الهيئــة السعوديــة للمواصفــات والمقاييـس والجــودة
Saudi Standards, Metrology and Quality Org (SASO)

SASO 2203:2015

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES- SAFETY REQUIREMENTS AND TEST METHODS 250 V/13 A

ICS: 29.120

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES- SAFETY REQUIREMENTS AND TEST METHODS 250 V/13 A

FOREWORD

This Saudi Standard “Plugs and socket-outlets for household and similar purpose - safety requirements and test methods - 250 V/ 13 A” has prepared on the basis of updating the previous SASO standard No. 2203:2003 "Plug and Socket-Outlets for Household and Similar General Use – 220V", and the two supplementary standards endorsed by the Saudi Standards, Metrology and Quality Organization; GSO BS 1363-1 : 2009 incorporating amendments numbers 1,2 and 3, “13 A plugs, socket-outlets, adaptors and connection units- Part 1: Specification for rewirable and non-rewirable 13 A fused plugs.” and GSO BS 1363-2 : 2009 incorporating amendments numbers 1,2 and 3, “13 A plugs, socket-outlets, adaptors and connection units- Part 2: Specification for 13 A switched and unswitched socket- outlets.” .

This Standard was prepared taking into consideration the latest decree No.324 dated 20/09/1431H issued by the ministries cabinet to change the system voltage from 220/127 V in the kingdom to 400/230 V.

Additional modifications have made to this standard to suit the conditions in the Kingdom of Saudi Arabia.

This standard after approval will replace and supersede SASO 2203: 2003 “plugs and socket – outlets for household and similar general use 220 V”and SASO 443:2003 “methods of testing plugs and socket-outlets for household and similar general use”.

CONTENTS

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES- SAFETY REQUIREMENTS AND TEST METHODS 250 V/13 A

1.0 SCOPE AND OBJECT

This standard is concerned with the systems of plugs and socket-outlets rated 13 A which are mainly used for household and similar purposes in residential, commercial, light industrial and similar general purposes suitable for the connection of portable appliances, sound-vision equipment, luminaires, etc in a.c. circuits only, operating at voltages not exceeding 250 V r.m.s. at 60 Hz. This standard specifies requirements for the following:

1.0.1 13 A fused plugs having insulating sleeves on line and neutral pins. The plug may be rewirable or non-rewirable complete with flexible cord. The plugs shall incorporate a fuse complying with SASO 1899:2001.

Non-rewirable plugs are intended for use with flexible cords having conductor cross-sectional areas not less than 1.5 mm^2.

This standard also applies to non-rewritable 13 A plugs which have the brass earth pin replaced with a similarly dimensioned protrusion made of insulating material designated as an insulated shutter opening device (ISOD) designed to operate the shutter mechanism of a socket-outlet.

Plugs containing switches and devices other than indicator lamps are outside the scope of this standard.

1.0.2 13 A switched and unswitched shuttered socket-outlets. The 13 A shuttered socket-outlets may be in single or multiple arrangements with or without switches, for flush mounting in suitable boxes or for surface or panel mounting for fixed installations.

Socket-outlets containing devices other than fuses, switches and indicator lamps are outside the scope of this standard.

Portable socket-outlets are outside the scope of this standard.

1.1 CONDITIONS FOR USE AND TESTING

1.1.1 Conditions for use

Plugs and socket-outlets shall be suitable for use under the following conditions:

a) an ambient temperature in the range -5ºC to +45ºC, the average value over 24 h not exceeding 35 °C;

NOTE Under normal conditions of use, the available cooling air is subject to natural atmospheric variations of temperature and hence the peak temperature occurs only occasionally during the hot season, and on those days when it does occur it does not persist for lengthy periods.

b) a situation not subject to exposure to direct radiation from the sun or other source of heat likely to raise temperatures above the limits specified in a);

c) an altitude not exceeding 2 000 m above sea level;

d) an atmosphere not subject to abnormal pollution by smoke, chemical fumes, rain, spray, prolonged periods of high humidity or other abnormal conditions.

1.1.2 Conditions for testing

Unless otherwise specified in this standard, the plugs and socket-outlets shall be tested under normal conditions of use, at an ambient temperature of 20ºC ± 5ºC, and after being conditioned at normal laboratory temperature and humidity levels for at least 4 days.

Plugs or socket-outlets used for the tests shall be representative of normal production items in respect of all details which may affect the test results.

Non-rewirable plugs shall be supplied with an appropriate flexible cord which shall be at least 1 m. long.

Plugs and socket-outlets shall be deemed to comply if no specimen fails in the complete series of relevant tests given in this standard and in any of the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2.

If more than one specimen fails in the complete series of relevant tests given in this standard and in any of the two supplementary standards then plugs or socket-outlets of that type shall be deemed not to comply with this standard.

All inspections and tests, of any one classification, shall be carried out as specified in the relevant clauses listed in this standard and the relevant schedule of tests given in the relevant supplementary standards on the number of specimens in the sample column and in the order given.

2.0 REFERENCES

The following referenced documents are indispensable for the application of this SASO Standard.

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

2.1 Supplementary references

2.1.1 GSO BS 1363-1:2009 concerned with "13A plugs, socket-outlets, adaptors and connection units - Part 1: Specification for rewirable and non-rewirable 13 A fused plugs".

2.1.2 GSO BS 1363-2:2009 concerned with "13 A plugs, socket-outlets, adaptors and connection units - Part 2: Specification for 13 A switched and unswitched socket-outlets".

2.2 Normative references

2.2.1 IEC 60417, Graphical symbols for use on equipment.

2.2.2 GSO IEC 60884-1:2009, “Plugs and socket-outlets for household and similar purposes - Part 1: General requirements.”

2.2.3 IEC 60884-1:2006 ed. 3.1, “Plugs and socket-outlets for household and similar purposes - Part 1: “General requirements.”

2.2.4 SASO 2203 : 2003, “plugs and socket-outlets for household and general uses_ 220 V”.

2.2.5 IEC 60083, “Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC”.

2.2.6 SASO 1899 : 2001, “Low-voltage fuses - Part 1: General Requirements”.

2.2.7 GSO IEC 60670-1, “Boxes and enclosures for electrical accessories for household and similar fixed electrical installations - Part 1: General requirements”.

2.2.8 SASO IEC 60695-2-10, “Fire Hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure”.

2.2.9 SASO IEC 60695-2-11, “Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products”.

2.2.10 SASO IEC 60695-2-12, “Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials”.

2.2.11 SASO IEC 60695-2-13, “Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials”.

2.2.12 SASO IEC 60695-2-20, “Fire hazard testing - Part 2: Glowing/Hot wire based test methods - Section 20: Hot-wire coil ignitability test on materials”.

3.0 DEFINITIONS

NOTE 1– Where the terms "voltage" and "current" are used, they imply r.m.s. values, unless otherwise specified.

NOTE 2– Throughout this standard the term “accessory” covers plugs and socket-outlets, except where the reference is specific to other type.

NOTE 3– Throughout this standard the definitions of the two supplementary standards apply.

3.1 **Rated current (for accessories)**

The current assigned by the manufacturer for a specified operating condition of an accessory.

3.2 **Rated voltage [1] (for accessories)**

The voltage assigned by the manufacturer for a specified operating condition of an accessory.

3.3 **Nominal voltage of a system [2]**

A suitable approximate value of voltage used to designate or identify a system.

3.4 **Operating voltage (in a system)**

The value of the voltage under normal conditions, at a given instant and a given point of the system.
NOTE – This value may be expected, estimated or measured.

3.5 **Highest voltage of a system**

The highest value of operating voltage which occurs under normal operating conditions at any time and any point in the system
NOTE – Transient overvoltages due e.g. to switching operations and abnormal temporary variations of voltage, are not taken into account.

3.6 **Lowest voltage of a system**

The lowest value of operating voltage which occurs under normal operating conditions at any time and any point in the system

NOTE: Transient over voltages due e.g. to switching operations and abnormal temporary variations of voltage, are not taken into account.

3.7 **Plug (in general)**

Accessory having pins designed to engage with the contacts of a socket-outlet, also incorporating means for the electrical connection and mechanical retention of flexible cables or cords.

3.8 **Socket-outlet**

[1] Rated voltage value normally reaches 250 V for an accessory but it’s not related with the “nominal voltage of a system” defined in clause 3.3.

[2] This standard is referring to one of the Saudi Arabian electricity distribution system which has a nominal voltage value of 230 V a.c. between phase to neutral (Uph).

An accessory having socket-outlet contacts designed to engage with the pins of a plug and having terminals for the connection of cables or cords.

3.9 **Fused plug**

A plug incorporating a replaceable fuse.

3.10 **Resilient plug**

A plug in which the base and cover or either of these components are constructed of rubber or other suitable resilient material.

3.11 **Non-rewirable plug**

A plug so constructed that it forms a constructional unit with the flexible cord such that the flexible cord cannot be separated from the plug without making it permanently useless.

3.12 **Switched socket-outlet**

A factory assembled unit consisting of a socket-outlet with an integral switch controlling the socket-outlet.

3.13 **Pin contact (male contact)**

Contact member intended to make electric engagement on its outer surface for mating with the inner surface of another contact member.

3.14 **Terminal (for accessories)**

A part of an accessory to which a conductor is attached, providing a re-usable connection.

3.15 **Screw-type terminal**

A terminal for the connection of two or more conductors by means of screw-type clamping units.

3.16 **Screwless-type terminal**

A terminal for the connection and subsequent disconnection of two or more conductors, the connection being made directly or indirectly by means of springs, wedges, or the like.

3.17 **Shutter**

A movable part incorporated into a socket-outlet arranged to shield the live socket-outlet contacts automatically when the plug is withdrawn.

3.18 **Shuttered socket-outlets**

A socket-outlet incorporated with a shutter.

3.19 **Clearance**

Shortest distance in air between two conductive parts

3.20 **Creapage**

Shortest distance along the surface of a solid insulating material between two conductive parts

4.0 MATERIALS, DESIGN AND CONSTRUCTION

The following requirements shall be met for the plugs and socket-outlets:

4.1 Materials and construction

4.1.1 The materials used in the component parts shall be in accordance with Table (1).

Table (1)

Materials and component parts

PART	MATERIAL
Non resilient base and cover of a plug, socket-outlet plate (non-metallic).	Moulded, tough, non ignitable insulating material.
Resilient base or resilient covers of a plug.	Rubber or other insulating materials free from blisters, cracks, embedded impurities and defects likely to affect insulating and mechanical protecting properties.
Socket-outlet plates (metallic).	Sheet metal, cast metal or die-cast metal. Provision shall be made for the effective earthing of all metal parts that may become live in the event of failure of insulation of the socket-outlet and are being touched during normal operation.
Socket-outlet base.	An insulating material with rigid mechanical characteristics and no flame propagating characteristics like suitable grade of Polly Carbonates (PC), Urea and/or suitable equivalent material.
Current carrying parts.	Brass, phosphor-bronze, and/or suitable equivalent material.
Shutter.	Moulded, tough, non-ignitable insulating material.

4.1.2 Moulded insulating material and the vitrified ceramic material shall be nonhygroscopic and shall be resistant to the formation of carbonized paths.

4.1.3 Parts made of ferrous material shall be treated to resist rusting.

4.1.4 Compliance shall be checked by inspection and/or relevant tests in this standard and the supplementary standards.

4.2 Terminals

4.2.1 Rewirable accessories shall be provided with the terminals and shall permit the proper connection of conductors without special preparation.

4.2.2 The means for clamping the conductors in the terminals shall not serve to fix any other component although they may hold the terminals in position or prevent them from turning.

4.2.3 Terminals in the plug shall be provided with screws of sufficient size for effective clamping of the conductors of the flexible cord or cable. The end of the screw shall be slightly rounded so as to minimize damage to the conductors. Screwless terminals shall not be used.

4.2.4 Compliance shall be checked by inspection and/or relevant tests in this standard and the supplementary standards.

4.3 Plugs

4.3.1 Plugs shall comply with the relevant dimensional standard sheet in the supplementary standard GSO BS 1363-1 (see Figures (1) and (2)).

4.3.2 Plug pins shall be of brass, copper, phosphor bronze and of solid construction and shall have a chamfered end to facilitate entry into the corresponding socket contacts.

4.3.3 Plug pins shall be secured to the body of the plug and shall not be removable from the plug once the plug is assembled for use.

4.3.4 Plug pins, carrying current, shall be covered with insulating material with a sufficient length starting from the base of the pin. Refer to Figure (1).

4.3.5 The plug shall be provided with a single hole, for the entry of a flexible cord or cable with its protective cover or sheath and shall be such that the outer cover or sheath at the place of entry is not damaged. The cord shall enter the side opposite to the earth pin and perpendicular (at right angle) to it.

4.3.6 The rewirable plug shall be provided with a cord grip to hold the outer sheath and to ensure that the conductors are relieved from strain where they are connected to the terminals. The cord grip shall either be of insulating material or if of metal shall be provided with an insulating lining fixed to the metal parts.

4.3.7 Insulating barriers forming an integral part of the plug shall be provided so as to separate metallic parts at different potentials.

4.3.8 A finger grip or other suitable means shall be provided for inserting and withdrawing plugs without subjecting the flexible cord or cable to any stress.

Such grip shall be so designed as to discourage gripping the plug by the fingers at the point of entry of the flexible cord or cable.

4.3.9 Compliance shall be checked by inspection, measurement, by the use of the gauges and/or relevant tests as described in this standard and the supplementary standard GSO BS 1363-1 (see Figure (2)).

4.3.10 Fuses

The plug shall be provided with a fuse inside it. This fuse shall fulfill the following:

4.3.10.1 The fuse shall be provided within the body of the plug and the fuse shall be mounted in the appropriate contacts, only between the live terminal and the corresponding plug-pin in such a way that it cannot be displaced when the plug is in use.

4.3.10.2 It shall be impossible to replace a fuse in a fused plug unless the plug is completely withdrawn from the socket-outlet.

4.3.10.3 Fuses shall have rating not exceeding 13A.

4.3.10.4 Fuses shall comply with SASO 1899.

4.3.10.5 Compliance shall be checked by inspection and/or relevant tests in this standard and the supplementary standards.

4.4 Socket-outlets

4.4.1 Socket-outlets shall comply with the relevant dimensional standard sheet in the supplementary standard GSO BS 1363-2 (see Figure (3)).

4.4.2 There shall be no projection on the engagement surface of a socket-outlet such as would prevent the full insertion of a plug. The spacing of socket contacts shall correspond to that of the plug pins.

4.4.3 Socket contacts shall be so shaped at the point of entry as to provide access for appropriate plug pins. They shall be self adjusting so as to make effective electrical and mechanical contact with the corresponding plug pins.

4.4.4 Each socket contact shall be connected to a terminal securely fixed to it in such a way that it cannot work loose under normal service conditions. Each terminal shall provide an adequate number of screw threads for clamping the appropriate conductor.

4.4.5 The socket-outlet shall be either of the following.

a) Single or double

b) With or without a switch

c) With or without a pilot indication lamp

d) Flush or surface mounted

4.4.6 Compliance shall be checked by inspection, measurement, by the use of the gauges and/or relevant tests as described in this standard and the supplementary standard GSO BS 1363-2 (see Figure (3)).

4.4.7 Switches

4.4.7.1 If the socket-outlet is provided with a switch, the switch shall be a double pole.

4.4.7.2 The actuating member of a switch shall not remain at rest in the "OFF" position whilst the switch contacts remain closed.

4.4.7.3 Switches shall be so constructed that undue arcing cannot occur when the switch actuating member is operated slowly.

4.4.7.4 Compliance shall be checked by inspection, measurement, by relevant tests as described in this standard and the supplementary standard GSO BS 1363-2.

4.4.8 Shutters

4.4.8.1 Socket-outlets shall be provided with shutters.

4.4.8.2 The construction of the shuttered socket-outlets shall be such that when the plug is withdrawn from it the current carrying socket contacts are automatically screened by shutters. The shutters shall be operated either by the insertion of the earthing plug pin or by the simultaneous insertion of two or more pins of the plugs.

4.4.8.3 Compliance shall be checked by inspection, measurement, by the use of the gauges and/or relevant tests as described in this standard and the supplementary standard GSO BS 1363-2 (See Figure (3)) .

4.4.9 Boxes

Socket-outlets shall be put in use by fixing them on a suitable surface using suitable boxes, these boxes shall comply with GSO IEC 60670-1.

NOTE: Box sizes allowed in Saudi Arabia are 72x72 mm (Width x Height) (external dimension) for one gang, and 132x72 mm for Duplex type (two gangs) socket-outlets

4.4.9.1 Compliance shall be checked by inspection, measurement, or relevant tests as described in this standard and the supplementary standard GSO IEC 60670-1.

4.5 Clearance and creepage distances

Clearance and creepage distances shall comply with the relevant clause/sub clauses (mainly clause 8) in the supplementary standard GSO BS 1363-2.

4.5.1 Compliance shall be checked by inspection, measurement, and/or relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2.

5.0 RATING AND CHARACTERISTICS

5.1 Rating, shape and dimensions

The rating, shape and dimensions of plugs and socket-outlets shall be as follows:

5.1.1 13A two-pin plug with earthing pin (See Figures (1) and (2)).

5.1.2 13A two pin shuttered socket-outlet with earthing contact (See Figure (3)).

5.1.3 Compliance shall be checked by inspection, measurement, by the use of the gauges and/or relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2 (See Figures (1) (2) and (3)).

5.2 Protection against electric shock

5.2.1 Plugs and socket-outlets shall be so constructed that when they are mounted and wired as in normal use, live parts are not accessible.

5.2.2 The earthing pin shall be prevented from making contact with a current carrying part in normal use.

5.2.3 A current carrying pin shall be prevented from making contact with current carrying contact while either or both of the other pins are completely exposed.

5.2.4 The earthing pin shall make and break contact with the corresponding earthing socket-outlet part respectively before and after the current carrying plug pins make and break contact with the corresponding current socket contacts.

5.2.5 The current carrying socket contacts shall be sunk below the surface in such a way as to make it impossible during normal use for them to be touched accidentally.

5.2.6 The mechanism for screening the current carrying contacts shall ensure that the shutter is returned to its normal position when the plug is withdrawn from the socket-outlet.

5.2.7 Compliance shall be checked by inspection, measurement, by the use of the gauges and/or relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2 (See Figures (1) (2) and (3)).

5.3 Insulation resistance

5.3.1 The insulation resistance for the plugs and socket-outlets shall be not less than 5 megohms and shall be not less than 2 megohms across switch contacts with switch open where applicable, when measured after 60^{+5}_{0} s of application of a DC voltage of 500^{+250}_{0} V between the following parts:

- Current carrying terminals.
- Current carrying terminals connected together and any other parts insulated there from, including earthing terminals.

5.3.2 For resilient and non rewirable plugs the insulation resistance shall not be less than 50 megohms.

5.3.3 Compliance shall be checked by relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2.

5.4 Electrical strength

5.4.1 Plugs and socket-outlets shall withstand a high voltage of 2000 ± 60 V (r.m.s.) of approximately sinusoidal wave form at a frequency of 50 or 60 Hz applied for one minute between the following parts.

- Current carrying terminals.
- Current carrying terminals connected together and any other parts insulated there from including earthing terminals.

5.4.2 Each switched socket-outlet shall pass a momentary high voltage of 750 V (r.m.s.) applied across the switch contacts with the switch open without any flash over or breakdown of insulation.

5.4.3 Compliance shall be checked by relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2.

5.5 Temperature rise

5.5.1 The temperature rise measured for any part shall not exceed the relevant values specified in GSO BS 1363-1 for plugs and GSO BS 1363-2 for sockets minus 10K when tested at ambient temperature of 35°C.

5.5.2 Temperature rise for plugs shall comply with the relevant clause/sub clauses in the supplementary standard GSO BS 1363-1.

5.5.3 Temperature rise for socket-outlets shall comply with the relevant clause/sub clauses in the supplementary standard GSO BS 1363-2.

5.5.4 Compliance shall be checked by relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2.

5.6 Contact resistance

5.6.1 The contact resistance between the earthing pin of a plug and the earthing terminal of a socket-outlet and each earth accessible metallic part shall not exceed 0.05 ohm.

5.6.2 Compliance shall be checked by relevant tests as described in this standard and the two supplementary standards GSO BS 1363-1 and GSO BS 1363-2

5.7 Current breaking capacity of socket-outlets

5.7.1 The breaking capacity of socket contacts and switches incorporated in socket-outlets shall be adequate.

5.7.2 Compliance shall be checked by the tests described in the sub-clauses 17.1.2, 17.1.3 and 17.1.4 of the supplementary standard GSO BS 1363-2 as applicable.

5.8 Normal operation of socket-outlets

5.8.1 Socket-outlets shall withstand without excessive wear or other harmful effects, the electrical and mechanical stresses occurring in use.

5.8.2 Compliance shall be checked by the tests described in the sub-clauses 18.1.2 and 18.1.3 of the supplementary standard GSO BS 1363-2.

5.9 Resistance to heat

5.9.1 Plugs and socket-outlets shall be resistant to heat.

5.9.2 Plugs compliance shall be checked by the tests described in the sub-clauses 22.1.2, and 22.1.3 of the supplementary standard GSO BS 1363-1.

5.9.3 Socket-outlets compliance shall be checked by the tests described in the sub-clause 22.1.2 of the supplementary standard GSO BS 1363-2.

5.10 Mechanical strength

5.10.1 Plugs and socket-outlet shall have adequate mechanical strength and be so constructed as to withstand such handling as may be expected in normal use.

5.10.2 After the mechanical strength test is carried out, no external damage which might affect the safety is shown on the plugs, socket-outlets and the components shall not have become detached.

5.10.3 Plugs compliance shall be checked by the tests described in the sub-clauses 20.1.2, and 20.1.3 of the supplementary standard GSO BS 1363-1.

5.10.4 Socket-outlets compliance shall be checked by the tests described in the sub-clauses 20.1.2 and 20.1.3 of the supplementary standard GSO BS 1363-2.

5.11 Resistance to abnormal heat and fire

5.11.1 Plugs and socket-outlets shall be proof against abnormal heat, fire and tracking.

5.11.2 Plugs compliance shall be checked by the glow wire test described in the sub-clause 23.2 of the supplementary standard GSO BS 1363-1.

5.11.3 Socket-outlets compliance shall be checked by the glow wire test described in the sub-clause 23.2 of the supplementary standard GSO BS 1363-2.

5.11.4 The glow-wire test shall be performed in accordance to the glow wire test method and glow wire appliance standards which mentioned in the normative references and they are IEC 60695-2-10, IEC 60695-2-11 and IEC 60695-2-12.

5.12 Resistance to ageing and to humidity

5.12.1 Resistance to ageing

5.12.1.1 Plugs and socket-outlets shall be resistance to aging.

5.12.1.2 Plugs compliance shall be checked by the test described in the sub-clause 14.1.1 of the supplementary standard GSO BS 1363-1.

5.12.1.3 Socket-outlets compliance shall be checked by the test described in the sub-clause 14.1.1 of the supplementary standard GSO BS 1363-2.

5.12.2 Resistance to humidity

5.12.2.1 Plugs and socket-outlets shall be proof against humid conditions which may occur in normal use.

5.12.2.2 Plugs compliance shall be checked by the test described in the sub-clause 14.2.1 of the supplementary standard GSO BS 1363-1.

5.12.2.3 Socket-outlets compliance shall be checked by the test described in the sub-clause 14.2.1 of the supplementary standard GSO BS 1363-2.

5.13 Resistance to excessive residual stresses and to rusting

5.13.1 Press-formed or similar current-carrying parts of copper alloy containing less than 80% of copper shall be resistant to failure in use due to stress corrosion.

5.13.2 Ferrous parts, the rusting of which might cause the unit to become unsafe, shall be adequately protected against rusting.

5.13.3 Plugs compliance shall be checked by the tests described in the sub-clauses 24.1.1 and 24.2.1 as applicable of the supplementary standard GSO BS 1363-1.

5.13.4 Socket-outlets compliance shall be checked by the tests described in the sub-clauses 24.1.1 and 24.2.1 as applicable of the supplementary standard GSO BS 1363-2.

6.0 SAMPLING

For all types of plugs and socket-outlets which are newly produced or delivered for the first time, a sample shall be selected at random for type approval as detailed in clause 8.0 in this standard.

7.0 TESTS

Type tests shall be carried out on the samples selected in accordance with clause 8.0 taking a set of 3 units for each test. Each unit tested shall pass visual inspection test, an insulation resistance test and an electrical strength test before being subjected to the relevant test according to this standard and to:

7.1 "Table 1 - schedule of tests" for Plugs from the supplementary standard GSO BS 1363-1.

7.2 "Table 1 - schedule of tests" for socket-outlets from the supplementary standard GSO BS 1363-2.

8.0 CRITERIA FOR TECHNICAL CONFORMITY

8.1 Each consignment of plugs and socket-outlets covered by this standard shall be accompanied with a certificate stating its compliance with this standard.

8.2 For a sample subjected to type tests (type approval).

8.2.1 The product shall be considered conforming to this standard if all the sample units pass the type tests.

8.2.2 Should more than one unit in any one sample fail in any one of the tests, the product shall be considered non-conforming.

8.2.3 Should one unit fail a test, a second set of 3 units shall be subjected to the test, which the previous unit failed. The product shall be considered conforming if all the units in the second set pass the repeated tests otherwise it will be considered non-conforming.

9.0 MARKING

Each plug or socket-outlet shall have the following information clearly and durably marked on it, in Arabic or English.

9.1 Country of origin.

9.2 Manufacturer's name or purchaser's name or trade-mark or work

9.3 Rated current in amperes (13 A).

9.4 Rated voltage in volts.

9.5 Identification of each of the live, the neutral and the earthed pole.

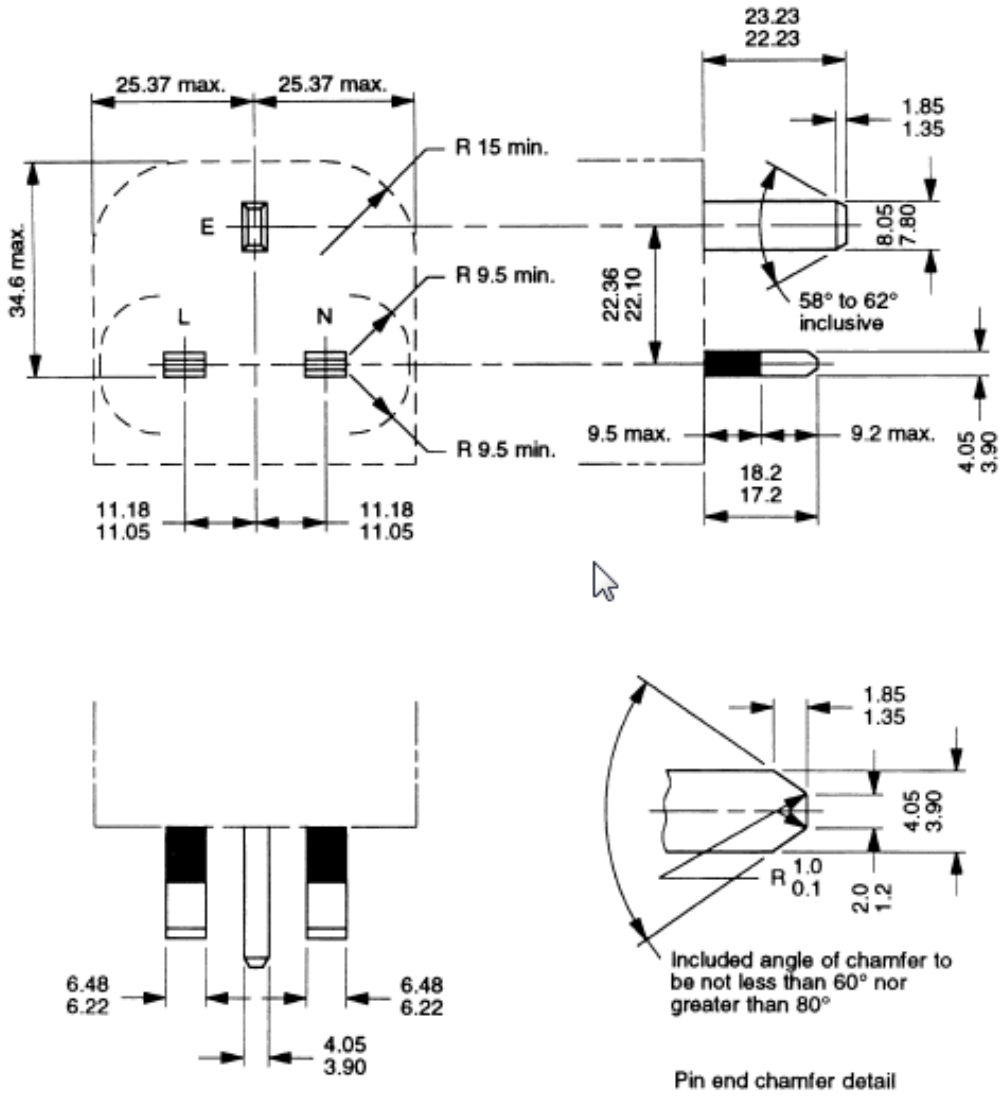
9.6 For fused plugs, the word "Fuse" or "Fused" or symbol.

9.7 If symbols are used they shall be as follows:

- Amperes : A
- Volts : V
- Fuse :
- Neutral or live : N or L

- Earth : G or E or 
- Fused live : L

9.8 Compliance shall be checked by inspection and by rubbing the marking for approximately 15 s with a cloth soaked in water, and again for approximately 15 s with a cloth soaked in a aliphatic solvent hexane with a content of aromatics of maximum 0.1 % by volume, a Kauri-butanol value of 29, an initial boiling point of approximately 69 °C, and relative density of approximately 0.68. The marking shall remain legible. Markings produced by an engraving or moulding process shall be deemed to comply without test.



All dimensions are in millimetres.

(1) No part of the current carrying pins shall be less than 9.50 mm from the periphery of the face of the plug.

(2) The current-carrying socket contacts shall be automatically screened by shutters when the plug is withdrawn.

(3) Provision for a cartridge fuse of rating 13A shall be made within the body of the plug.

(4) Plugs shall be marked “fused”

Socket-outlets shall be marked “13 amp”

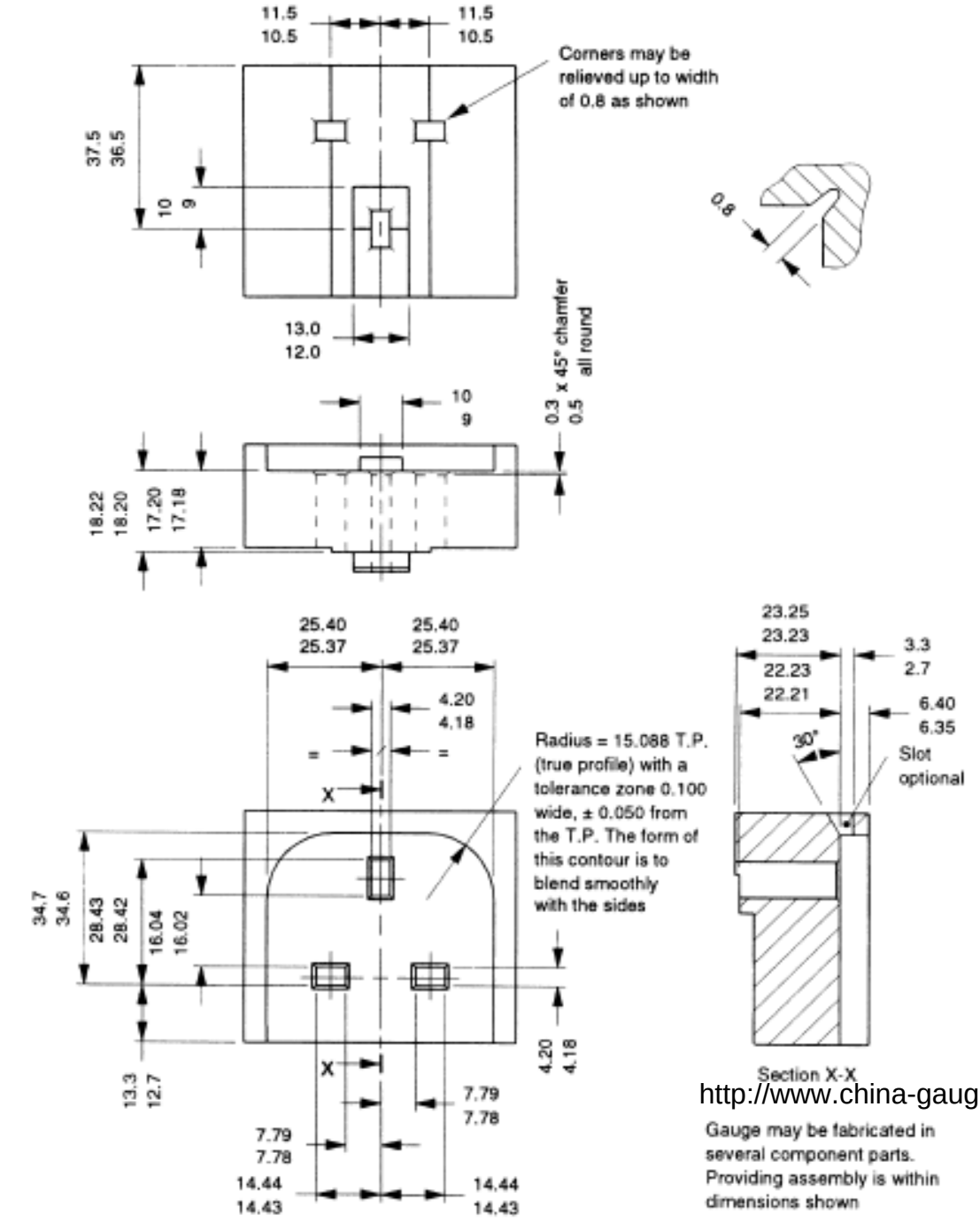
Socket-outlet terminals shall be indicated with the letters “E” or G or ⏚ for earth which shall be at the top, Plug terminals shall also be indicated with the letters “E”, “L” and “N”.

(5) The cord shall enter the side opposite the earth pin, and be effectively gripped.

(6) The socket-outlet shall be of such size that it is impossible to insert one or two pins into the current-carrying contacts, leaving the other or others exposed.

Figure (1)

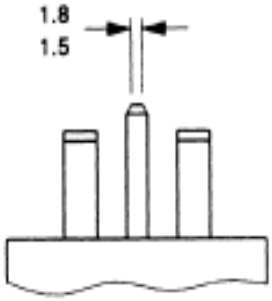
250V/13A Dimension of plug pins



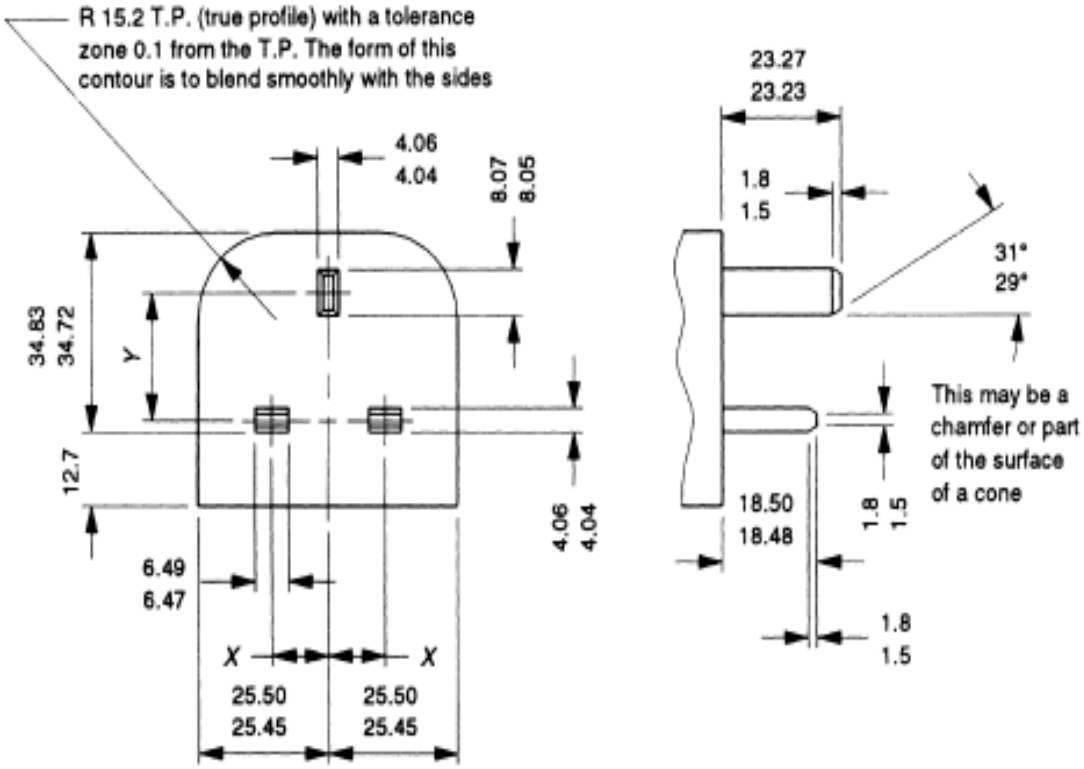
All dimensions are in millimetres.

Figure (2)

250V/13A Gauge for plug pins



		Dimension X	Dimension Y
Pins at max. centres	Min.	11.19	22.37
	Max.	11.21	22.39
Pins at min. centres	Min.	11.01	22.07
	Max.	11.03	22.09



General view

All linear dimensions are in millimetres.

NOTE 1. All sharp edges of the shaped portion of all the pins of the socket-outlet gauge are slightly rounded.

NOTE 2. The surfaces of the gauge in which the pins are mounted are flat to within 0.025 mm.

Figure (3)

250 V/ 13 A Gauge for socket - outlet

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES- SAFETY REQUIREMENTS AND TEST METHODS 250 V/13 A

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