Replacement of the first paragraph:</i> | | — |
| | It shall not be possible to make contact between a pin of a plug and a live socket contact of a travel adaptor or between a pin of a travel adaptor and a live socket contact of a socket-outlet whilst any other current carrying pin is accessible. | | N/A |

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---------------|---|--|-----|
| 11 | PROVISION FOR EARTHING | | |
| 11.101 | <i>Addition:</i> | | — |
| | For earthed configurations, it shall not be possible to engage the current-carrying pins of the travel adaptor in a socket-outlet without the corresponding earth becoming engaged. | | N/A |
| | The test shall be performed with the travel adaptor pins in all possible positions. | | N/A |

| | | | |
|---------------|--|--|-----|
| 14 | CONSTRUCTION OF TRAVEL ADAPTORS | | |
| 14.1 | <i>Replacement:</i> | | — |
| | The socket-outlet part of a travel adaptor may have one or more socket-outlet type(s), but it shall accommodate only one plug at a time. | | N/A |
| | The socket-outlet part(s) of travel adaptors shall be provided with shutters. | | N/A |
| | For travel adaptors comprising of several parts, the use of the adaptor shall remain safe for all combinations of parts. | | N/A |
| | Live parts of any detachable plug part ... shall not be accessible when inserted into the relevant socket-outlet. | | N/A |
| | The plug part of a travel adaptor may have one or several plug type(s), but only one plug can be electrically connected at a time. | | N/A |
| | There shall be no electrical connection between different pin combinations, if any, when one of them is ready for use. This shall additionally be tested with the pin combinations (use and unused, if any) in intermediate positions. | | N/A |
| | Compliance is checked by applying the standard test finger, test probe B of IEC 61032, in every possible position, an electrical indicator with a voltage between 40 V and 50 V being used to show contact with the relevant parts. | | N/A |
| 14.107 | <i>Replacement:</i> | | — |
| | Travel adaptors shall not have any socket-outlet part, which permits the insertion of a plug with current rating exceeding 1,25 times the lowest rated current of the plug type(s) of its plug part, unless it is provided with an overcurrent protective device rated less than or equal to the rated current of the plug part. | | N/A |

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 15 | INTERLOCKED SOCKET-OUTLET PARTS OF ADAPTORS | | |
| | Socket-outlet parts of adaptors interlocked with a switch: | | — |
| | plug cannot be inserted into or completely withdrawn from the adaptor while the socket-contacts are live | | N/A |
| | socket-contacts of the adaptor cannot be made live until a plug is almost completely in engagement | | N/A |
| 16 | RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES, AND RESISTANCE TO HUMIDITY | | |
| 16.1 | Resistance to ageing | | |
| | For travel adaptors with movable pins or detachable plug and/or socket-outlet parts, all specimens shall be subjected to a test with 300 cycles of complete movements of the pins, which have been selected for the tests of Clause 19, 20 and 21 or of the detachable plug and/or socket-outlet parts. | | N/A |
| 17 | INSULATION RESISTANCE AND ELECTRIC STRENGTH | | |
| | This clause of the main part is applicable | | — |
| 18 | OPERATION OF EARTHING CONTACTS | | |
| | This clause of the main part is applicable | | — |
| 19 | TEMPERATURE RISE | | |
| | This clause of the main part is applicable | | — |
| 20 | BREAKING CAPACITY | | |
| | - The test voltage shall be 1,1 times the rated voltage of the plug part | | — |
| | - The test current shall be 1,25 times the current which is the lowest between the rated current of the plug that can be inserted in the socket-outlet part and the rated current of the plug part of the travel adaptor. (cos φ 0,6) | | — |
| | If more than one type of plug can be engaged into the socket-outlet part, this test shall be performed for the types of plugs on new additional sets of specimens (one set of 3 specimens for each type of plug), chosen according to 5.4, previously submitted to the test of subclause 16.1, and subsequently submitted to the tests of Clause 21. | | N/A |

| IEC 60884-2-5 | | | |
|---------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | In addition to the above tests, an additional set of specimens is required to be tested with all types of plugs. | | N/A |
| | Each plug is inserted and withdrawn from the socket-outlet 50 times (100 strokes) divided by the number of plugs, which may be inserted in that socket-outlet part. | | N/A |
| | That set of specimens shall also be previously submitted to the test of subclause 16.1, and subsequently submitted to the tests of Clause 21. | | N/A |

| | | | |
|-----------|--|--|-----|
| 21 | NORMAL OPERATION | | |
| | The specimens are tested at the rated voltage of the plug part, in a circuit with $\cos\phi=0,8\pm0,05$, with an alternating current as follows: | | — |
| | – for travel adaptors without incorporated overcurrent protective device, the test current being the current which is the lowest between the rated current of the plug that can be inserted in the socket outlet part and the rated current of the plug part of the travel adaptor, | | N/A |
| | – for travel adaptors with incorporated overcurrent protective device, the test current being the rated current of the protective device but not higher than the lowest between the rated current of the plug that can be inserted in the socket outlet part and the rated current of the plug part of the travel adaptor. | | N/A |
| | For the additional set of specimens which was tested in Clause 20 with all types of plugs, each plug is inserted and withdrawn from the socket-outlet 5000 times (10000 strokes) divided by the number of plugs, which may be inserted in that socket-outlet part. | | N/A |

| | | | |
|-----------|---|--|---|
| 22 | FORCE NECESSARY TO WITHDRAW THE PLUG | | |
| | This clause of the main part is applicable | | — |

| | | | |
|-----------|---|--|---|
| 23 | FLEXIBLE CABLES AND THEIR CONNECTION | | |
| | This clause of the main part is applicable | | — |

| | | | |
|-------------|---|--|-----|
| 24 | MECHANICAL STRENGTH | | |
| 24.2 | <i>Addition:</i> | | — |
| | For travel adaptors with movable pins, the test shall be repeated on new set of specimens for each plug type. | | N/A |

| | | | |
|-----------|--|--|---|
| 25 | RESISTANCE TO HEAT | | |
| | This clause of the main part is applicable | | — |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 26 | SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS | | |
| | This clause of the main part is applicable | | — |
| 27 | CREEPAGE DISTANCES, CLEARANCE AND DISTANCES THROUGH SEALING COMPOUND | | |
| | This clause of the main part is applicable | | — |
| 28 | RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING | | |
| | This clause of the main part is applicable | | — |
| 29 | RESISTANCE TO RUSTING | | |
| | This clause of the main part is applicable | | — |
| 30 | ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES | | |
| | This clause of the main part is applicable | | — |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | |
|----------------------------|--|---|-----------|---------|
| 12.2.5 | TABLE: test with apparatus shown in figure 11 (screw-type terminals) | | | P |
| | rated current (A) | 16A | — | |
| | type of conductors | Rigid solid / rigid stranded / flexible | — | |
| | smallest/largest cross-sectional area per table 3 (mm²) | 1 mm² and 1.5mm² | — | |
| | number of conductors | 3 | — | |
| | nominal diameter of thread (mm); torque per table 6 (Nm) | 3.34mm, 0.8Nm | — | |
| Cross-sectional area (mm²) | Diameter of bushing hole per table 9 (mm) | Height H per table 9 (mm) | Mass (kg) | Remarks |
| 1mm² | 6.5 | 260mm | 0.4kg | P |
| supplementary information: | | | | |

| | | | | | |
|----------------------------|--|----------------------|--|--|---------|
| 12.2.6 | TABLE: pull test (screw-type terminals) | | | | P |
| | rated current (A) | | 16A | — | |
| | smallest/largest cross-sectional area per table 3 (mm²) | | 1 mm² and 1.5mm² | — | |
| | nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) | | 0.538Nm | — | |
| Cross-sectional area (mm²) | | Number of conductors | Type of conductors (rigid solid / rigid stranded / flexible) | Pull per table 4 applied for 1 min (N) | Remarks |
| 1mm² | | 3 | Flexible | 40N | P |
| supplementary information: | | | | | |

| IEC 60884-2-5 | | | | |
|--|--|--|---|----------|
| Clause | Requirement + Test | | Result - Remark | Verdict |
| 12.2.7 | TABLE: tightening test (screw-type terminals) | | | P |
| | rated current (A) | 16A | | — |
| | nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) | 0.538Nm | | — |
| Largest cross-sectional area per table 3 (mm ²) | Permissible number of conductors ⁽¹⁾ | Type of conductors (rigid solid / rigid stranded / flexible) | Number of wires and nominal diameter of wires per table 5 | Remarks |
| 1mm ² | 3 | Flexible | 40N | P |
| supplementary information: | | | | |
| ⁽¹⁾ terminals intended for looping-in 2 or 3 conductors | | | | |

| | | | | | |
|---|--|---|---------------------------|-----------|---------|
| 12.3.10 | TABLE: mechanical strength test (screwless-type terminals) | | | N/A | |
| | rated current (A) | | | — | |
| | largest/smallest cross-sectional area per table 7 (mm ²) | | | — | |
| Number of connection (after that conductor subjected to a pull of 30 N for 1 min) / disconnection | Type of conductor (solid / rigid stranded / flexible) | Cross-sectional area (mm ²) | Remarks | | |
| | | | | | |
| TABLE: test with apparatus shown in figure 11 | | | | | |
| Cross-sectional area (mm ²) | Type of conductor (solid / rigid stranded / flexible) | Diameter of bushing hole per table 9 (mm) | Height H per table 9 (mm) | Mass (kg) | Remarks |
| | | | | | |
| supplementary information: | | | | | |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | | | | | |
|--|--|-------------------|---|---|--|---|---------|
| Clause | Requirement + Test | | | | Result - Remark | | Verdict |
| 12.3.11 | TABLE: electrical and thermal strength test (screwless-type terminals) | | | | | | N/A |
| Test a) | Test carried out for 1 h connecting rigid solid conductors: | | | | | | |
| | test current per table 10 (A) | | | | | | — |
| | nominal cross-sectional area (mm ²) | | | | | | — |
| Screwless terminal number | | Voltage drop (mV) | | | Required voltage drop (mV) | | |
| 1 | | | | | ≤ 15 | | |
| 2 | | | | | ≤ 15 | | |
| 3 | | | | | ≤ 15 | | |
| 4 | | | | | ≤ 15 | | |
| 5 | | | | | ≤ 15 | | |
| Test b) | Temperature cycles test carried out on terminals subjected to Test a): | | | | | | |
| | test current per table 10 (A) | | | | | | — |
| | nominal cross-sectional area (mm ²) | | | | | | — |
| | allowed voltage drop (mV) | | | | ≤ 22,5 mV or 2 times 24 th cycle value (mV) | | — |
| Screwless terminal number | | 1 | 2 | 3 | 4 | 5 | Remarks |
| voltage drop after 24 th cycle | | | | | | | |
| voltage drop after 48 th cycle | | | | | | | |
| voltage drop after 72 nd cycle | | | | | | | |
| voltage drop after 96 th cycle | | | | | | | |
| voltage drop after 120 th cycle | | | | | | | |
| voltage drop after 144 th cycle | | | | | | | |
| voltage drop after 168 th cycle | | | | | | | |
| voltage drop after 192 nd cycle | | | | | | | |

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|----------------------------|-----------|---------|
| 12.3.10 | TABLE: mechanical strength test (screwless-type terminals) | | | | N/A |
| | rated current (A) | | | — | |
| | largest/smallest cross-sectional area per table 7 (mm²) | | | — | |
| Number of connection (after that conductor subjected to a pull of 30 N for 1 min) / disconnection | | Type of conductor (solid / rigid stranded / flexible) | Cross-sectional area (mm²) | Remarks | |
| | | | | | |
| TABLE: test with apparatus shown in figure 11 | | | | | |
| Cross-sectional area (mm²) | Type of conductor (solid / rigid stranded / flexible) | Diameter of bushing hole per table 9 (mm) | Height H per table 9 (mm) | Mass (kg) | Remarks |
| | | | | | |
| supplementary information: | | | | | |

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | | |
|--|---|-------|-------|---------|-------|-------|---------|
| 12.3.12 | TABLE: deflection test (principle of test apparatus shown in figure 12a) | | | | | | N/A |
| | Test carried out connecting rigid solid copper conductors: | | | | | | |
| | test current (A) (equal rated current) | | | | | | — |
| | required voltage drop (mV) | | | ≤ 25 mV | | | — |
| Type of conductor | Smallest | | | Largest | | | Remarks |
| cross-sectional area per table 11 (mm ²) | | | | | | | |
| force per table 12 (N) | | | | | | | |
| screwless terminal number | 1 | 2 | 3 | 1 | 2 | 3 | |
| starting point (X = deflection original point) | X | X+10° | X+20° | X | X+10° | X+20° | |
| voltage drop 1 st deflection (mV) | | | | | | | |
| voltage drop 2 nd deflection (mV) | | | | | | | |
| voltage drop 3 rd deflection (mV) | | | | | | | |
| voltage drop 4 th deflection (mV) | | | | | | | |
| voltage drop 5 th deflection (mV) | | | | | | | |
| voltage drop 6 th deflection (mV) | | | | | | | |
| voltage drop 7 th deflection (mV) | | | | | | | |
| voltage drop 8 th deflection (mV) | | | | | | | |
| voltage drop 9 th deflection (mV) | | | | | | | |
| voltage drop 10 th deflection (mV) | | | | | | | |
| voltage drop 11 th deflection (mV) | | | | | | | |
| voltage drop 12 th deflection (mV) | | | | | | | |
| supplementary information: | | | | | | | |

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 14.22 | TABLE: Components | | | | | P |
|-------------------|---|--------------------|---|---|--|---|
| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity ¹⁾ | |
| Thermal Switch | Heng Hao Electric Industry (HK) limited | KSD301 | 16A 250V 50/60Hz 85°C | IEC/EN 60730- 2-9 IEC/EN 60730- 1 | TUV SUD B 103930 0004 | |
| Varistor | SONGLONG LISHANG | 14D431K | 275VAC-4500A | IEC 61051-2 IEC 61051-2-2 IEC 61051-1 | VDE 40028836 | |
| Cable | Star Kablo | H05V-K | 1x1mm ² 300/500V | IEC/EN 50525- 2-31 | TSE 000211-TSE- 05/01 | |
| Plug Insert | Güvenir Elektrik | 08 HL | 16A 250V Two-Pole (with- without earthing) 3 x0.75-1.5mm ² | IEC 60884-1 | TUV R R 60152623 | |
| PCB | JIN BAO | ZD-16F | V-0 | UL746 | UL E141940 | |
| Transformer | Shenzhen Bozhongda Technology Co Ltd | BZD-B | 5V 2A | UL1446 | UL E509026 | |
| Plastic | Hanwha Total | BJ7500 | PP 3mm BP:125°C GW:850°C 3-6% for V-2 (1.6 mm) in PP 18-22% for V-0 (1.6 mm) in PP | IEC 60884-1 | Tested with appliance | |
| Terminal Plastic | IMS Polymers | M0101041000 270 | PP 3mm BP:125°C GW:850°C | IEC 60884-1 | Tested with appliance | |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | | | |
|---|--------------------|------------|-------------------------------------|-----------------|-----------------------|
| Clause | Requirement + Test | | | Result - Remark | Verdict |
| Transparent plastic | Lotte Chemical | SC-12200UR | PC 3.2mm BP:125°C GW:850°C | IEC 60884-1 | Tested with appliance |
| Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. | | | | | |

| | | | | |
|----------------------------|--|---------------|---------------|----------|
| 17.1 | TABLE: insulation resistance | | | P |
| Item per 17.1 | test voltage applied between: | measured (MΩ) | required (MΩ) | |
| a | between all poles connected together and the body | >500 MΩ | 5 MΩ | |
| b | between each pole in turn and all others | >500 MΩ | 5 MΩ | |
| c | between any metal enclosure and metal foil in contact with the inner surface of its insulating linings | >500 MΩ | 5 MΩ | |
| supplementary information: | | | | |

| | | | | |
|----------------------------|--|------------------|--------------------------------|----------|
| 17.2 | TABLE: electric strength | | | P |
| | rated voltage (V) | 250V | | — |
| item per 17.1 | test voltage applied between: | test voltage (V) | flashover / breakdown (Yes/No) | |
| a | between all poles connected together and the body | 2000 | No | |
| b | between each pole in turn and all others | 2000 | No | |
| c | between any metal enclosure and metal foil in contact with the inner surface of its insulating linings | 2000 | No | |
| supplementary information: | | | | |

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 19.101 | TABLE: temperature rise test for socket-outlets parts and plugs parts | | | | | | | P |
|-------------------------------|--|--|----------------------------|---|---|-------------------------|------------------------|---|
| | rated current of accessory (A) : | | | | | 16 | | — |
| | type of accessory (non-rewirable / rewirable) : | | | | | rewireable | | — |
| | nominal cross-sectional area per table 15 (mm ²) : | | | | | 1.5mm ² | | — |
| | type of conductors (rigid solid / rigid stranded / flexible) : | | | | | flexible | | — |
| | nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) : | | | | | 0.533Nm | | — |
| | for $I_n \leq 10$ A, test current = 1,4 I_n | | | | | | | |
| | for $I_n > 10$ A, test current = 1,25 I_n | | | | | 16x1.25 | | |
| specimen | type of flexible cable (1) | number of conductors and nominal cross-sectional area (mm ²) (1) | test circuit (L-L/L-N/L-E) | test current applied for 60 (0 +5) min through each separate socket-outlet part in turn | test current applied for 60 (0 +5) min through all socket-outlet parts simultaneously | measured ΔT (K) | allowed ΔT (K) | ΔT of external parts of insulating material (25.3)(K) |
| Bottom plastic | - | - | L-N/L-E | 20A | 20A | 8.2 | 25.3 | P |
| Top plastic | - | - | L-N/L-E | 20A | 20A | 8.45 | 25.3 | P |
| Transparent plastic | - | - | L-N/L-E | 20A | 20A | 9.7 | 100 | P |
| Terminal plastic | - | - | L-N/L-E | 20A | 20A | 0.95 | 147 | P |
| Plug | - | - | L-N/L-E | 20A | 20A | 8.45 | 16.5 | P |
| Internal wire | - | - | L-N/L-E | 20A | 20A | 14 | 46.5 | P |
| Thermal cut-out | - | - | L-N/L-E | 20A | 20A | 22.5 | 50 | P |
| Ambient thermal cut-out | - | - | L-N/L-E | 20A | 20A | 12 | 50 | P |
| Plug plastic | - | - | L-N/L-E | 20A | 20A | 4.7 | 25.3 | P |
| Transformer | - | - | L-N/L-E | 20A | 20A | 4.7 | 106.5 | P |
| Led | - | - | L-N/L-E | 20A | 20A | 6.5 | 11.5 | P |
| supplementary information: | | | | | | | | |
| (1) Non-rewirable accessories | | | | | | | | |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 19.102 | TABLE: temperature rise test for adaptors with incorporated components | | | | | | N/A |
|----------|---|---|----------------------------|---|-----------------|----------------|---|
| | rated current of accessory (A) : | | | | | | — |
| | type of accessory (non-rewirable / rewirable) : | | | | | | — |
| | nominal cross-sectional area per table 15 (mm ²) : | | | | | | — |
| | type of conductors (rigid solid / rigid stranded / flexible)..... : | | | | | | — |
| | nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm.....) : | | | | | | — |
| Specimen | Type of flexible cable (1) | Number of conductors and nominal cross-sectional area (mm ²) ⁽¹⁾ | Test circuit (L-L/L-N/L-E) | A test current which is the lowest between the current of the overcurrent device and the current of the plugs that can be inserted. | Measured ΔT (K) | Allowed ΔT (K) | ΔT of external parts (25.3)(K) ⁽²⁾ |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Supplementary information:

⁽¹⁾ Non-rewirable accessories; ⁽²⁾ Metal parts 30 K; non-metallic parts 40 K

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | | | |
|--|--|---------------------|---------------------------------------|---|--------------------------------|---|--|---|
| 20 | TABLE: breaking capacity | | | | | | | P |
| | rating of accessory (A/V) : | | | 16A/250V | | | — | |
| | type of accessory (non-rewirable / rewirable) : | | | - | | | — | |
| | type of flexible cable (non-rewirable accessories) .. : | | | Rewirable | | | — | |
| | number of conductors and nominal cross-sectional area (mm ²) (non-rewirable accessories) : | | | - | | | — | |
| | nominal cross-sectional area per table 15 (mm ²) : | | | 1mm ² | | | — | |
| | type of conductors (rigid solid / rigid stranded / flexible)..... : | | | Flexible | | | — | |
| | nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) : | | | 0.533Nm | | | — | |
| | rate of operation (strokes per minute) : | | | 30 strokes | | | — | |
| Specimen | Test plug (for each type and current rating of socket-outlet) | | Test voltage (1,1 V _n) | Test current (1,25 I _n) cos φ 0,6 | No. of strokes (plugs only) | No. of strokes, with shutters – with current ⁽¹⁾ | No. of strokes, without shutters – with current ⁽²⁾ | |
| | Pin dimensions (mm) | Pin spacing (mm) | | | | | | |
| a | Ø4.8 | 16 | 275V | 20A | - | 10000 | - | P |
| | | | | | | | | |
| | | | | | | | | |
| supplementary information: | | | | | | | | |
| (1) starting point 1 or 3 of Figure 43 | | | | | | | | |
| (2) starting point 2 of Figure 43 | | | | | | | | |

| IEC 60884-2-5 | | | | | | | | | |
|------------------|--|------------------|---|------------------------------------|--|--|---|---|---------|
| Clause | Requirement + Test | | | | Result - Remark | | | | Verdict |
| 21 | TABLE: normal operation | | | | | | | | P |
| | rating of accessory (A/V) | | | | 16A/250V | | | | — |
| | type of accessory (non-rewirable / rewirable) | | | | - | | | | — |
| | type of flexible cable (non-rewirable accessories) ... | | | | Rewireable | | | | — |
| | number of conductors and nominal cross-sectional area (mm²) (non-rewirable accessories) | | | | - | | | | — |
| | nominal cross-sectional area per table 15 (mm²) | | | | 1mm² | | | | — |
| | type of conductors (rigid solid / rigid stranded / flexible) | | | | Flexible | | | | — |
| | nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) | | | | 0.533Nm | | | | — |
| | rate of operation (strokes per minute) | | | | 30 strokes | | | | — |
| Specimen | Test plug (for each type and current rating of socket-outlet) | | Test voltage (Vn) | Test current (table 20), cos φ 0,8 | Number of strokes (plugs only) | Number of strokes, with shutters – with current ⁽¹⁾ | Number of strokes, without shutters – with current ⁽²⁾ | Number of strokes, with shutters – without current ⁽³⁾ | |
| | Pin dimensions (mm) | Pin spacing (mm) | | | | | | | |
| a | Ø4.8 | 16 | 250 | 16 | - | 10000 | - | | P |
| | TABLE: test for shuttered socket-outlets | | | | | | | | |
| Specimen | Gauge of figure 9, applied with a force of 20 N, for approximately 5 s, successively in three directions | | | | Steel gauge of figure 10, applied with a force of 1 N for approximately 5 s, in three directions | | | | |
| a | Applied | | | | Applied | | | | P |
| | TABLE: temperature rise test | | | | | | | | |
| Specimen | Test circuit (L-L/L-N/L-E) | | Test current (table 20 for clause 21) for 60 (0 +5) min | | | Measured dT (K) | | Allowed dT (K) | |
| Bottom plastic | L-N/L-E | | 16A | | | 6.8 | | 96.5 | P |
| Top plastic | L-N/L-E | | 16A | | | 4.8 | | 96.5 | P |
| Earthing plastic | L-N/L-E | | 16A | | | 8.8 | | 99.5 | P |
| Terminal plastic | L-N/L-E | | 16A | | | 7.5 | | 146.5 | P |
| Plug | L-N/L-E | | 16A | | | 7.2 | | 21.5 | P |
| Internal wire | L-N/L-E | | 16A | | | 4 | | 46.5 | P |
| Thermal cut-out | L-N/L-E | | 16A | | | 25.2 | | 50 | P |

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001

| IEC 60884-2-5 | | | | | |
|--|--------------------------|--|-----------------|------------------------------------|--------------------------------|
| Clause | Requirement + Test | | Result - Remark | | Verdict |
| Ambient thermal cut-out | L-N/L-E | 16A | 4.9 K | 50 | P |
| Plug plastic | L-N/L-E | 16A | 4 K | 21.5 | P |
| Transformer | L-N/L-E | 16A | 6.4 K | 106.5 | P |
| Led | L-N/L-E | 16A | 3.8 K | 11.5 | P |
| | TABLE: electric strength | | | | |
| Specimen | Item per 17.2 | Test voltage applied between: | | Test voltage (V) (a.c., for 1 min) | Flashover / breakdown (Yes/No) |
| a | 17.2.2 | between all poles connected together and the body | | 2000 | No |
| b | 17.2.2 | between each pole in turn and all others | | 2000 | No |
| c | 17.2.2 | between any metal enclosure and metal foil in contact with the inner surface of its insulating linings | | 2000 | No |
| supplementary information: | | | | | |
| (1) starting point 1 or 3 of Figure 43 | | | | | |
| (2) starting point 2 of Figure 43 | | | | | |
| (3) starting point 1 or 2 of Figure 43 | | | | | |

| | | | | | |
|----------------------------|--|---|---|--|---|
| 22 | TABLE: force necessary to withdraw the plug | | | | P |
| | Rated current (A) | | 16A | | — |
| | Number of poles | | 2 | | — |
| 22.1 | Verification of the maximum withdrawal force | | | | |
| specimen | socket-outlets (multi-pin gauge) | | plugs with resilient earthing contact assemblies (single-pin gauge) | | |
| | maximum withdrawal force (N) | the test plug did not remain in the socket-outlet (Y/N) | maximum withdrawal force (N) | the test pin gauge did not remain in the contact assembly | |
| A | 50N | Y | - | - | P |
| 22.2 | Verification of the minimum withdrawal force | | | | |
| specimen | socket-outlets (single-pin gauge) | | plugs with resilient earthing contact assemblies (single-pin gauge) | | |
| | minimum withdrawal force (N) | the test pin gauge did not fall from each individual contact-assembly within 30 s (Y/N) | minimum withdrawal force (N) | the test pin gauge did not fall from each individual earthing contact-assembly within 30 s (Y/N) | |
| supplementary information: | | | | | |

| IEC 60884-2-5 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|----------------------------|---|--|----------------------|--|-------------------|-----|
| 23.2 | TABLE: pull and torque test | | | | | N/A |
| | rating of accessory (A) | | | | | — |
| | type of accessory (non-rewirable / rewirable) | | | | | — |
| | smallest/largest cross-sectional area per table 17 (mm ²) (rewirable accessories) | | | | | — |
| | nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) (rewirable accessories) | | | | | — |
| specimen | type of flexible cable | number of conductors and nominal cross-sectional area (mm ²) | pull (100 times) (N) | torque (1 min) as specified in table 18 (Nm) | displacement (mm) | |
| | | | | | | |
| supplementary information: | | | | | | |

| | | | | | | |
|----------------------------|----------------------------|--|------------------|----------|--|-----|
| 23.4 | TABLE: flexing test | | | | | N/A |
| | rated current (A) | | | | | — |
| specimen | type of flexible cable | number of conductors and nominal cross-sectional area (mm ²) | test current (A) | mass (N) | | |
| | | | | | | |
| supplementary information: | | | | | | |

| | | | | | | |
|----------------------------|--|--|--|-----------------------|--------------------------|---|
| 25.2 | TABLE: ball pressure test of insulating materials | | | | | P |
| | allowed impression diameter (mm) : ≤ 2 mm | | | | | — |
| part under test | | | | test temperature (°C) | impression diameter (mm) | |
| Plug | | | | 125 | 0.893 | |
| Transparent plastic | | | | 125 | 1.23 | |
| Terminal plastic | | | | 125 | 1.55 | |
| Shutter plastic | | | | 125 | 1.74 | |
| supplementary information: | | | | | | |

| IEC 60884-2-5 | | | |
|---|--|---|-----------------------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 25.3 | TABLE: ball pressure test of insulating materials | | P |
| | allowed impression diameter (mm) : | $\leq 2 \text{ mm}$ | — |
| part under test | | test temperature (°C) ⁽¹⁾ | impression diameter (mm) |
| White plastic | | 70 | 1.89 |
| supplementary information: ⁽¹⁾ (70 ± 2) °C / (40 ± 2) °C + highest temperature rise determined during the test of clause 19 | | | |

| | | | | | | |
|------------------------------|----------------------------------|---------------------------|---------------------|--------------|-----------|---|
| 26.1 | TABLE: threaded part torque test | | | | | P |
| threaded part identification | diameter of thread (mm) | column number (1, 2 or 3) | applied torque (Nm) | times (5/10) | no damage | |
| Mounting screw | 2.93 | 2 | 0.524 | 10 | No | |
| supplementary information: | | | | | | |

| IEC 60884-2-5 | | | | | | | |
|----------------------------|---|------------------|---------|-------------------|----------|--------------------|-----------|
| Clause | Requirement + Test | | | Result - Remark | | | Verdict |
| 27.1 | TABLE: creepage distances, clearances and distances through sealing compound | | | | | | P |
| | rated voltage (V) : | | | 250V | | | — |
| item per table 23 | creepage distance dcr, clearance cl and distance through sealing compound dtsc at/of: | required cl (mm) | cl (mm) | required dcr (mm) | dcr (mm) | required dtsc (mm) | dtsc (mm) |
| 1 | between live parts of different polarity | ≥ 1 | 1.66 | ≥ 3 | 4.28 | ≥ - | - |
| 2 | between live parts and accessible surface of parts of insulating material | ≥ 3 | 6.8 | ≥ 3 | 11.9 | ≥ - | - |
| 3 | between live parts and earthed metal parts including parts of earthing circuit | ≥ 1 | 5.5 | ≥ 3 | 5.5 | ≥ - | - |
| 4 | between live parts and external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit | ≥ 3 | ≥ 3 | ≥ 3 | ≥ 3 | ≥ - | - |
| 5 | between live parts of a socket-outlet (without a plug) or of a plug and their accessible unearthed or functional earthed metal parts | ≥ - | - | ≥4.5 | 5.5 | ≥ - | - |
| 6 | between live parts and the surfaces on which the main part of a socket-outlet for surface mounting is mounted | ≥ 6 | 29.9 | ≥ - | - | ≥ - | - |
| supplementary information: | | | | | | | |

| | | | | | | |
|----------------------------|-----------------------|----------------------|-----------------------|---|-----------------------------------|------------------------------------|
| 28.1.1 | TABLE: glow-wire test | | | | | P |
| part under test | | material designation | test temperature (°C) | visible flame and sustained glowing (Y/N) | flame and glowing extinction time | ignition of the tissue paper (Y/N) |
| Plug | | Güvenir Elektrik | 750 | N | 0 | N |
| Transparent plastic | | Lotte Chemical | 850 | Y | 6 | N |
| Terminal plastic | | IMS Polymers | 850 | Y | 15 | N |
| White plastic | | Hanwha Total | 650 | N | 0 | N |
| supplementary information: | | | | | | |

AB-0823-T

202200889IST-001

02-23

Report No. 202200889IST-001

| IEC 60884-2-5 | | | |
|----------------------------|--------------------------------------|------------------|--------------------------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 28.2 | TABLE: resistance to tracking | | P |
| | number of drops : | 30 | — |
| part under test | material designation | test voltage (V) | flashover / breakdown (Yes/No) |
| Enclosure | Hanwha Total | 175V | No |
| supplementary information: | | | |

Report No. 202200889IST-001

List of test equipment used:

| Measurement / testing | Testing / measuring equipment / material used, (Equipment ID) | Range used | Last Calibration date | Calibration due date |
|---|--|-------------------|------------------------------|-----------------------------|
| Variable Regulated Power Source | CHROMA 61612 | EN 023 | Initial calibration | Initial calibration |
| Probe B | TESTING EUROPE T5-75 | EN 050 | 11.2022 | 11.2023 |
| Probe 11 | TESTING EUROPE T5-41 | EN 056 | 11.2022 | 11.2023 |
| Force Gauge | IMADA DS2-110 | EN 020 | 10.2022 | 10.2023 |
| Hand-held Multimeter | FLUKE 179 | EN 317 | 07.2022 | 07.2023 |
| Mono-Phase Power Meter | YOKOGAWA WT310 | EN 033 | 04.2022 | 04.2023 |
| Chronometer | CASIO HS-80TW | EN 114 | 12.2021 | 12.2022 |
| Climatic chamber | ANGELANTONI DY 1200 | EN 001 | 01.2022 | 01.2023 |
| Glow Wire Test Apparatus | TESTING EUROPE T4-08 | EN 043 | 01.2020 | 01.2023 |
| Probe D | TS 51 | EN 052 | 11.2022 | 11.2023 |
| Electrical Safety Analyzer | CHROMA 19032-P | EN 021 | 12.2021 | 12.2022 |
| Calliper | MITUTOYO 573-635 | EN 036 | 10.2022 | 10.2023 |
| Weight | - | EN 298B | 09.2021 | 09.2024 |
| Weight | - | EN 300 | 09.2021 | 09.2024 |
| Torque Screwdriver | Imada | EN 18 | 10.2022 | 10.2023 |
| Hand-held Thermometer | FLUKE 52-II | EN 008 | 11.2022 | 11.2023 |
| Air Comditioning Cabinet | SMC800-CB | EN 279 | 04.2022 | 04.2023 |
| Multi-purpose standard meter of three-phase | 2012574 | EN 322 | 12.2021 | 12.2022 |
| Temperature recorder | HIOKI | EN 309 | 11.2022 | 11.2023 |
| Cable Torque Device | - | EN 306C | 09.2021 | 09.2024 |
| Cable swing tester | - | EN 298E | 09.2021 | 09.2024 |
| Figure 38 | - | EN 304 | 10.2021 | 10.2024 |
| Oven | FD 115 | EN 270 | 10.2022 | 10.2023 |
| Weight | - | EN 120 | 02.2022 | 02.2023 |
| Oven | Testing Europe SP120E | EN 45 | 01.2022 | 01.2023 |
| Tracking test apparatus | Testing Europe T4-41A | EN 044 | 09.2022 | 09.2023 |
| Plug | - | EN 336 | 12.2021 | 12.2024 |
| Socket-outlet life tester | - | EN 308 | 12.2022 | 12.2024 |
| Socket-outlet test device | - | EN 301 | 09.2021 | 09.2024 |

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001

Photos



Photo 1. Front view of the Socket-outlet



Photo 2. Front view of the Usb socket-outlet

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001



Photo 3. View of Plug

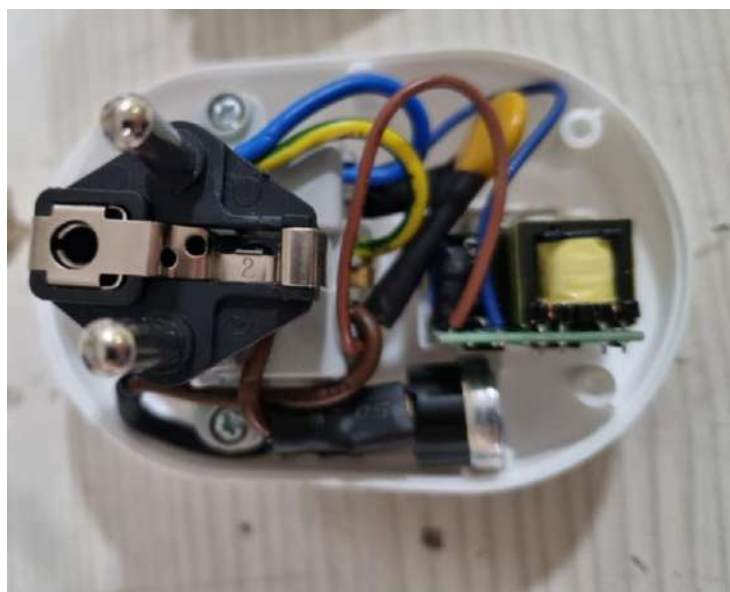


Photo 4. Interior view of Socket-outlet

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001

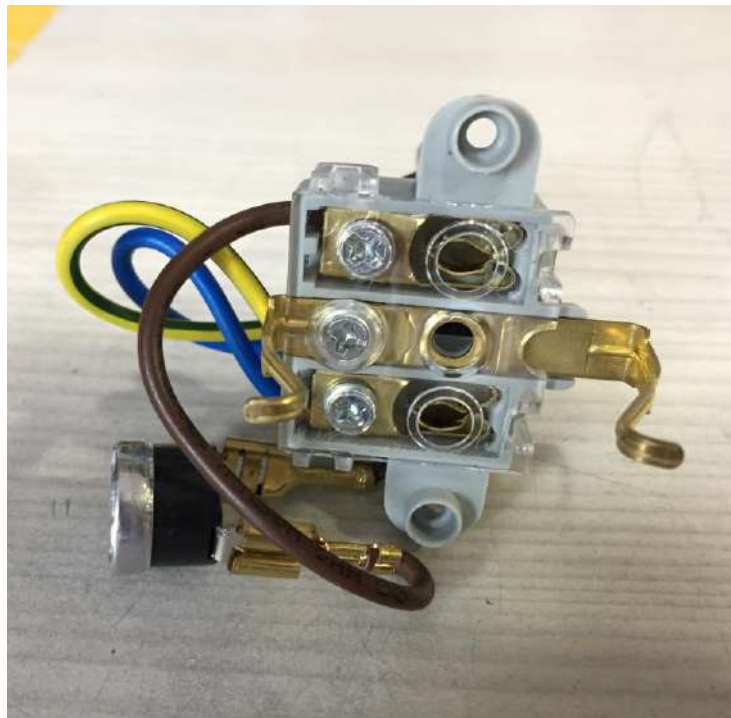


Photo 5. Terminal



Photo 6. Thermal cut-out

| |
|------------------|
| AB-0823-T |
| 202200889IST-001 |
| 02-23 |

Report No. 202200889IST-001



Photo 7. Plug



Photo 8. PCB