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Specification for fused and unfused adaptors

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The Working Group, appointed by the Technical Committee to assist in the preparation of this standard, comprises of the following experts who contribute in their *individual capacity*:

		Name
Convenor	:	Mr Tan Boon Chong
Members	:	Mr Goh Sheng Sze
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The experts of the Working Group are nominated/recommended by the following organisations:

ABB Industry Pte Ltd
Energy Market Authority
Hager Electro Systems Pte Ltd
Housing & Development Board
Legrand (S) Pte Ltd
Marian Technologies Pte Ltd
MK Electric (S) Pte Ltd
Singapore Electrical Testing Services
Singapore Manufacturing Federation
SP Services Ltd
SPRING Singapore
TUV SUD PSB Pte Ltd

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National Foreword

This Singapore Standard was prepared by the Working Group appointed by the Technical Committee on Electrical and Electronic Products under the direction of the Electrical and Electronic Standards Committee.

This standard is a modified adoption of BS 1363 : Part 3 : 1995+A4:2012, '13A plugs, socket-outlets, adaptors and connection units, Part 3 : Specification for adaptors including its latest Amendment 4 : 2012. It is implemented with the permission of British Standards Publishing Ltd.

This standard does not cover rewirable adaptors, intermediate adaptors and adaptor plugs, requiring appropriate changes and modifications to the affected clauses. This standard incorporates the test specifications and requirements for the electrical and mechanical construction of adaptors in so far as they affect safety and durability in service.

The numbering of the clauses and figures follows that of BS 1363 : Part 3.

The deviations to suit local conditions and requirements are as follows:

(a) A paragraph has been added to the scope to give the configurations of plug pins covered in this standard.

(b) The 2nd paragraph of Clause 4 has been deleted as it is not applicable to Singapore.

(c) The provisions of the following have been marked 'Not used' as they are not applicable to Singapore:

Rewirable adaptor;
Non-rewirable adaptor;
Adaptor plug;
Intermediate adaptor;
Terminal;
Screw-type terminal;
Termination.

(d) Ambient temperature under conditions for use for fused connection units have been changed from -5°C ± 40°C with the average value over 24 h not exceeding +25°C to having a peak value not exceeding +40°C, the average value over 24 h not exceeding +35°C.

(e) Altitude under conditions for use for the fused connection units has been changed from 2000 m above sea level to 1000 m.

(f) Ambient temperature of 20°C ± 5°C used for test condition for fused connection units has been changed to 27°C ± 5°C.

(g) A subclause to 6.2 on preferred voltage rating of 250 V a.c. (if any other rated voltage is used, it shall not be less than 230 V a.c.) has been added.

(h) Reference to 8.2 in Table 1 has been made under Sequence 11 instead of Sequence 10 according to local requirements

(i) An additional reliability testing parameters under 18.1.3 has been provided to cover local requirements.

(j) A new clause 18.1.5 to cover two-pin socket configuration has been added according to local requirements.

(k) Figure 24 on apparatus on ball pressure test has been retained to cover local requirements.

(l) Where applicable, references made to British Standards have been changed to the appropriate SS or IEC standards.

In this revision the main changes were:

- Reference to BS EN 50075 for 2-pin 2.5A 250V plug;
- Additional requirements for construction of adaptors;
- Revision of Clause 8 on creepage and clearances;
- Revision of Clause 23 on resistance to abnormal heat, fire and tracking;
- Addition of Clauses 18.1.5 and 26;
- Addition of Annexes C to G.

Acknowledgement is made for the use of information from the above publications.

Specification for fused and unfused adaptors

1 Scope

This standard specifies requirements for adaptors, including shaver adaptors, having insulated sleeves on the line and neutral plug pins and suitable for socket-outlets complying with SS 145, with particular reference to safety in normal use. Adaptors specified in this standard are intended for household, commercial and light industrial purposes. The adaptors are 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 50 Hz.

This standard also applies to shaver adaptors 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 conforming to this standard.

NOTE 1 – Brass can be copper, phosphor-bronze or other metal at least equivalent with regard to its conductivity, resistance to abrasion, and resistance to corrosion.

The socket contacts of the adaptor shall only accept plug pins with the following configurations:

(a) 13 A plug according to SS 145 : Part 1;

(b) 2.5 A flat non-rewirable plug according to BS EN 50075 : 1991 Standard Sheet 1;

(c) 2 pin reversible plug according to BS 4573 : 1970.

Assemblies comprising a plug and one or more portable socket-outlets connected together by a flexible cord or cable are not considered to be adaptors according to SS 246. Devices incorporating transformers, timers, thermostats, residual current protection or other control means are outside the scope of this standard.

NOTE 2 – The titles of the publications referred to in this standard are listed on the inside back cover.

NOTE 3 – In order to maintain safety and interchangeability with plugs and socket-outlets it is necessary that these products comply with the requirements of Clause 9, Clause 12 and Clause 13, however their body outline need not be limited at a distance of 6.35 mm from the plug engagement surface.

NOTE 4 – Requirements for electromagnetic compatibility are not given for the following reasons.

An adaptor does not emit intolerable electromagnetic interference since significant electromagnetic disturbances are only generated during insertion and withdrawal which are not continuous.

An adaptor is mechanical by nature of construction. The product is therefore immune from electromagnetic interference.