



**GUIDANCE NOTES**

**FOR**

**THE ELECTRICAL PRODUCTS  
(SAFETY) REGULATION**

**2019 EDITION**



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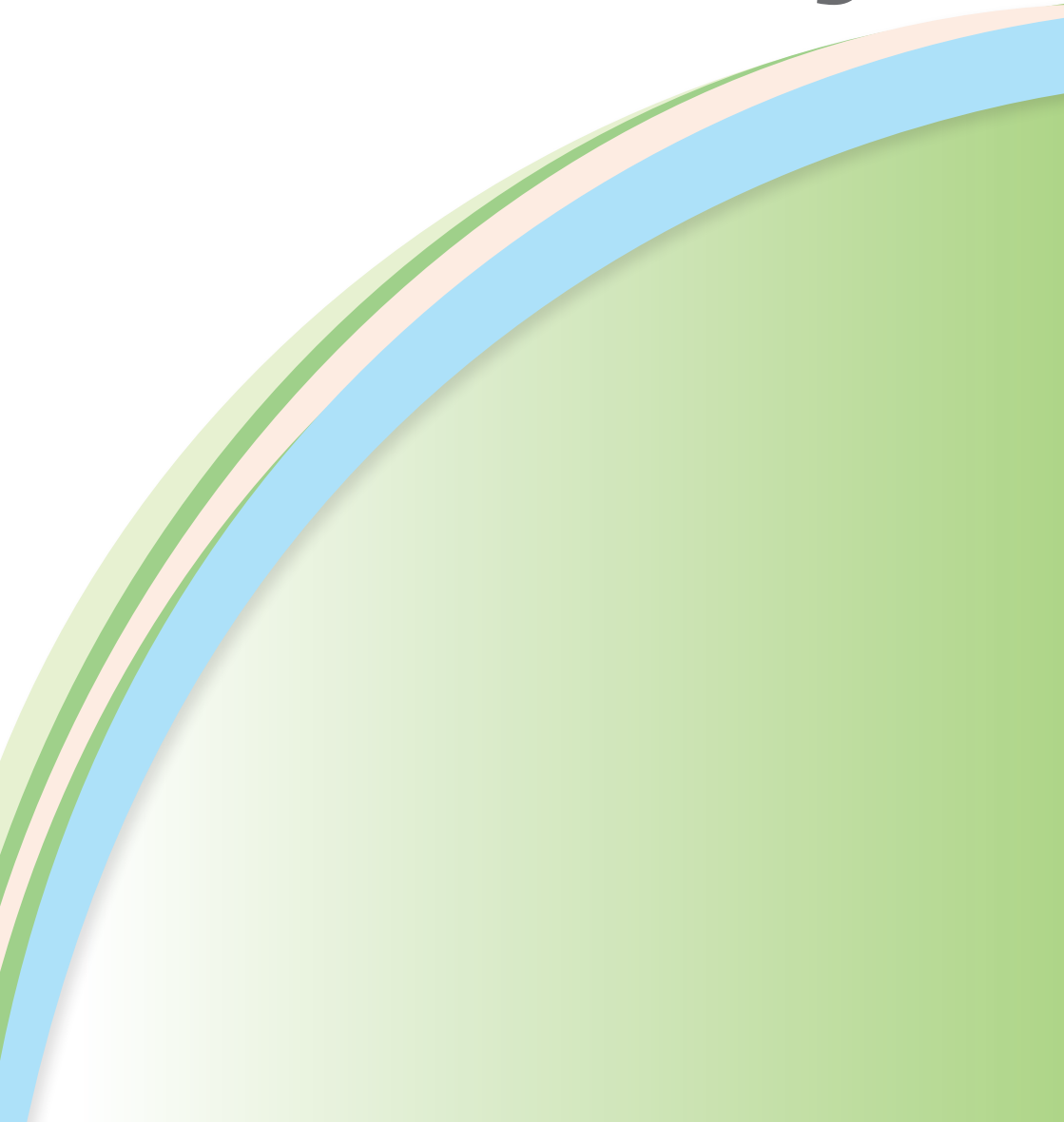
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# Quick Summary



# Quick Summary

This section is prepared for quick and easy reference of readers, summarizing some important content of the "Guidance Notes for the Electrical Products (Safety) Regulation" (hereinafter referred to as "the Notes"). For details of the requirements, readers should refer to the relevant sections in the Notes.

## 1 Introduction

(1) The safety of household electrical products supplied in Hong Kong is under the statutory control of the Electrical Products (Safety) Regulation (CAP. 406G) (hereinafter referred to as "the Regulation").

(2) Who may be considered as the "Supplier" of an electrical product?

- (A) Manufacturers;
- (B) Importers;
- (C) Wholesalers;
- (D) Retailers (e.g. physical/online shops); and
- (E) Any person supplying the household electrical products (e.g. small shops like stationery stores, gift shops and pop-up stores are also included).

(3) Which electrical product does the Regulation apply to?

- (A) Designed for household use;
- (B) Supplied in Hong Kong; and
- (C) Using a voltage exceeding 50V alternating current (a.c.) or 120V direct current (d.c.).

(4) According to the Regulation, the supplier of an electrical product shall ensure that a certificate of safety compliance has been issued for the electrical product before its supply and the electrical product complies with the applicable safety requirements.

## 2 Certificate of safety compliance

(1) The certificate of safety compliance (CSC) is a document certifying that the safety requirements of a household electrical product are complied with. For example, a test report/certificate issued by a testing laboratory/certification body or a declaration of conformity issued by the manufacturer (see Figure A) is a CSC.

(2) To ensure the availability of CSC, the suppliers of electrical products should:

- (A) Obtain CSC documentary proof from their supplying sources (see Note 1);
- (B) Check that the model, manufacturer's name and required safety standards as shown in Section C.1 of the Notes are included in the CSC; and
- (C) Keep the documentary proof and correspondences with their supplying sources for record and inspection by Electrical and Mechanical Services Department (EMSD).

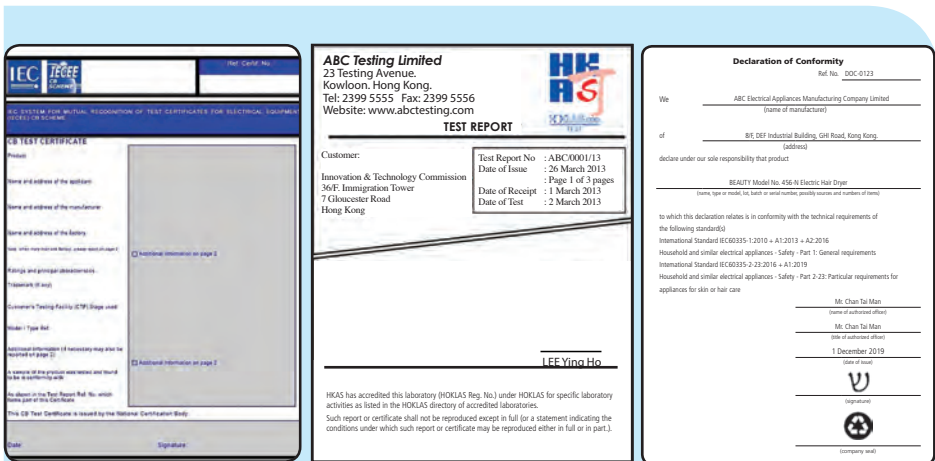


Figure A Samples of CSC Documents

Note 1: Electrical products having CSCs registered with EMSD under the voluntary registration scheme are listed on the EMSD website: <https://www.emsd.gov.hk> (Electricity Safety > Registers > Household Electrical Products with Certificates of Safety Compliance).



### 3 Safety requirements

- (1) In general, the electrical product shall be fitted with 3-pin plugs that conform to BS 1363 Part 1 or BS 546.

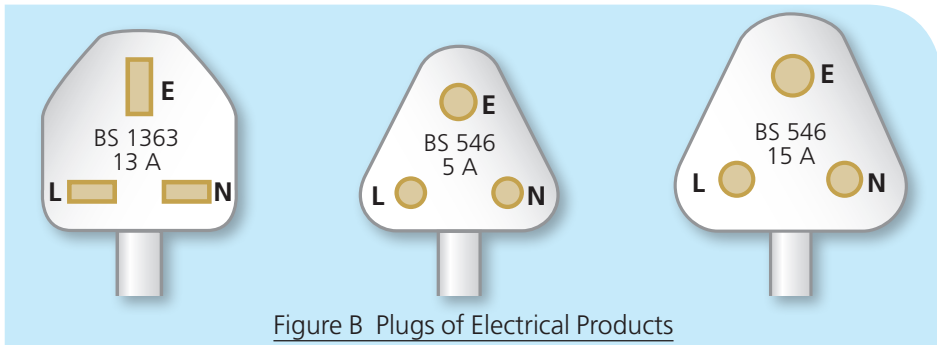


Figure B Plugs of Electrical Products

- (2) According to Schedule 1 of the Regulation, the following basic markings shall be printed on the electrical product. If this is not possible, they shall be printed on an accompanying notice:
- (A) Rated voltage (in Voltages or V) and rated frequency (in Hertz or Hz);
  - (B) Rated input power (in watts or kilowatts or W or kW) or input current (in amperes or milliamperes or A or mA);
  - (C) Model or type reference number; and
  - (D) Manufacturer's name or trade mark.

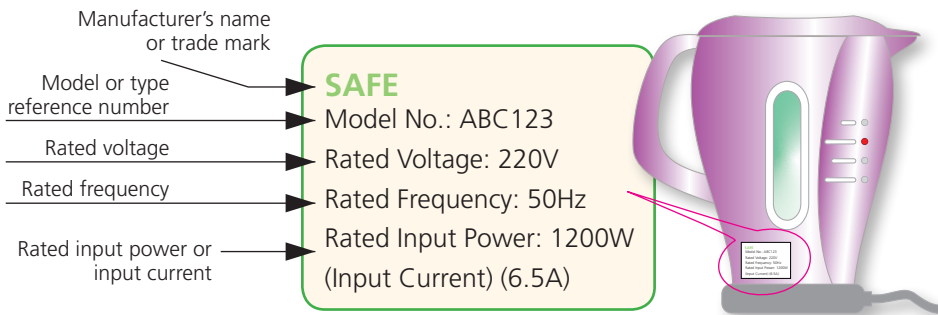


Figure C Sample of Product Markings

### 4 Penalty

It is important to note that the contravention of the Regulation may result in a fine of \$100,000 and one year's imprisonment on first conviction, and a fine of \$500,000 and two years' imprisonment on subsequent conviction.

## 5 Checklists

- (1) The following checklists aim to facilitate suppliers in conducting a preliminary check on whether an electrical product is under the statutory control of the Regulation and the relevant requirements that the electrical product is required to comply with.

### **Checklist 1 Review of Electrical Product under the Statutory Control of the Regulation**

<b>Are you the following party in relation to an electrical product</b>		Yes / No
1	Manufacturer	<input type="checkbox"/> / <input type="checkbox"/>
2	Importer	<input type="checkbox"/> / <input type="checkbox"/>
3	Wholesaler	<input type="checkbox"/> / <input type="checkbox"/>
4	Retailer (e.g. physical/online shops)	<input type="checkbox"/> / <input type="checkbox"/>
5	Any person supplying the household electrical products (e.g. small shops like stationery stores, gift shops and pop-up stores are also included)	<input type="checkbox"/> / <input type="checkbox"/>
<p><i>If any of the answers to items 1 to 5 above is "Yes", that means you are the supplier of an electrical product, and you should complete items 6 to 8 below.</i></p>		
<b>Does your electrical product fulfil the following requirements?</b>		Yes / No
6	Is the electrical product designed for household use?	<input type="checkbox"/> / <input type="checkbox"/>
7	Is the electrical product supplied in Hong Kong?	<input type="checkbox"/> / <input type="checkbox"/>
8	Is the electrical product using a voltage exceeding 50V alternating current (a.c.) or 120V direct current (d.c.)?	<input type="checkbox"/> / <input type="checkbox"/>
<p><i>If all answers to items 6 to 8 are "Yes", that means the Regulation applies to your electrical product.</i></p>		

## Checklist 2 Preliminary Check of Electrical Product for Compliance with Requirements under the Regulation

Part A - Certificate of Safety Compliance (CSC)		Yes / No
1	Have you obtained the CSC documentary proof from the supplying sources?	<input type="checkbox"/> / <input type="checkbox"/>
2	Have you checked that the model, manufacturer's name and required safety standards as shown in Section C.1 of the Notes are included in the CSC?	<input type="checkbox"/> / <input type="checkbox"/>
3	Have you kept the documentary proof and correspondences with the supplying sources for record and inspection by EMSD?	<input type="checkbox"/> / <input type="checkbox"/>

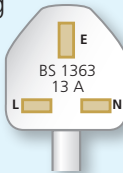
If all answers to items 1 to 3 are "Yes", that means the availability of CSC of this electrical product is checked.

### Part B - Plug

Is the electrical product fitted with one of the following 3-pin plugs?

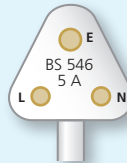
A. 13A Plug

(BS1363  
Part 1)



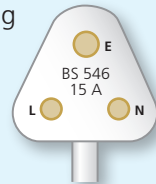
B. 5A Plug

(BS 546)



C. 15A Plug

(BS 546)



If your electrical product is fitted with one of the above plugs, that means the product is fitted with an appropriate plug type.

### Part C - Product Markings

Manufacturer's name  
or trade mark \_\_\_\_\_

Model or type  
reference number \_\_\_\_\_

Rated voltage \_\_\_\_\_ **V**

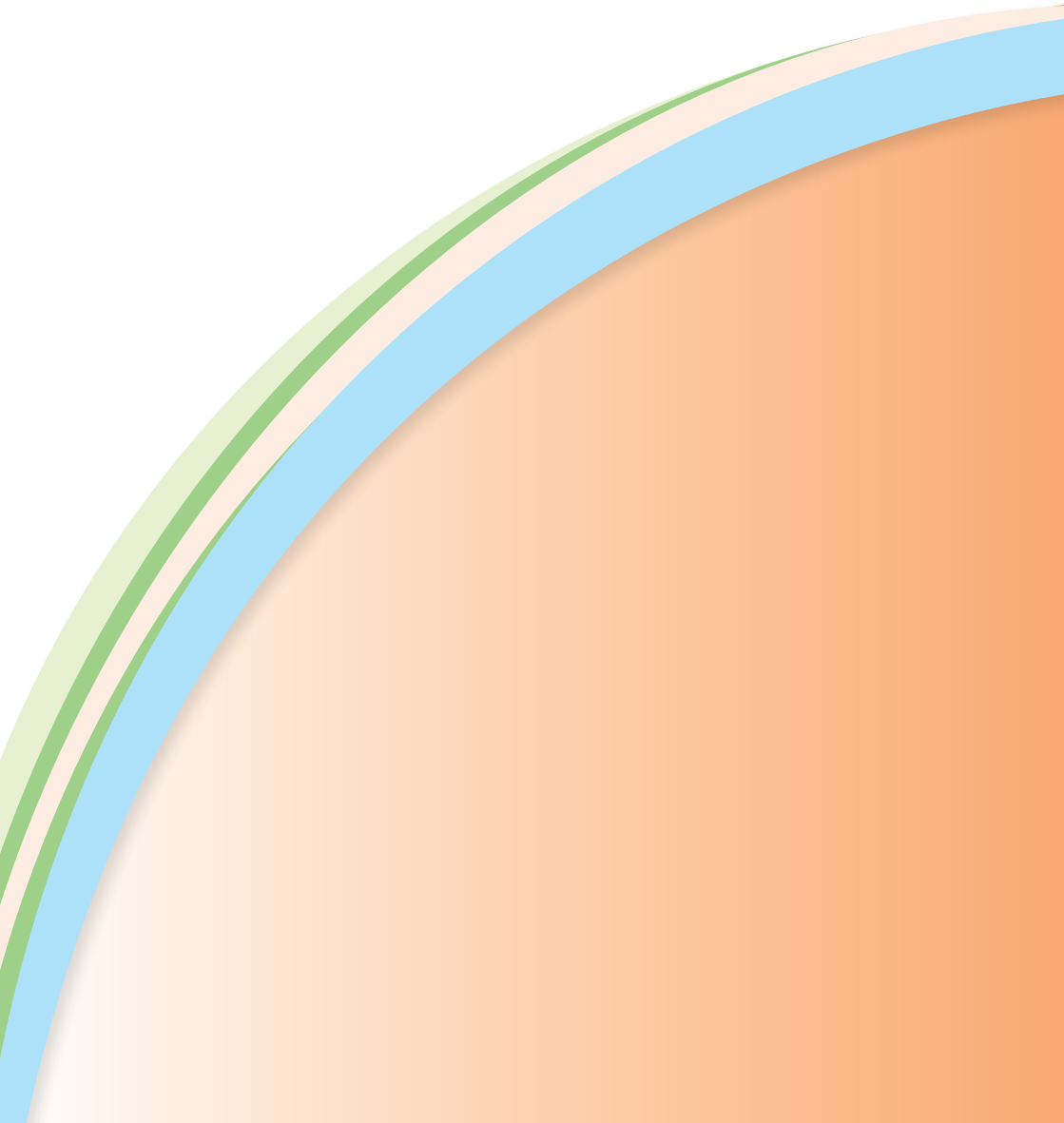
Rated frequency \_\_\_\_\_ **Hz**

Rated input power or  
input current ( \_\_\_\_\_ **W**  
\_\_\_\_\_ **A**)

If you can fill in all of the above blanks according to the markings of the electrical product, that means the basic markings required under Schedule 1 of the Regulation are printed on your electrical product.

If Parts A, B and C are fulfilled, that means the electrical product complies with the requirements of this preliminary check.

# General Information



# General Information

## A.1 Introduction

The Regulation is made under Section 59 of the Electricity Ordinance (CAP. 406). The Notes are a guide for suppliers of electrical products to understand the requirements of the Regulation. The Notes also set out lists of standards that are deemed to satisfy the applicable safety requirements of the Regulation. The Notes, which should be read in conjunction with the Regulation, are for guidance only and have no legal force. The authoritative interpretation of the Regulation is a matter for the Court.

The Notes seek to explain the requirements of the Regulation in general terms. The Regulation should be referred to for a full statement of the specific requirements. Enquiries about ordering copies of the Regulation can be made by calling the Publications Sales Unit of the Information Services Department at tel.: (852) 2537 1910 or by e-mail at [puborder@isd.gov.hk](mailto:puborder@isd.gov.hk).

## A.2 Products and suppliers affected by the Regulation

The Regulation applies to all electrical products designed for household use and supplied in Hong Kong. Certain electrical products are classified as "prescribed products" which include plugs, adaptors, lampholders, flexible cords, extension units and unvented thermal storage type electric water heaters [see Figure 1]. All other electrical products will be classified as "non-prescribed products". Some examples of electrical products are shown in Section C.1 of the Notes.

The definitions of the terms "supply" and "electrical product" are given in the Electricity Ordinance, these definitions are reproduced in Section B.2 of the Notes for ease of reference.

## Household Electrical Products

### Prescribed products

- 1 Plugs
- 2 Adaptors
- 3 Lampholders
- 4 Flexible cords
- 5 Extension units
- 6 Unvented thermal storage type electric water heaters

### Non-prescribed products

Other than the prescribed products  
(e.g. air-conditioners, electric fans, induction hotplates, televisions, etc.)

The categories of persons that are regarded as suppliers and affected by the Regulation are wide ranging and would be a matter of facts to be decided in each individual case. That would include manufacturers, importers, wholesalers, retailers, etc., if such persons supply electrical products designed for household use in Hong Kong. Property developers are also affected, as the Regulation also applies to the supply of household electrical products as part of or in connection with a disposition of any premises, if such disposition, which includes a sale, lease, licence and permission to occupy, is the first disposition made prior to the first occupation of the premises.

### A.3 The safety requirements

The Regulation stipulates a number of requirements which must be followed [see also Figure 2], including:

- All electrical products designed for household use and supplied in Hong Kong, except those exempted products listed in the Regulation, are required to fulfil the essential safety requirements listed in Schedule 1 of the Regulation.
- For those prescribed products stated in Section A.2 of the Notes above and listed in Schedule 2 of the Regulation, they are also required to fulfil the corresponding specific safety requirements in addition to the essential safety requirements.
- For some particular types of electrical products stated in Section 6 of the Regulation, certain additional safety requirements are required to be fulfilled.

Electrical products designed for household use and conforming to the safety provisions of relevant international/national standards shown in the lists in Section C.1 of the Notes will be taken to satisfy the applicable safety requirements of the Regulation. These lists will be updated and published by the Director of Electrical and Mechanical Services, hereinafter referred to as the “Director”, from time to time and will be available for public inspection at the Electrical and Mechanical Services Department (EMSD). The following lists are included in Section C.1 of the Notes:

- List of international/national standards that are deemed to satisfy the applicable safety requirements of the Regulation - Prescribed Products
- List of international/national standards that are deemed to satisfy the applicable safety requirements of the Regulation - Non-prescribed Products
- List of international standards on electromagnetic fields generated by electrical products

It should be noted that electrical products which conform to international/national standards other than those listed in Section C.1 of the Notes will also be acceptable if it can be proved that the products comply with the applicable safety requirements stipulated in the Regulation. The EMSD will keep abreast of the latest developments in electrical product safety standards and update these lists regularly. Any person who wishes to have a certain standard included in the lists may submit his proposal to the Director for consideration.

Under the provisions of the Regulation and the Electricity Ordinance (CAP. 406), the Director is empowered to require the supplier of electrical products which are found not complying with the applicable safety requirements to notify those to whom he has supplied the products about the hazardous defects in the products, accept a return of the products, refund the purchasers and notify the public of this matter through television, newspapers and other effective means. In addition, the Director is also empowered to prohibit the use and/or supply of the hazardous electrical products by notice in the Gazette. The suppliers of these products have the responsibility to follow the requirements of the Director.

## A.4 Certificate of safety compliance

A certificate of safety compliance is required to be issued in respect of an electrical product designed for household use and supplied in Hong Kong.

For a prescribed product, the following will be accepted as a certificate of safety compliance :

- a certificate or test report issued by a "recognized certification body"; or
- a declaration of conformity issued by a "recognized manufacturer".

For a non-prescribed product, in addition to the two types of documents stated above, a declaration of conformity issued by the product manufacturer will also be accepted as a certificate of safety compliance.

Further details about certificate of safety compliance can be found in Section B.7 & B.8 and Figure 3 to Figure 6 of the Notes.

## A.5 Advisory notes for suppliers

The following are some points to be noted by suppliers of electrical products :

- Suppliers of electrical products designed for household use should ensure that the electrical products they supplied are in compliance with the applicable safety requirements of the Regulation. The suppliers should also ensure that certificates of safety compliance have been issued in respect of the corresponding electrical products.
- Suppliers should obtain documentary proof from their supplying sources to confirm the availability of the certificates of safety compliance. Certified true copies of the certificates of safety compliance are examples of such documentary proof. It is important that the suppliers should keep the relevant documentary proof for record and for the inspection by EMSD. (Submission of the certificates of safety compliance to EMSD is not required unless upon request.)



- The suppliers should check and confirm with the supplying sources that the safety standards listed in the certificates of safety compliance fulfil the applicable safety requirements of the Regulation. The suppliers are recommended to keep the relevant correspondence for record purpose. A list of the safety standards that are deemed to satisfy the applicable safety requirements of the Regulation are shown in Section C.1 of the Notes.
- Suppliers who manufacture the electrical products should ensure that the safety standards to which their products conform meet the applicable safety requirements of the Regulation.
- Suppliers should ensure that the certificates of safety compliance of their electrical products are of the types specified in Section 8(1) & 8(2) of the Regulation. The supplier should also ensure that the certificates of safety compliance of their electrical products contain the information stipulated in Section 7 of the Regulation [see also Sections B.7 & B.8 and Figure 3 to Figure 6 of the Notes].
- Suppliers of prescribed products should ensure that the certificates of safety compliance of their products are issued by recognized certification bodies or recognized manufacturers stated in Sections 9 & 10 of the Regulation. Further details can be found in Section B.9 and B.10 of the Notes.
- Suppliers are advised to mark on the receipts for the electrical products the information in relation to a transaction. Such information should include the name and address of the supplier, the date of transaction, brand, model number and price of the products.
- Electrical products under transshipment or in transit through Hong Kong and those manufactured in Hong Kong for export are not subject to the control of the Regulation. However, the suppliers of these products should keep the relevant purchase order, shipping and export documents, etc. available for inspection to substantiate that these products are not for local sale or consumption.

- Electrical products supplied for reconditioning are not subject to the control of the Regulation. However, the resale of such electrical products after reconditioning or repair is subject to the control of the Regulation and the suppliers of these reconditioned products should ensure that these products comply with the applicable safety requirements of the Regulation and are issued with valid certificates of safety compliance.
- In general, a period of 3 years after a new edition of standard was published, such edition of standard is advised to be adopted unless there is an effective date specified in the standard therein, coping with the latest safety requirements. But for exceptional case, EMSD may further consult the trade and/or the relevant electrical products suppliers for a different period to adopt the new edition of standard.

## A.6 Enquiry

All enquiries about the Regulation should be addressed to :

Director of Electrical and Mechanical Services  
Electrical and Mechanical Services Department  
The Government of the Hong Kong Special Administrative Region  
3 Kai Shing Street  
Kowloon  
Hong Kong  
(Attn. : Senior Electrical and Mechanical Engineer/Electrical Products)

Tel. : (852) 1823 (enquiries hotline)

Fax : (852) 2895 4929

## A.7 Acknowledgement

The Electrical and Mechanical Services Department of the Government of the Hong Kong Special Administrative Region would like to express gratitude to the organizations listed below for their kind permission to reproduce materials from their copyright publications :

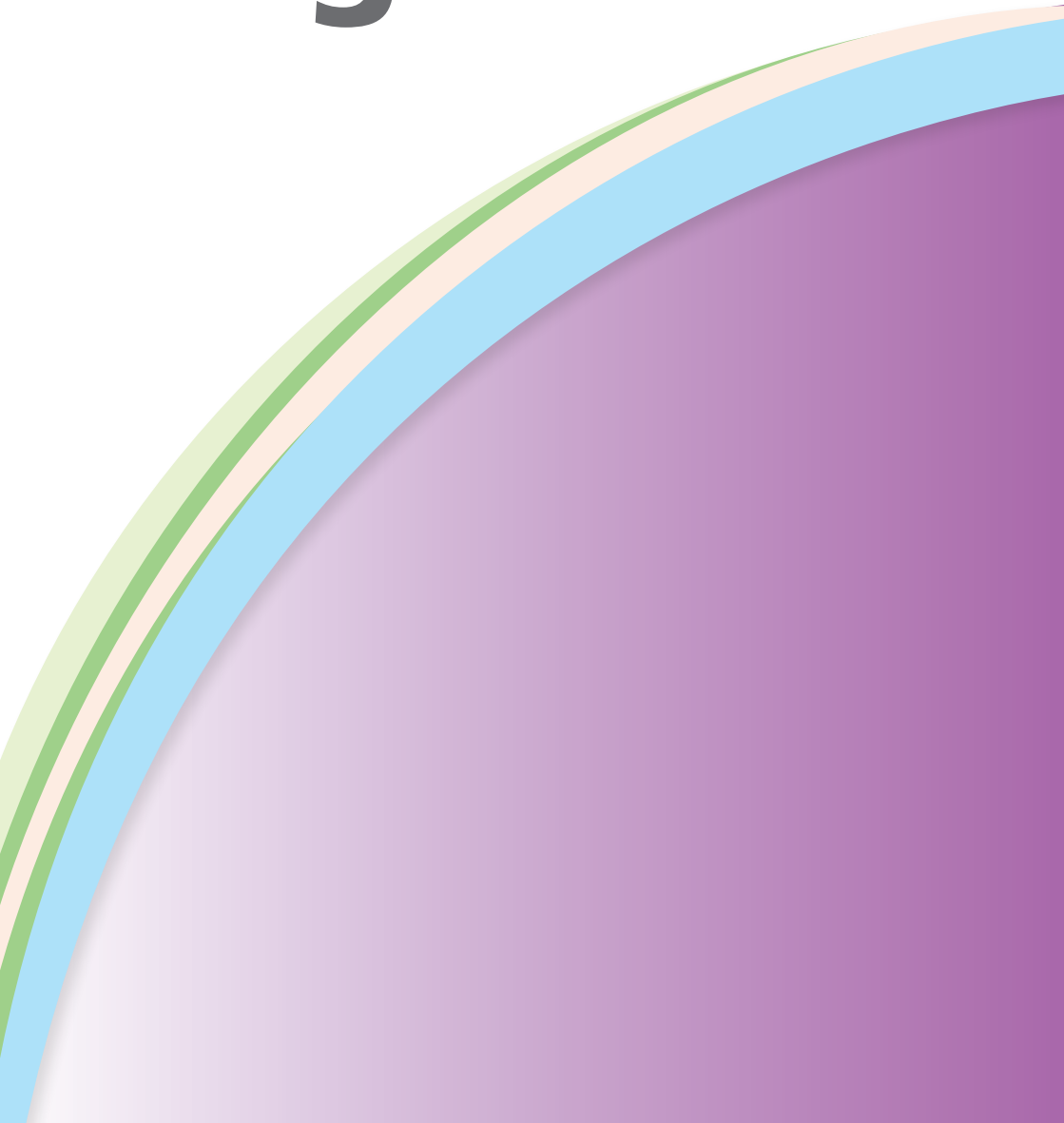
- British Standards Institution (BSI)
- International Electrotechnical Commission (IEC)
- European Committee for Electrotechnical Standardization (CENELEC)

The organizations listed above retain the copyright on the reproduced materials which may not be reproduced without the prior written permission of the organizations. Copies of the complete standards listed above are available for sale from the respective organizations. The addresses of the organizations are:

- British Standards Institution :  
BSI Customer Services, Post 389 Chiswick High Road, London W4 4AL  
United Kingdom
- International Electrotechnical Commission :  
IEC Central Office, 3 rue de Varembe, 1st floor P.O. Box 131,  
CH-1211 Geneva 20, Switzerland
- European Committee for Electrotechnical Standardization :  
Rue de la science, 23 B-1040 Brussels, Belgium

Copies of the complete standards can also be bought through the Product Standards Information Bureau, Innovation and Technology Commission at 36/F Immigration Tower, 7 Gloucester Road, Wanchai, Hong Kong (Tel.: 2829 4820, e-mail: psib@itc.gov.hk).

# The Regulation



# The Regulation

The structure of Part B of the Notes corresponds to that of the Regulation in that a Section in the Notes is associated with the corresponding Section of the Regulation.

## Part I

## Preliminary

### B.1 Commencement

The Regulation was gazetted on 2 May 1997. An amendment of the Regulation was gazetted on 7 April 2000. The commencement dates of the respective sections of the Regulation and the amendment Regulation are as follows:

Sections 2, 9 and  
10 and Schedules  
4 and 5  
(24 October 1997)

All Sections except  
the above and  
Sections 7 and 8  
(29 May 1998)

Sections 7, 8 and  
the amendment  
Regulation  
(1 December 2000)

### B.2 Interpretation

For ease of reference, further explanation on some of the definitions that appear in the Regulation are elaborated as follows :

**"braid"** has the same meaning as in IEC 50 (now referred to as IEC 60050); it means a covering formed from plaited metallic or non-metallic material;

**"circuit"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); it means an assembly of electrically connected electrical equipment supplied from the same origin and protected against overcurrent by the same protective device or devices;

**"class I product"** has the same meaning as "class I appliance" in IEC 335 Part 1 (now referred to as IEC 60335 Part 1); it means appliance in which protection against electric shock does not rely on basic insulation only but which includes an additional safety precaution in that conductive accessible parts are connected to the protective earthing conductor in the fixed wiring of the installation in such a way that conductive accessible parts cannot become live in the event of a failure of the basic insulation;

**"class II product"** has the same meaning as "class II appliance" in IEC 335 Part 1 (now referred to as IEC 60335 Part 1); it means appliance in which protection against electric shock does not rely on basic insulation only but in which additional safety precautions, such as double insulation or reinforced insulation, are provided, there being no provision for protective earthing or reliance upon installation conditions;

**"conductor"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); it means a wire, cable or other form of metal used for conveying electric current from one piece of electrical equipment to another or to earth;

**"earth"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); it means the conductive mass of the earth whose electric potential at any point is conventionally taken as zero;

**"earth fault current"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); earth fault current of a circuit means an unintended current that flows in a circuit when a live part of the circuit comes into direct contact with earth;

**"earthing"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); it means connecting a conductor with earth;

**"exposed conductive part"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); it means a conductive part of electrical equipment that can be touched and that is not a live part but which may become live under faulty conditions;

**"flexible cable"** has the same meaning as in IEC 50 (now referred to as IEC 60050); it means a cable which is required to be capable of being flexed while in service and of which the structure and materials are such as to fulfil this requirement;

**"flexible cord"** has the same meaning as "cord" in IEC 50 (now referred to as IEC 60050); it means a flexible cable with a limited number of conductors of small cross sectional area;

**"fuse"** has the same meaning as in IEC 291 (now referred to as IEC 60050); it means a switching device that, by the fusing of one or more of its specially designed and proportioned components, opens the circuit in which it is inserted and breaks the current when it exceeds a given value for a sufficient time. The fuse comprises all the parts that form the complete switching device;

**"fuse-link"** has the same meaning as in IEC 291 (now referred to as IEC 60050); it means a part of a fuse including the fuse-element(s) which requires replacement by a new fuse-link after the fuse has operated and before the fuse is put back into service;

**"hand-held product"** has the same meaning as "hand-held appliance" in IEC 335 Part 1 (now referred to as IEC 60335 Part 1); it means portable appliance intended to be held in the hand during normal use, the motor, if any, forming an integral part of the appliance;

**"HKAS"** has the same meaning as in Regulations for Laboratory Accreditation (HOKLAS 002) of the Hong Kong Laboratory Accreditation Scheme as amended from time to time; it means the Hong Kong Accreditation Service;

**"HKAS Executive"** has the same meaning as in Regulations for laboratory Accreditation (HOKLAS 002) of the Hong Kong Laboratory Accreditation Scheme

as amended from time to time; HOKLAS 002 is published by the Innovation and Technology Commission (formerly the Industry Department before 1 July 2000);

**"HOKLAS"** has the same meaning and objectives as in Regulations for Laboratory Accreditation (HOKLAS 002) of the Hong Kong Laboratory Accreditation Scheme as amended from time to time; it means the Hong Kong Laboratory Accreditation Scheme. Since the formation of HKAS in 1998, HOKLAS has been subsumed and operates under HKAS;

**"HOKLAS Executive"** has the same meaning as in Regulations for Laboratory Accreditation (HOKLAS 002 Fourth Edition) of the Hong Kong Laboratory Accreditation Scheme under the charge of the Director-General of Industry on behalf of the Government (the Director – General of Industry has been replaced by the Commissioner for Innovation and Technology after the Industry Department was disestablished and the Innovation and Technology Commission was formed);

**"luminaire"** has the same meaning as in IEC 598 Part 1 (now referred to as IEC 60598 Part 1); it means an apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes all the parts necessary for supporting, fixing and protecting the lamps, but not the lamps themselves, and where necessary circuit auxiliaries together with the means for connecting them to the supply;

**"main earthing terminal"** has the same meaning as in regulation 2 of the Electricity (Wiring) Regulations (CAP. 406 sub. leg.); it means the terminal or bar provided for the connection of protective conductors, including equipotential bonding conductors, and conductors for functional earthing if any, to the means of earthing;

**"safety shutter"** has the same meaning as "shutter" in BS 1363 Part 2; it means a movable device arranged to shield the current-carrying socket-outlet contacts automatically when a corresponding plug is removed;

**"thermal cut-out"** has the same meaning as in IEC 335 Part 1 (now referred to as IEC 60335 Part 1); it means a device which during abnormal operation limits



the temperature of the controlled part by automatically opening the circuit or by reducing the current and constructed so that its setting cannot be altered by the user;

**"thermostat"** has the same meaning as in IEC 335 Part 1 (now referred to as IEC 60335 Part 1); it means a temperature-sensing device, the operating temperature of which may be either fixed or adjustable and which during normal operation keeps the temperature of the controlled part between certain limits by automatically opening and closing a circuit;

**"tinsel conductor"** has the same meaning as in IEC 50 (now referred to as IEC 60050); it means a conductor comprising one or more elements stranded together, each element consisting of one or more thin metal tapes helically wound and supported by a textile thread;

**"tool"** has the same meaning as in IEC 335 Part 1 (now referred to as IEC 60335 Part 1); it means a screwdriver, coin or any other object which may be used to operate a screw or similar fixing means.

Some useful definitions extracted from the Electricity Ordinance (CAP. 406) are reproduced below :

**"electrical product"** means any current-using equipment, lighting fitting or accessory, that uses low voltage or high voltage electricity;

**"accessory"** means a device, other than current-using equipment, associated with current-using equipment or with the wiring of an electrical installation;

**"low voltage"** means voltage normally exceeding extra low voltage but normally not exceeding-

- between conductors, 1000V root mean square alternating current or 1500V direct current; or
- between a conductor and earth, 600V root mean square alternating current or 900V direct current;

**"high voltage"** means voltage normally exceeding low voltage;

**"extra low voltage"** means voltage normally not exceeding-

- 50V root mean square alternating current; or
- 120V direct current,  
between conductors or between a conductor and earth;

**"supply"** means :

- to sell or hire out the electrical product;
- to offer, keep, or exhibit the electrical product for sale or for hiring out;
- to exchange or dispose of the electrical product for any consideration;
- to transmit, convey or deliver the electrical product in pursuance of -
  - a sale;
  - a hiring out; or
  - an exchange or disposal for any consideration; or
- for commercial purposes, to give the electrical product as a prize or to make a gift of such a product.

#### Supplementary notes

- (1) As from 1997, the IEC standards are being issued with a designation in the 60000 series. For example, IEC 50 is now referred to as IEC 60050.
- (2) The "Regulations for Laboratory Accreditation (HOKLAS 002)" have been withdrawn and replaced by the "Regulations for HKAS Accreditation (HKAS 002)" which can be found at the Innovation and Technology Commission (ITC) website: <https://www.itc.gov.hk>.

## B.3 Application to electrical products

### (1) Electrical products under control

The Regulation applies to an electrical product which is -

- (A) designed for household use; and
- (B) supplied in Hong Kong.

### (2) Electrical products not under control

The Regulation does not apply to an electrical product which is -

- (A) under transshipment or in transit through Hong Kong;
- (B) manufactured in Hong Kong for export;
- (C) supplied for reconditioning;
- (D) supplied as scrap;
- (E) a travel adaptor; or
- (F) supplied in a place other than Hong Kong under a sale agreement entered into in Hong Kong.

### (3) Electrical products supplied with premises

The Regulation does not apply to an electrical product which is supplied as part of or in connection with a disposition of any premises unless the disposition is the first disposition made prior to the first occupation of the premises. "Disposition" includes a sale, lease, licence and permission to occupy.

## Part II

## Safety Requirements

**B.4 Essential safety requirements for electrical products**

- (1) All electrical products shall comply with the essential safety requirements specified in Schedule 1 of the Regulation which are elaborated in Section C.2 of the Notes.
- (2) In general, the essential safety requirements are stipulated to ensure that all electrical products that are designed for household use and supplied in Hong Kong are safe to use. The electrical products shall be designed and constructed in accordance with good engineering practice to protect their users against possible hazards that may arise.
- (3) It is the responsibility of the suppliers to ensure that the electrical products they supplied are in compliance with the applicable safety requirements of the Regulation. As a reference for the suppliers, electrical products that conform to the safety provisions of the relevant international/national standards listed in Section C.1 of the Notes will be taken to satisfy with the applicable safety requirements of the Regulation. The list will be updated and published by the Director from time to time and will be available for public inspection at the EMSD.
- (4) The standards listed in Section C.1 of the Notes are not exhaustive. Electrical products complying with standards other than those listed may also be able to satisfy the applicable safety requirements of the Regulation. For electrical products manufactured to standards other than those listed, the Director may require the suppliers to provide documentary proof to substantiate that the products are in compliance with the applicable safety requirements of the Regulation and/or the standards are compatible with the relevant standards listed in Section C.1 of the Notes. The documentary proof should include copies of the standards, the test reports of the products, and technical reports showing

that the products are in compliance with the applicable safety requirements of the Regulation and/or the standards are compatible with the relevant standards listed in Section C.1 of the Notes.

- (5) Electrical products that do not conform to any standards, perhaps because they are innovative products, must nevertheless comply with the applicable safety requirements of the Regulation. Manufacturers and suppliers of such products will have to ensure that the electrical products are in compliance with the applicable safety requirements of the Regulation and/or the products are manufactured and tested to a safety level which is compatible with the relevant safety standards listed in the Notes. The manufacturers and suppliers may be required by the Director to provide documentary proof, including test reports and/or technical reports, to substantiate the compliance.

## **B.5 Specific safety requirements for prescribed products**

- (1) In addition to the essential safety requirements, all prescribed products shall comply with the corresponding specific safety requirements specified in Schedule 2 of the Regulation which are elaborated in Section C.3 of the Notes so as to ensure that the products are safe for normal use in Hong Kong. The following electrical products are classified as prescribed products under the Regulation:-

- (A) Plugs;
- (B) Adaptors;
- (C) Lampholders;
- (D) Flexible Cords;
- (E) Extension Units; and
- (F) Unvented Thermal Storage Type Electric Water Heaters.

- (2) Under the provisions of the Electricity Ordinance (CAP. 406), the Secretary for the Environment may amend the Schedules of the Regulation, and revise the list of prescribed products to include those electrical products of special nature that require certain specific safety requirements in addition to the essential safety requirements. The revised list of prescribed products will be announced through gazetting for public information. A grace period will normally be allowed before such amendments/revisions are brought into effect for the industry and the public to accustom to the new safety requirements.

## **B.6 Applicable safety requirements for particular types of electrical products**

### (1) Class of Electrical Product

- (A) All electrical products designed for household use, other than accessories and lighting fittings which do not receive power supply from a mains socket, should be of Class I or Class II products in order to provide adequate protection against electric shock. Electrical products which are of Class 0 (protection against electric shock by basic insulation only and there are no means for the connection of the conductive accessible parts, if any, to the protective earth conductor) are not acceptable because these products are not properly protected from electric shock.
- (B) Class I products utilize the classic method of protection against electric shock by earthing all accessible conductive parts to eliminate the risk of electric shock.
- (C) Class II electrical products may be either of the following types:
- (I) Double-insulated electrical products which comprise both basic insulation and supplementary insulation. In other words, there are two layers of insulation between the live parts and accessible parts of this type of products. In the case of products with outer casing made from insulating material, the casing will be ranked as one of the required layers of insulation.

- (II) Reinforced-insulated electrical products which comprise single layer of insulation system to the live parts and provide a degree of protection against electric shock equivalent to double insulation.
  - (III) Electrical products which have durable and substantially continuous enclosure made of insulating material. All metal parts, except small parts such as nameplates, screws and rivets which are separated from the live parts are enclosed by insulation at least equivalent to reinforced insulation. This type of electrical products is called insulation-encased Class II products.
  - (IV) Electrical products which have substantially continuous metal enclosure in which double insulation is used throughout, except for those reinforced-insulated parts where the application of double insulation is obviously impracticable. Such electrical products are called metal-encased Class II products.
- (2) Accessories or lighting fittings which do not receive power supply from a mains socket, for example, lighting fittings which are permanently connected as part of the fixed electrical installation, are not subject to the requirements in Section B.6(1) above regarding the class of electrical product. However, table lamps or pedestal lamps which receive power supply from mains sockets directly through plugs should be of Class I or II products.
- (3) Plug for an electrical product should be of a rating not less than the rated current of the associated electrical product. Standard ratings of plugs are:
- (A) 5A, 13A or 15A for 3-pin plugs; and
  - (B) 2.5A or 5A for 2-pin reversible plugs which are designed for connecting to a shaver supply unit conforming to IEC 61558-2-5.

For an electrical product which is not designed to receive power through a mains socket, the requirements of fitting a plug does not apply. For example, some air conditioners of larger rating are designed to be connected to connection/spur units of rating larger than 15A. Although the rated current of

these air conditioners may be less than 15A, the large starting current makes it unsuitable for them to be connected to typical household MCB boards through 15A sockets. For this type of electrical products, proper labelling/indication should be provided on the package/body as well as the installation manuals of the products to indicate the electrical power point requirements.

- (4) For an IEC 60884-1 plug fitted with a special adaptor,
  - (A) The plug and the special adaptor should be of a rating not less than the rated current of the associated electrical product, typical ratings of IEC 60884-1 plugs are 2.5A, 6A, 10A or 16A; and
  - (B) The plug when fitted with the special adaptor should provide a safety level equivalent to that of plugs which conform to BS 546, BS 1363 Part1 or BS 5733.

For a double or reinforced insulated electrical product (Class II product) fitted with a 2-pin IEC 60884-1 plug, the use of a special adaptor which converts the 2-pin plug to the 3-pin BS 1363 plug configuration is a typical example of this arrangement. The 2-pin plug cannot be removed from the special adaptor without the use of a screwdriver while a fuse conforming to BS 1362 is also incorporated inside the adaptor.

- (5) For a Class I electrical product fitted with an IEC 60884-1 plug, the plug should be of 3-pin configuration so as to maintain the earthing continuity from the conductive accessible parts of the product to the mains earthing system. The plug and special adaptor combination for such a product should provide a safety level equivalent to that of plugs which conform to BS 546, BS 1363 Part 1 or BS 5733.
- (6) For an electrical product which is designed to receive power supply from a mains socket without connecting through a flexible cord, e.g. a nightlight, a mosquito repeller or a plug transformer, the plug should be of 3-pin configuration. The construction and dimensions of the plug pins should conform to BS 546 or BS 1363 Part 1. The product should have such stability that it can be maintained in a specific position.



- (7) For an electrical product which is designed to receive power from a shaver supply unit conforming to IEC 61558-2-5 without connecting through a flexible cord, e.g. a shaver which directly plugs into a shaver supply unit to receive power, the plug should be of 2-round-pin configuration, and the construction and dimensions of the plug pins should conform to BS 4573 or EN 50075. The product should have such stability that it can be maintained in a specific position.
- (8) Some of the household electrical products supplied in Hong Kong are designed to operate at a voltage level different from that in Hong Kong households, e.g. 110V electrical products. The direct connection of this type of electrical product to the Hong Kong household electricity supply source of 220V a.c. single phase may pose danger to the consumers. In order to prevent the misuse of this type of electrical products and to protect the consumers in Hong Kong, warning labels shall be provided for electrical products that are:
- (A) designed for household use;
  - (B) designed to operate solely at a voltage of less than 200V a.c. single phase; and
  - (C) supplied in Hong Kong.

The detailed requirements of the warning label are specified in Schedule 3 of the Regulation [see also Figure 7 of the Notes for a sample of the warning label].

- (9) For an electrical product which is designed to operate at a voltage level less than that in Hong Kong households, e.g. 110V electrical products, the requirements of Section 6(3) of the Regulation do not apply (i.e. the requirement of fitting the electrical product with a plug prescribed in Schedule 2 of the Regulation).

## Part III

## Certificate of Safety Compliance

**B.7 Certificate of safety compliance**

- (1) A certificate of safety compliance should be issued for each model of electrical product designed for household use and supplied in Hong Kong. Any person who supplies electrical products should ensure that all electrical products concerned are covered by valid certificates of safety compliance and are in compliance with the applicable safety requirements. The certificates should be made available within a reasonable period for inspection upon request by the Director.

Suppliers can exercise their own discretion on how to demonstrate the availability of certificates of safety compliance to the consumers.

- (2) A certificate of safety compliance should include the following information:
  - (A) a reference number (the certificate and/or test report reference number);
  - (B) the name and model or type reference of the electrical product;
  - (C) the name and address of the manufacturer;
  - (D) the name and address of the person or company who requested testing of the electrical product;
  - (E) the international or national standard(s) to which the product was tested and found in conformity;
  - (F) the name, address, authorised signature and if applicable company seal of the recognized certification body or recognized manufacturer, as the case may be; and
  - (G) the date of certification.

- (3) A certificate of safety compliance should be provided in English or Chinese language. If the certificate is provided in other language, it should be accompanied by an English or Chinese translation of the information therein.
- (4) As one of the measures to make sure that the electrical products they supplied are covered by valid certificates of safety compliance, the suppliers may consider to obtain documentary proof from their supplying sources to confirm the availability of these certificates. Certified true copies of the certificates of safety compliance for each model of electrical products supplied are examples of such documentary proof.
- (5) An electrical product which is made up of a combination of more than one prescribed and/or non-prescribed products, e.g. extension unit, should be provided with :

either - a single certificate of safety compliance to cover the whole product;

or - a number of certificates of safety compliance to cover the individual prescribed and/or non-prescribed products.

The electrical product as a whole should comply with the applicable safety requirements of the Regulation.

- (6) For a second-hand electrical product, which has not been modified since first supplied, the original certificate of safety compliance is still valid provided that the safety standard, to which the second-hand product conforms, has not been revised. If the safety standard has been revised, then the validity of the original certificate of safety compliance will depend on the circumstances listed in Section B.7(9) below. Suppliers who hire out electrical products should make sure that the products concerned fulfil the requirements of the Regulation and are covered by valid certificates of safety compliance.

- (7) For a second-hand electrical product for which it is unable to trace the original certificate of safety compliance, the suppliers will be expected to make all efforts to keep the relevant documentary proof that the electrical products they supplied are of second-hand. The suppliers should arrange qualified persons or registered electrical workers to carry out necessary tests to certify the safety level of these products before supplying them to the consumers. Guidelines on second-hand electrical products are shown in Annex 1 of the Notes.
- (8) If the electrical product has been modified or reconditioned, a new certificate of safety compliance is required. The suppliers are recommended to seek independent technical advice if they are not sure about the extent of change on the safety level of the product after reconditioning or modification work.
- (9) Suppliers should ensure that their electrical products conform to the latest safety standards as detailed in the Notes. There may be cases where residual stocks of electrical products exist, such that they are issued with the certificates of safety compliance with reference to some safety standards which have since been revised. These certificates of safety compliance for residual stocks, whether new or second-hand, will continue to be accepted unless the products made to the unamended standards pose unacceptable risks to the consumers.
- (10) The current safety standards will be revised or new safety standards will be published by relevant standards organizations from time to time. When there is any major change in the safety standards for household electrical products, EMSD will notify the trade of such change and initiate discussion with the trade on the time frame for adopting the new safety standards. Further details can be found at EMSD's website: <http://www.emsd.gov.hk>.

## B.8 Issue of certificate of safety compliance

- (1) The means to obtain certificate of safety compliance is summarised in the chart shown in Figure 3 of the Notes.

(2) For a prescribed product, the certificate of safety compliance should be one of the following documents :

- (A) A certificate or test report issued by a recognized certification body registered with the Director which are either :
- (i) CB test certificates issued by National Certification Bodies participating in the CB Scheme of the IEC System for Conformity Testing to Standards for Safety of Electrical Equipment (IECEE) [see Figure 4 for a sample CB test certificate];
  - (ii) endorsed certificates or test reports issued by organizations accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or by the Hong Kong Accreditation Service (HKAS) [see Figure 5 for samples of HOKLAS endorsed test reports]; or
  - (iii) endorsed certificates or test reports issued by organizations that have been accredited by those bodies which have mutual recognition agreements with HOKLAS or HKAS [Endorsed certificates/test reports issued by organizations accredited by accreditation bodies which have mutual recognition agreements with HOKLAS or HKAS generally bear the logo of the accreditation bodies and an endorsement statement similar to that of HOKLAS or HKAS as appropriate. The list and logos of those accreditation bodies which have mutual recognition agreements/arrangements with HOKLAS or HKAS are available at the website of the Innovation and Technology Commission: <https://www.itc.gov.hk>].
- (B) A declaration of conformity issued by a recognized manufacturer.

The format of the declaration of conformity should preferably be based on the ISO/IEC 17050: Conformity assessment - Supplier's declaration of conformity [see Figure 6 for a sample of the declaration of conformity].

(3) For a non-prescribed product, the certificate of safety compliance should be one of the documents listed in Section B.8(2) above, or a declaration of conformity

issued by the product manufacturer (in line with the worldwide approach being adopted). The information contained in such declaration of conformity should not be less than those listed in Section B.7(2) above with two exceptions:

- (A) Item B.7(2)(A) - "reference number" which is not compulsory, and it is up to the manufacturer to decide whether to assign any reference number to their declaration of conformity;
- (B) Item B.7(2)(D) - "name and address of the person or company who requested testing of the electrical product" which in most cases would be the product manufacturer himself and hence may not be applicable.

The declaration of conformity issued by the product manufacturer [see Figure 6 for a sample of the declaration of conformity] should be substantiated by relevant certificates and/or test reports.

- (4) A certificate or test report which, in the opinion of the Director, demonstrates that an electrical product complies with the applicable safety requirements, will also be accepted as the certificate of safety compliance. The following certificate or test report may be accepted by the Director subject to future review:
  - (A) A declaration made by an importer or agent [see Figure 10 for a sample of the importer's declaration] to local wholesalers and retailers, which is substantiated by certificates of safety compliance. The relevant certificates of safety compliance should however be made available within a reasonable period for inspection by EMSD upon request:
    - (l) In respect of electrical products which are not designed to operate at the local supply voltage (e.g. 110V products), it may be considered acceptable for the local importer to make his own declaration if he is satisfied that adequate testing to overseas safety standards has been conducted and the relevant certificates of safety compliance are traceable, together with suitable supporting documentation from the overseas exporters, national certification bodies or overseas authorities to substantiate his declaration.

- (II) In respect of electrical products which are suitable for operating at the local supply voltage of 220V, the importer or agent has to support his declaration with proper certificates of safety compliance to show that the products comply with the applicable safety requirements and suit the local electrical supply system. These certificates may also be arranged through the recognized certification bodies who should be able to trace and confirm that such products have already been tested and certified by relevant overseas certification bodies/authorities, and that verification tests have been conducted to confirm the compatibility of these products with the local electrical supply system.

Suppliers are reminded that it is important that a certificate of safety compliance as described in section 8 of the Regulation must in fact have been issued in respect of the electrical product.

- (B) For the same electrical products under different brand names/model numbers but manufactured by the same original equipment manufacturer, a declaration made by the importer [see Figure 10 of the Notes] which is substantiated by relevant certificates of safety compliance and supporting document (e.g. declaration of identity, test reports, etc.) from the manufacturer.
  - (C) For locally fabricated personal computers, a type test report of the computers issued by an accredited testing laboratory to cover a series of computer models of the same make but with a variety of different component combinations. The suppliers should ensure that the associated components of their computer equipment are up to the relevant safety standards and their computers are safely connected and assembled.
- (5) Notwithstanding that a certificate of safety compliance has been issued in respect of an electrical product designed for household use, if the product is found not complying with the applicable safety requirements of the Regulation and is causing danger to the consumer, the Director may refuse to accept the certificate and publish in the Gazette the name of the manufacturer and the details of the electrical product.

## Part IV

Recognized Certification Bodies  
and Recognized Manufacturers

## B.9 Recognized certification bodies

- (1) Recognized certification bodies (RCB) are those certification bodies recognized by the Director as qualified to issue certificates of safety compliance in respect of specified classes of electrical products. A certification or testing organization applying for registration as a RCB under the Regulation should satisfy either one of the following criteria:

(A)

The organization has been accepted as one of the National Certification Bodies (NCBs) under the IECEE CB Scheme;

(B)

The organization has been accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or by the Hong Kong Accreditation Service (HKAS) under the test category of electrical and electronic products; or

(C)

The organization has been accredited by an accreditation scheme which has a mutual recognition agreement with HOKLAS or HKAS under the test category of electrical and electronic products.



- (2) The full name of the CB Scheme is "The Scheme of the IECEE for Recognition of Results of Testing to Standards for Safety of Electrical Equipment". The participants in the CB Scheme are formally the member organizations of the IECEE, having appointed National Certification Bodies (NCBs) as published in the CB Bulletin. The NCBs are organizations that, at national level, operate a safety certification or approval scheme for electrical products. There are 82 NCBs in 40 countries registered under the CB Scheme as at October 2019. More information on the CB Scheme and the CB Bulletin are available from:

IECEE  
c/o IEC Central Office  
3 rue de Varembe, 1st floor  
P.O. Box 131  
CH-1211 Geneva 20  
Switzerland  
Fax 41 22 919 03 00

- (3) The Hong Kong Laboratories Accreditation Scheme (HOKLAS) is a voluntary scheme, open to any Hong Kong laboratory that performs objective testing falling within the scope of the Scheme and meeting the HOKLAS criteria of competence. The aims of HOKLAS are :
- (A) to upgrade the standard of testing and management of Hong Kong laboratories;
  - (B) to identify and officially recognize competent testing laboratories in Hong Kong;
  - (C) to promote the acceptance of test data from accredited laboratories, both locally and internationally.

HOKLAS has been expanded in 1998 to form the Hong Kong Accreditation Service (HKAS). HKAS will offer, in a phased programme, a comprehensive range of accreditation services including accreditation of quality system certification bodies, inspection bodies, product certification bodies, environmental management system certification bodies. HOKLAS has been subsumed and operates under HKAS.

Further information on HOKLAS and HKAS can be obtained from:

Quality Services Division  
Innovation and Technology Commission  
36/F Immigration Tower  
7 Gloucester Road  
Wanchai  
Hong Kong

Tel. (852) 2829 4841

Fax (852) 2824 1302

- (4) Up to October 2019, HKAS has concluded a number of mutual recognition agreements/arrangements with 98 laboratory accreditation bodies.
- (5) All recognized certification bodies have to be registered with the Director through the following procedures :
  - (A) The organization submits an application for recognition to the Director in writing with the following details :
    - (I) Name, address, telephone and fax numbers and the responsible persons of the organization.
    - (II) Details of the scheme under which the organization is recognized/ accredited, e.g. HOKLAS/HKAS or IECEE CB Scheme etc, the registration number and certified true copy of the registration certificate concerned.
    - (III) The test categories of accreditation, types of product & safety standard accredited under the relevant scheme.
  - (B) The application should be accompanied by payment of the application fee, as stipulated in the Regulation.

- (C) The Director will assess the details of the application and will request for further information as necessary from the applicant.
  - (D) The applicant will be notified by the Director of the result of the application upon receipt of all necessary information requested by the Director.
- (6) A list of recognized certification bodies registered with the Director as qualified to issue certificates of safety compliance will be gazetted. The specified classes of electrical products which may be certified by these bodies will be specified in the list. The list is also available for public inspection at the Customer Services Office of the Electrical and Mechanical Services Department at G/F, 3 Kai Shing Street, Kowloon, Hong Kong during office hours. The current list of recognized certification bodies can also be found at EMSD's website: <https://www.emsd.gov.hk>.
- (7) The criteria and procedures for revocation of the recognition of a recognized certification body are stipulated in Section 9 of the Regulation.

## **B.10 Recognized manufacturers**

- (1) Recognized manufacturers (RM) are those manufacturers who are recognized by the Director as qualified to issue certificates of safety compliance for the electrical products manufactured by them. A manufacturer applying for recognition as a recognized manufacturer should comply with the following requirements :
- (A) The manufacturer's laboratory has obtained accreditation under :
    - (I) the Hong Kong Laboratory Accreditation Scheme (HOKLAS), under the category of electrical and electronic products [see Section B.9(3) above];

- (II) an overseas laboratory accreditation scheme which has a mutual recognition agreement with HOKLAS or HKAS, under the category of electrical and electronic products [see Section B.9(4) above]; or
  - (III) a scheme for assessment of testing laboratories as listed in the current version of the International Directory of Laboratory Accreditation Systems of the International Laboratory Accreditation Conference (ILAC) [The International Laboratory Accreditation Conference (ILAC) is an international forum whose aims are to achieve the international acceptance of laboratory test and calibration results, to provide general information on the subject of laboratory accreditation, and to facilitate its international development. The list of ILAC members can be found at ILAC's website: <https://www.ilac.org>]; and
- (B) The manufacturer is required to have a quality system that conforms to ISO 9002 "Specification for Product and Installation" (now referred to as ISO 9001 "Quality Management Systems – Requirements") and a quality assurance certificate issued by a Quality System Registration Body as listed in the current version of the Directory of Quality System Registration Bodies published by the International Organization for Standardization.
- (2) All recognized manufacturers have to be registered with the Director through the following procedures :
- (A) The manufacturer submits an application for recognition to the Director in writing with the following details :
    - (I) Name, address, telephone and fax numbers and the responsible persons of the manufacturer.
    - (II) Details of the scheme under which the manufacturer's laboratory is recognized/accredited, e.g. HOKLAS, etc., the registration number and certified true copy of the registration certificate concerned.
    - (III) The registration number and certified true copy of the certificate issued by the Quality System Registration Body described in Section B.10(1) above.

- (IV) The types, models, trade marks & drawings etc. of the electrical products to be included in the registration.
  
  - (B) The application should be accompanied by payment of the application fee as stipulated in the Regulation.
  
  - (C) The Director will assess the details of the application and will request for further information as necessary from the applicant.
  
  - (D) The applicant will be notified by the Director of the result of the application upon receipt of all necessary information requested by the Director.
- (3) A list of recognized manufacturers registered with the Director as qualified to issue certificate of safety compliance will be gazetted. The types of electrical products which may be certified by these manufacturers will be specified in the list. The list is also available for public inspection at the Customer Services Office of the Electrical and Mechanical Services Department at G/F, 3 Kai Shing Street, Kowloon Bay, Hong Kong during office hours. The current list of recognized manufacturers can also be found at EMSD's website: <https://www.emsd.gov.hk>.
- (4) The criteria and procedures for revocation of the recognition of a recognized manufacturer are stipulated in Section 10 of the Regulation.

**Part V****Director's Powers****B.11 Director's powers**

The Director may require the supplier of an electrical product found not complying with the applicable safety requirements to notify the purchasers about the hazardous defects in the product, accept a return of the product, and refund the purchasers any sum paid for the product subject to a condition that a receipt for the product is surrendered. The supplier may be requested by the Director to publicize the matter through public announcements in television and newspaper as well as other effective means.

**Part VI****Offences and Penalties****B.12 Offences**

A person who -

- (A) supplies an electrical product which fails to comply with the applicable safety requirements prescribed in the Regulation; or
- (B) fails or refuses to comply with a notice served by the Director under Section 11(1) of the Regulation to require the supplier of an unsafe electrical product to publicize the information about the hazardous product and accept a return of the product,

commits an offence under the Regulation.

A person who -

- (A) supplies or uses an electrical product that is prohibited under section 25 of the Electricity Ordinance; or
- (B) supplies an electrical product for which no certificate of safety compliance has been issued; or
- (C) refuses to give or withholds evidence or documents respecting the origin and destination of the electrical product,

commits an offence under the Electricity Ordinance.

### **B.13 Penalties**

A person who supplies an electrical product which fails to comply with the applicable safety requirements specified in the Regulation or who fails or refuses to comply with a notice served by the Director under section 11(1) of the Regulation or who supplies an electrical product that is prohibited under section 25 of the Electricity Ordinance is liable to a fine at level 6 (\$100,000) and imprisonment for 1 year on first conviction; and a fine of \$500,000 and imprisonment for 2 years on subsequent conviction.

A person who supplies an electrical product for which no certificate of safety compliance has been issued is liable to a fine of \$10,000.

A person who uses an electrical product which he knows is prohibited under section 25 of the Electricity Ordinance or a person who refuses to give or withholds evidence or documents respecting the origin and destination of the electrical product is liable to a fine of \$50,000 on a first conviction and a fine of \$100,000 on a subsequent conviction for the same offence and in either case is liable to imprisonment for 6 months.

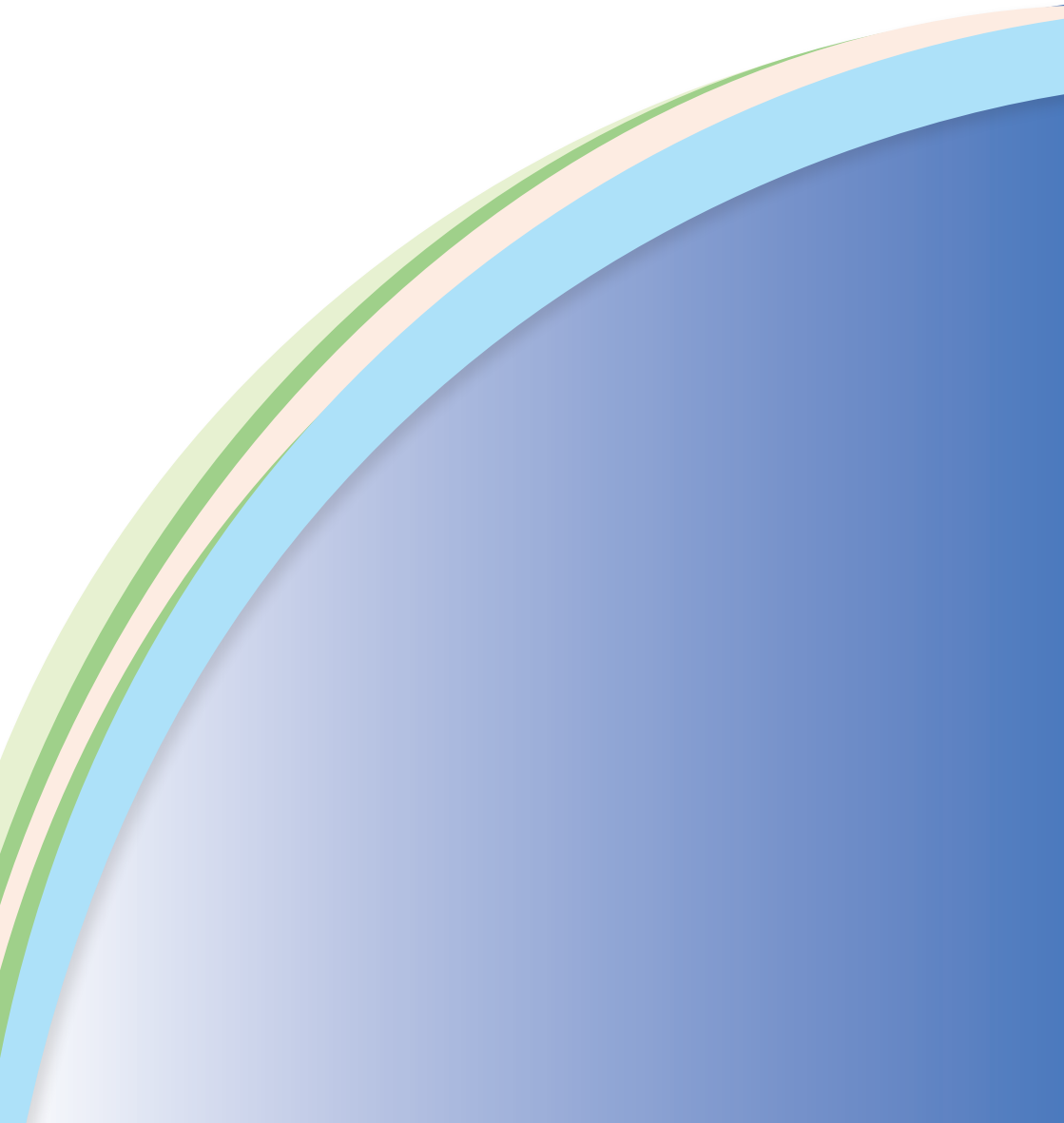
## B.14 Defence of due diligence

- (1) Some retailers of electrical products, because of their limited knowledge on product safety, may have to rely on the information provided by their suppliers. It is a defence in a proceeding against a person for offences :
  - (A) under Section 12(a) of the Regulation; or
  - (B) under Section 56A or Section 55(1) of the Electricity Ordinance regarding a contravention of Section 29(1)(b),  
if the person charged shows that he has taken all reasonable steps (subject to final judgement of the Court) and has exercised all due diligence to avoid committing the offence.
- (2) Suppliers of electrical products are recommended to follow the advisory notes listed in Section A.5 of the Notes and to keep all relevant document for record and for inspection by EMSD.
- (3) Whether the defence of due diligence will be accepted depends on a number of factors, including those matters referred to in Section 14 of the Regulation and in Section 56B of the Electricity Ordinance (CAP. 406) and is subject to final judgement of the Court.





# Technical Guidance



# Technical Guidance

## C.1 List of standards that are deemed to satisfy the applicable safety requirements of the Regulation

### 1.1 Prescribed products

In general, electrical products that conform to the safety standards listed below or equivalent standards are deemed to satisfy the applicable safety requirements of the Regulation subject to complying with the "General conditions" requirements stipulated in Schedule 1 of the Regulation, the additional and specific safety requirements for particular types of electrical products (Section 5, Section 6 & Schedule 2 of the Regulation refer) detailed as follows:

- (A) For a 5A or 15A plug which is manufactured to BS 5733, the construction and dimensions of plug pins and markings on the plug shall conform to BS 546 [Specific safety requirement (b)(iii) under Item 1, Schedule 2 of the Regulation].
- (B) For a 13A plug which is manufactured to BS 5733, the construction and dimensions of plug pins, markings on the plug and fuse-link shall conform to BS 1363 Part 1 [Specific safety requirement (a)(iii) under Item 1, Schedule 2 of the Regulation].
- (C) There are some accepted deviations for 5A & 15A adaptors [Specific safety requirements (1)(a)(ii) & (1)(c)(ii) under Item 2, Schedule 2 of the Regulation] :
  - a 5A adaptor protected by fuse-links conforming to BS 1362 is permitted;
  - a 5A adaptor with not more than three 5A sockets protected by one 5A main fuse-link conforming to BS 646 or BS 1362 is permitted;
  - a 15A adaptor protected by fuse-links conforming to BS 1362 is permitted;
  - the 15A non-fused socket of a 15A adaptor may be replaced by a 13A non-fused socket, the construction and dimensions of which shall conform to BS 1363 Part 2;

- a 15A adaptor fitted with a 13A or 15A non-fused socket and not more than two 5A sockets which are protected by one 5A main fuse-link conforming to BS 646 or BS 1362 is permitted;
  - a 15A adaptor fitted with not more than three 5A sockets which are protected by one 5A main fuse-link conforming to BS 646 or BS 1362 is permitted.
- (D) For lampholders, the additional requirements on marking [Specific safety requirement (1) under Item 3, Schedule 2 of the Regulation] are :
- for an Edison screw lampholder, the letter "L" shall be marked adjacent to the line terminal for cable connection; and
  - for a metal lampholder, the words "THE LAMP-HOLDER MUST BE EARTHED" or equivalent wording shall be indicated in the associated packaging and the symbol (E or  $\frac{\perp}{\equiv}$  ) shall be marked adjacent to the earthing terminal.
- (E) For flexible cords, except for that fitted to an electrical product, the nominal cross sectional area of a conductor and the relevant standard to which a flexible cord conforms shall be marked on the outer sheath of the flexible cord at appropriate intervals [Specific safety requirement (1)(a) under Item 4, Schedule 2 of the Regulation].
- (F) For extension units, the plug, flexible cord and socket portions shall conform to the listed safety standards. For details of the different designs and arrangements of the extension units, specific safety requirements (1) to (14) under Item 5, Schedule 2 of the Regulation shall be referred.
- (G) For an unvented thermal storage type electric water heater, the following safety equipment [Specific safety requirement (4) under Item 6, Schedule 2 of the Regulation] shall be fitted :
- a thermostat which shall be fitted to control the heating of the stored water;
  - a thermal cut out which -

- (I) shall be fitted to cut off the supply of electricity when the stored water is heated above the temperature setting of the thermostat and before the operation of the temperature and pressure relief valve is initiated;
  - (II) shall be wired in series with the thermostat; and
  - (III) shall require manual resetting when the enclosure of the electric water heater is dismantled; and
- a temperature and pressure relief valve which shall be either-
- (I) (a) a non-resettable temperature relief valve, having a set temperature of 90°C and being provided with manual test mechanism; and
  - (b) a pressure relief valve, having a set pressure not greater than the maximum designed pressure of the electric water heater or than 1000 kPa, and being provided with manual test mechanism; or
  - (II) a non-resettable temperature and pressure relief valve, having a set temperature of 90°C and a set pressure not greater than the maximum designed pressure of the water heater or than 1000 kPa, and being provided with manual test mechanism; or
  - (III) a temperature and pressure relief valve complying with EN 1490 or equivalent safety standards.

[Notice of Exemption dated 8 March 2002]

- (H) An unvented thermal storage type electric water heater shall be a Class I or Class II product [Section 6 (1) of the Regulation refers].

The safety standards listed below are deemed to satisfy the applicable safety requirements of the Regulation subject to the additional safety requirements as stated above. This list is not exhaustive and will be updated as and when required. Household electrical products conforming to safety standards other than those listed are also acceptable if the corresponding standards can be proved to be equivalent to the relevant standards on the list or in compliance with the applicable safety requirements prescribed by the Regulation. For details of the scope and application of an individual standard, please refer to its latest version published by the relevant authority.

### 1.1.1 Plugs

Electrical Products	Standards
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(Prefix shown next to the reference number of the standard refers to the particular sub-section in C.1 - 1.1 above)

3-pin 5A plug  
3-pin 15A plug

BS 546 : Specification. Two-pole and earthing-pin plugs, socket-outlets and socket-outlet adaptors, or

BS 5733<sup>A</sup> : Specification for general requirements for electrical accessories

3-pin 13A plug

BS 1363 Part 1 : Specification for rewirable and non-rewirable 13A fused plugs, or

BS 5733<sup>B</sup> : Specification for general requirements for electrical accessories

2-pin reversible plugs which are designed for connecting to a shaver supply unit conforming to IEC 61558-2-5

BS 4573 : Specification for 2-pin reversible plugs and shaver socket outlets, or

EN 50075 : Specification for flat non-rewirable two-pole plugs 2.5A 250V, with cord, for the connection of class II equipment for household and similar purposes

IEC plug (special adaptor to be added to convert the plug for compliance with BS 5733, BS 546 or BS 1363 Part 1)

IEC 60884-1 : Plugs and socket-outlets for household and similar purposes- General requirements





### 1.1.2 Adaptors

Electrical Products	Standards
5A adaptor	BS 546 <sup>C</sup> : Specification. Two-pole and earthing-pin plugs, socket-outlets and socket-outlet adaptors
15A adaptor	
13A adaptor	BS 1363 Part 3 : Specification for adaptors

### 1.1.3 Lampholders

Electrical Products	Standards
Bayonet type lampholders	IEC 60061-2 <sup>D</sup> : Lamps caps and holders together with gauges for the control of interchangeability and safety - Lampholders  IEC 61184 <sup>D</sup> : Bayonet lampholders
Edison screw type lampholders	IEC 60061-2 <sup>D</sup> : Lamps caps and holders together with gauges for the control of interchangeability and safety - Lampholders  IEC 60238 <sup>D</sup> : Edison screw lampholders

### 1.1.4 Flexible Cords

Electrical Products	Standards
PVC insulated flexible cord	IEC 60227 <sup>E</sup> : Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V  BS EN 50525 <sup>E</sup> : Electric cables. Low voltage energy cables of rated voltages up to and including 450/750V

Rubber insulated flexible cord

IEC 60245<sup>E</sup> : Rubber insulated cables - Rated voltages up to and including 450/750V

BS EN 50525<sup>E</sup> : Electric cables. Low voltage energy cables of rated voltages up to and including 450/750V



### 1.1.5 Extension Units<sup>F</sup>

#### Standards

For plug portion

(3-pin 5A, 13A & 15A plugs)  
see item 1.1.1 above

For flexible cords

see item 1.1.4 above

For socket portion

BS 546 : Specification. Two-pole and earthing-pin plugs, socket-outlets and socket-outlet adaptors

BS 1363 Part 2 : Specification for 13A switched and unswitched socket-outlets

(For 13A socket-outlets with USB circuits intended for charging portable devices, the relevant requirements have been included in the 2016 or latest edition of BS 1363 Part 2. Please refer to the latest edition published by the relevant authority.)

For cable reels

IEC 61242 : Electrical accessories – Cable reels for household and similar purposes



## 1.1.6 Unvented Thermal Storage Type Electric Water Heaters

### Standards

IEC 60335-2-21<sup>G</sup> : Particular requirements for storage water heaters

BS EN 12897<sup>G</sup> : Water supply. Specification for indirectly heated unvented (closed) storage water heaters

#### For thermal cut out

BS EN 60730 : Automatic electrical controls

#### For temperature and pressure relief valves

BS 6283 : Safety and control devices for use in hot water systems

EN 1490 : Building valves – Combined temperature and pressure relief valves – Tests and requirements

ANSI Z21.22 : Relief valves for hot water supply systems

AS 1357.1 : Water supply – Valves for use with unvented water heaters – Protection valves

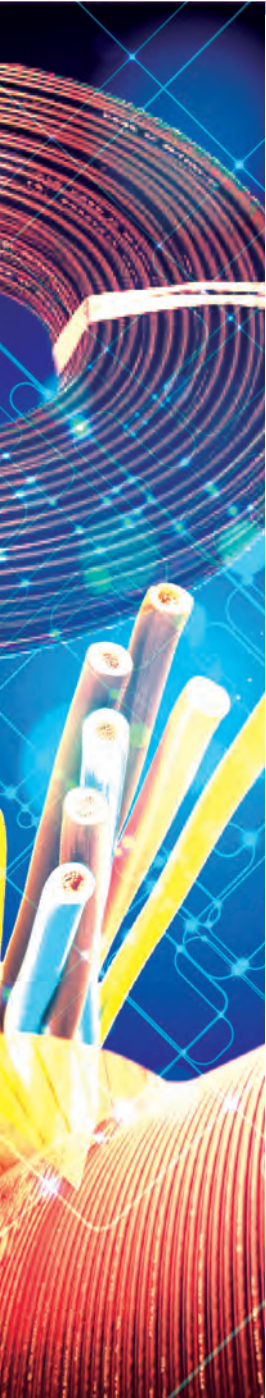
## 1.2 Non-prescribed products

In general, electrical products that conform to the safety standards listed below or equivalent standards are deemed to satisfy the applicable safety requirements of the Regulation subject to complying with the "General conditions" requirements stipulated in Schedule 1 of the Regulation and the additional safety requirements [Sections 6 (1) to 6 (8) of the Regulation refer] for particular types of products detailed as follows:

- (A) All electrical products, other than accessories or lighting fittings which do not receive power supply from a mains socket, shall be Class I or Class II products.
- (B) Subject to Sections 6 (4) & 6 (5) of the Regulation, an electrical product which is designed -
  - (I) to operate at a voltage of not less than 200V alternating current single phase;
  - (II) to operate at a maximum rated current of not more than 15A; and
  - (III) to be connected by means of a flexible cord and plug to a socket and is designed to be so connected directly without the use of a cable connector, shall be fitted with a plug of the correct rating which complies with the applicable safety requirements.
- (C) For an electrical product which is designed to receive power from a mains socket without connecting through a flexible cord, the construction and dimensions of the plug pins shall conform to BS 546 or BS 1363 Part 1.
- (D) For an electrical product which is designed to receive power from a shaver supply unit conforming to IEC 61558-2-5 without connecting through a flexible cord, the construction and dimensions of the plug pins shall conform to BS 4573 or EN 50075.

- (E) For an electrical product which is designed solely for use at a voltage of less than 200V alternating current single phase, a warning label specified in Schedule 3 of the Regulation shall be provided.

The safety standards listed below are deemed to satisfy the applicable safety requirements of the Regulation subject to the additional safety requirements stated above. This list is not exhaustive and will be updated as and when required. Household electrical products conforming to safety standards other than those listed are also acceptable if the corresponding standards can be proved to be equivalent to the relevant standards on the list or in compliance with the applicable safety requirements prescribed by the Regulation. For details of the scope and application of an individual standard, please refer to its latest version published by the relevant authority.



## 1.2.1 Cables and Cords

### Electrical Products

### Standards

Cord sets

IEC 60799 : Cord sets and interconnection cord sets

Mineral insulated cables and their terminations

IEC 60702 : Mineral insulated cables and their terminations with a rated voltage not exceeding 750V

PVC insulated cables

IEC 60227 : Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V

BS EN 50525 : Electric cables. Low voltage energy cables of rated voltages up to and including 450/750V

BS 6004 : Electric cables. PVC insulated and PVC sheathed cables for voltages up to and including 300/500V, for electric power and lighting

Rubber insulated cables

IEC 60245 : Rubber insulated cables - Rated voltages up to and including 450/750V

BS EN 50525 : Electric cables. Low voltage energy cables of rated voltages up to and including 450/750V

## 1.2.2 Switches for Appliances and Automatic Controls for Electrical Household Appliances

### Electrical Products

### Standards

Circuit breakers for equipment

IEC 60934 : Circuit-breakers for equipment

Control circuit devices

IEC 60730 : Automatic electrical controls








Switches for appliances

IEC 61058 : Switches for appliances








Electromechanical contactors

IEC 61095 : Electromechanical contactors for household and similar purposes





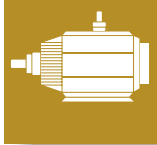


### 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Air-cleaning appliances	IEC 60335-2-65 : Particular requirements for air-cleaning appliances
	Air-conditioners	IEC 60335-2-40 : Particular requirements for electrical heat pumps, air conditioners and dehumidifiers  (For household air-conditioner using mildly flammable refrigerant such as R32, suppliers are advised to display the flame label on the air-conditioner when viewing appliance on display for sale; and include the installation restrictions of minimum room size and installation height in the installation manual and operation and maintenance manual.)
	Air fresheners	IEC 60335-2-101 : Particular requirements for vaporizers
	Appliances for heating liquids	IEC 60335-2-15 : Particular requirements for appliances for heating liquids
	Appliances for skin or hair care	IEC 60335-2-23 : Particular requirements for appliances for skin or hair care
	Battery chargers	IEC 60335-2-29 : Particular requirements for battery chargers
	Cleaning appliances	IEC 60335-2-54 : Particular requirements for surface - cleaning appliances for household use employing liquids or steam

## 1.2.3 Household and Similar Equipment


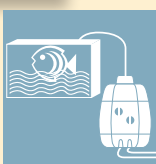

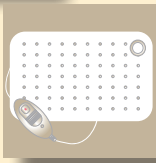

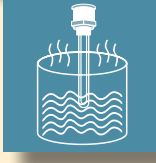

	Electrical Products	Standards
	Clocks	IEC 60335-2-26 : Particular requirements for clocks
	Clothes dryers	IEC 60335-2-43 : Particular requirements for clothes dryers and towel rails
	Cooking ranges	IEC 60335-2-6 : Particular requirements for stationary cooking ranges, hobs, ovens and similar appliances
	Deep fat fryers	IEC 60335-2-13 : Particular requirements for deep fat fryers, frying pans and similar appliances
	Dehumidifiers	IEC 60335-2-40 : Particular requirements for electrical heat pumps, air conditioners and dehumidifiers
	Dishwashers	IEC 60335-2-5 : Particular requirements for dishwashers
	Electric dry irons	IEC 60335-2-3 : Particular requirements for electric irons

### 1.2.3 Household and Similar Equipment


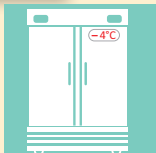

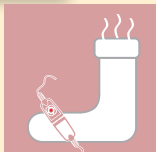

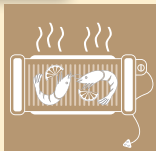
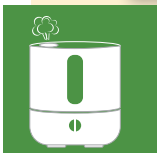
	Electrical Products	Standards
	Electric fans	IEC 60335-2-80 : Particular requirements for fans
	Electric hair dryers	IEC 60335-2-23 : Particular requirements for appliances for skin or hair care
	Electric ironers (with padded surface for pressing)	IEC 60335-2-44 : Particular requirements for ironers
	Electric kitchen machines	IEC 60335-2-14 : Particular requirements for kitchen machines
	Electric pumps for liquids	IEC 60335-2-41 : Particular requirements for pumps.
	Electric sauna heating appliances	IEC 60335-2-53 : Particular requirements for sauna heating appliances and infrared cabins
	Electric steam irons	IEC 60335-2-3 : Particular requirements for electric irons






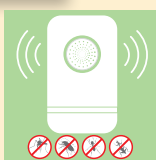
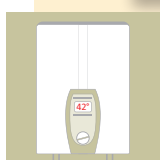
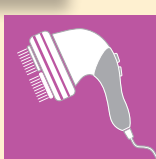

## 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Electric toilet appliances	IEC 60335-2-84 : Particular requirements for toilet appliances
	Electrical appliances for use with aquariums and garden ponds (e.g. aerators, aquarium heaters)	IEC 60335-2-55 : Particular requirements for electrical appliances for use with aquariums and garden ponds
	Electrically heated blankets	IEC 60335-2-17 : Particular requirements for blankets, pads and similar flexible heating appliances
	Electrically heated pads	IEC 60335-2-17 : Particular requirements for blankets, pads and similar flexible heating appliances
	Fabric steamers	IEC 60335-2-85 : Particular requirements for fabric steamers
	Fixed immersion heaters	IEC 60335-2-73 : Particular requirements for fixed immersion heaters
	Flexible sheet heating elements for room heating	IEC 60335-2-96 : Particular requirements for flexible sheet heating elements for room heating

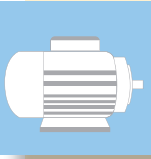




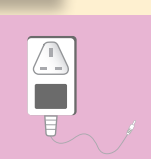

### 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Floor treatment machines	IEC 60335-2-10 : Particular requirements for floor treatment machines and wet scrubbing machines
	Food freezers	IEC 60335-2-24 : Particular requirements for refrigerating appliances, ice-cream appliances and ice makers
	Food waste disposers	IEC 60335-2-16 : Particular requirements for food waste disposers
	Foot warmers and heating mats	IEC 60335-2-81 : Particular requirements for foot warmers and heating mats
	Frying pans	IEC 60335-2-13 : Particular requirements for deep fat fryers, frying pans and similar appliances
	Grills	IEC 60335-2-9 : Particular requirements for grills, toasters and similar portable cooking appliances
	Humidifiers	IEC 60335-2-88 : Particular requirements for humidifiers intended for use with heating, ventilation, or air-conditioning systems  IEC 60335-2-98 : Particular requirements for humidifiers




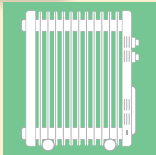

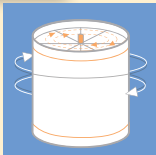
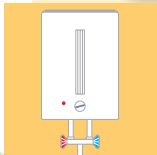
## 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Ice-makers	IEC 60335-2-24 : Particular requirements for refrigerating appliances, ice-cream appliances and ice makers
	Induction hotplates	IEC 60335-2-9 : Particular requirements for grills, toasters and similar portable cooking appliances
	Insect killers	IEC 60335-2-59 : Particular requirements for insect killers
	Insect repellers	IEC 60335-2-101 : Particular requirements for vaporizers
	Instantaneous water heaters	IEC 60335-2-35 : Particular requirements for instantaneous water heaters
	Massage appliances	IEC 60335-2-32 : Particular requirements for massage appliances
	Microwave ovens	IEC 60335-2-25 : Particular requirements for microwave ovens, including combination microwave ovens

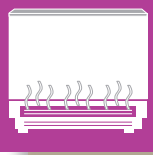

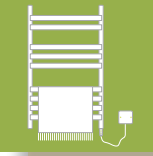




## 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Motor compressors	IEC 60335-2-34 : Particular requirements for motor-compressors
	Outdoor barbecues	IEC 60335-2-78 : Particular requirements for outdoor barbecues
	Ovens	IEC 60335-2-6 : Particular requirements for stationary cooking ranges, hobs, ovens and similar appliances
	Portable heating tools	IEC 60335-2-45 : Particular requirements for portable heating tools and similar appliances
	Portable immersion heaters	IEC 60335-2-74 : Particular requirements for portable immersion heaters
	Power transformers and power supply units	IEC 61558: Safety of transformers, reactors, power supply units and combinations thereof
	Projectors	IEC 60335-2-56 : Particular requirements for projectors and similar appliances

## 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Range hoods	IEC 60335-2-31 : Particular requirements for range hoods and other cooking fume extractors
	Refrigerators	IEC 60335-2-24 : Particular requirements for refrigerating appliances, ice-cream appliances and ice makers
	Roasters	IEC 60335-2-9 : Particular requirements for grills, toasters and similar portable cooking appliances
	Room heaters	IEC 60335-2-30 : Particular requirements for room heaters
	Sewing machines	IEC 60335-2-28 : Particular requirements for sewing machines
	Spin extractors	IEC 60335-2-4 : Particular requirements for spin extractors
	Storage water heaters (other than unvented type)	IEC 60335-2-21 : Particular requirements for storage water heaters

## 1.2.3 Household and Similar Equipment

	Electrical Products	Standards
	Thermal storage room heaters	IEC 60335-2-61 : Particular requirements for thermal storage room heaters
	Toasters	IEC 60335-2-9 : Particular requirements for grills, toasters and similar portable cooking appliances
	Towel rails	IEC 60335-2-43 : Particular requirements for clothes dryers and towel rails
	Tumble dryers	IEC 60335-2-11 : Particular requirements for tumble dryers
	Ultraviolet and infrared radiation skin treatment appliances	IEC 60335-2-27 : Particular requirements for appliances for skin exposure to optical radiation
	Vacuum cleaners	IEC 60335-2-2 : Particular requirements for vacuum cleaners and water-suction cleaning appliances
	Vaporizers	IEC 60335-2-101 : Particular requirements for vaporizers

## 1.2.3 Household and Similar Equipment



### Electrical Products

### Standards

Warming plates

IEC 60335-2-12 : Particular requirements for warming plates and similar appliances



Washing machines

IEC 60335-2-7 : Particular requirements for washing machines



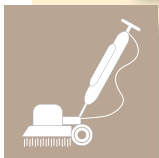
Water suction cleaning appliances

IEC 60335-2-2 : Particular requirements for vacuum cleaners and water-suction cleaning appliances



Water-bed heaters

IEC 60335-2-66 : Particular requirements for water-bed heaters



Wet scrubbing machines

IEC 60335-2-10 : Particular requirements for floor treatment machines and wet scrubbing machines



Whirlpool baths

IEC 60335-2-60 : Particular requirements for whirlpool baths and whirlpool spas

## 1.2.4 Installation Accessories and Connection Devices

Electrical Products	Standards
Appliance couplers	IEC 60320 : Appliance couplers for household and similar general purposes
Connecting devices	IEC 60998 : Connecting devices for low-voltage circuits for household and similar purposes IEC 60999 : Connecting devices – Electrical copper conductors : Safety requirements for screw-type and screwless-type clamping units
Low-voltage switchgear	IEC 60947 : Low-voltage switchgear and controlgear
Shaver supply units/ sockets	IEC 61558-2-5 : Particular requirements and test for transformer for shavers, power supply units for shavers and shaver supply units, or BS 4573 : Specification for 2-pin reversible plugs and shaver socket-outlets
Socket-outlets	BS 546 : Specification. Two-pole and earthing-pin plugs, socket-outlets and socket-outlet adaptors, or BS 1363 Part 2 : Specification for 13A switched and unswitched socket-outlets <small>(For 13A socket-outlets with USB circuits intended for charging portable devices, the relevant requirements have been included in the 2016 or latest edition of BS 1363 Part 2. Please refer to the latest edition published by the relevant authority.)</small>
13A adaptors (with USB circuits intended for charging portable devices)	BS 1363 Part 3 : Specification for adaptors <small>(For 13A adaptors with USB circuits intended for charging portable devices, the relevant requirements have been included in the 2016 or latest edition of BS 1363 Part 3. Please refer to the latest edition published by the relevant authority.)</small>
Switches	IEC 60669 : Switches for household and similar fixed-electrical installations







## 1.2.5 Lighting

Electrical Products	Standards
A.C. and/or D.C. supplied electronic control gear of tubular fluorescent lamps	IEC 61347-2-3 : Particular requirements for a.c. and/or d.c. supplied electronic control gear for fluorescent lamps
Ballasts for discharge lamps	IEC 61347-2-9 : Particular requirements for electromagnetic controlgear for discharge lamps (excluding fluorescent lamps)
Ballasts for tubular fluorescent lamps	IEC 61347-2-8 : Particular requirements for ballasts for fluorescent lamps
Control gear for LED modules	IEC 61347-2-13 : Lamp controlgear: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules
Double capped fluorescent lamps	IEC 61195 : Double-capped fluorescent lamps - Safety specifications
Double-capped LED lamps	IEC 62776 : Double-capped LED lamps designed to retrofit linear fluorescent lamps - Safety specifications
Electrical supply track systems for luminaires	IEC 60570 : Electrical supply track systems for luminaires
Electronic stepdown convertors for filament lamps	IEC 61347-2-2 : Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps
Floodlights	IEC 60598-2-5 : Luminaires - Floodlights
Handlamps	IEC 60598-2-8 : Luminaires - Handlamps
Incandescent lamps	IEC 60432 : Incandescent lamps – Safety specifications



## 1.2.5 Lighting

Electrical Products	Standards
Lamp caps	IEC 60061-1 : Lamp caps and holders together with gauges for the control of interchangeability and safety - Lamp caps
Lamp holders (other than Edison screw & bayonet type)	IEC 60061-2 : Lamp caps and holders together with gauges for the control of interchangeability and safety – Lampholders IEC 60838 : Miscellaneous lampholders
Lampholders for tubular fluorescent lamps	IEC 60400 : Lampholders for tubular fluorescent lamps and starterholders
LED modules	IEC 62031 : LED modules for general lighting - Safety specifications
Lighting chains	IEC 60598-2-20 : Luminaires - Lighting chains
Luminaires for aquarium	IEC 60598-2-11 : Luminaires - Aquarium luminaires
Luminaires, fixed, general purpose	IEC 60598-2-1 : Luminaires - Fixed general purpose luminaires
Luminaires for emergency	IEC 60598-2-22 : Luminaires - Luminaires for emergency lighting
Luminaires with built-in transformers for filament lamps	IEC 60598-1 : Luminaires - General requirements and tests
Nightlights	IEC 60598-2-12: Mains socket-outlet mounted nightlights
Photo and film luminaires (non-professional)	IEC 60598-2-9 : Luminaires - Photo and film luminaires (non-professional)
Portable child-appealing luminaires	IEC 60598-2-10 : Luminaires - Portable luminaires for children



## 1.2.5 Lighting

Electrical Products	Standards
Portable general purpose luminaires	IEC 60598-2-4 : Luminaires - Portable general purpose luminaires
Portable luminaires for garden use	IEC 60598-2-4 : Luminaires - Portable general purpose luminaires
Recessed luminaires	IEC 60598-2-2 : Luminaires - Recessed luminaires
Self-ballasted lamps	IEC 60968 : Self-ballasted lamps for general lighting services - Safety requirements
Self-ballasted LED lamps	IEC 62560 : Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications
Single-capped fluorescent lamps	IEC 61199 : Single-capped fluorescent lamps - Safety specifications
Starterholders for tubular fluorescent lamps	IEC 60400 : Lampholders for tubular fluorescent lamps and starterholders
Starters for tubular fluorescent lamps	IEC 60155 : Glow starters for fluorescent lamps
Starting devices	IEC 61347-2-1 : Particular requirements for starting devices (other than glow starters)
Tungsten filament lamps	IEC 60432-1 : Incandescent lamps – Safety specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes
Tungsten halogen lamps	IEC 60432-2 : Incandescent lamps – Safety specifications – Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes

(The optical radiation generated by household lighting products shall not cause the hazards of photobiological safety. Particular attention shall be drawn to the LED lights and other lighting products with such potential hazards. Requirements of photobiological safety shall be complied with and assessment shall be conducted according to the relevant standards such as IEC 62471 : Photobiological safety of lamps and lamp systems and IEC TR 62778 : Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires)

## 1.2.6 Information Technology Equipment

Electrical Products	Standards
Copying machine	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment
Data processing equipment	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment
Facsimile machine	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment
Modem	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment
Telephone answering machines	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment
Typewriters	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment
Visual Display Units for computer	IEC 60950 : Information technology equipment - Safety, or IEC 62368 : Audio/video, information and communication technology equipment



## 1.2.7 Installation Protective Equipment

### Electrical Products

### Standards

Circuit-breakers

IEC 60898 : Electrical accessories  
- Circuit breakers for overcurrent protection for household and similar installations, or

BS EN 60898 : Circuit-breakers for overcurrent protection for household and similar installations. Circuit-breakers for a.c. and d.c. operation

Fuse

IEC 60127 : Miniature fuses, or  
IEC 60269 : Low-voltage fuses, or  
BS 646 : Specification. Cartridge fuse-links (rated up to 5 amperes) for a.c. and d.c. service, or

BSHD60269-3: Low-voltage fuses. Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications). Examples of standardized systems of fuses A to F, or

BS 1362 : Specification for general purpose fuse-links for domestic and similar purposes (primarily for use in plugs)

Fuse-holders for miniature fuse-links

IEC 60127-6 : Fuse-holders for miniature fuse-links, or

BS EN 60127-6 : Fuse-holders for miniature fuse-links



Residual current operated protective devices

BS 7288 : Specification for residual current devices with or without overcurrent protection for socket-outlets for household and similar uses, or

BS EN 61008 : Specification for residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs), or

BS EN 61009 : Specification for residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs), or

IEC 61008 : Residual current operated circuit breakers without integral overcurrent protection for household and similar uses (RCCBs), or

IEC 61009 : Residual current operated circuit breakers with integral overcurrent protection for household and similar uses (RCBOs)



## 1.2.8 Portable Tools ( which are designed for household use )

### Electrical Products

### Standards

Drills

IEC 60745-2-1 : Hand-held motor-operated electric tools – Safety – Particular requirements for drills and impact drills

Screwdrivers

IEC 60745-2-2 : Hand-held motor-operated electric tools – Safety – Particular requirements for screwdrivers and impact wrenches

Sanders

IEC 60745-2-4 : Hand-held motor-operated electric tools – Safety – Particular requirements for sanders and polishers other than disk type

## 1.2.9 Electronics, Entertainment

Electrical Products	Standards
Alarm systems	IEC 60839 : Alarm systems
Amplifiers	<p>IEC 60065 : Audio, video and similar electronic apparatus - Safety requirements, or</p> <p>IEC 62368 : Audio/video, information and communication technology equipment</p>
Audio equipment	<p>IEC 60065 : Audio, video and similar electronic apparatus - Safety requirements, or</p> <p>IEC 62368 : Audio/video, information and communication technology equipment</p> <p>(Audio or video equipment which use lasers shall also conform to the requirements of IEC 60825 : Safety of laser products)</p>
Karaoke equipment	<p>IEC 60065 : Audio, video and similar electronic apparatus - Safety requirements, or</p> <p>IEC 62368 : Audio/video, information and communication technology equipment</p> <p>(Audio or video equipment which use lasers shall also conform to the requirements of IEC 60825 : Safety of laser products)</p>







Television

IEC 60065 : Audio, video and similar electronic apparatus - Safety requirements, or

IEC 62368 : Audio/video, information and communication technology equipment

Video equipment

IEC 60065 : Audio, video and similar electronic apparatus - Safety requirements, or

IEC 62368 : Audio/video, information and communication technology equipment

(Audio or video equipment which use lasers shall also conform to the requirements of IEC 60825 : Safety of laser products)

*Notes: As from 1997 all new IEC standards, as well as new editions, revisions and amendments to existing publications are being issued with a designation in the 60000 series. It will be necessary to add 60000 to the old base number. The IEC standards on test certificates issued before 1997 may use the old series of numbers whereas the new 60000 numbering system will be used in new testing certificates.*

### 1.3 Electromagnetic fields generated by electrical products

The electromagnetic fields (EMF) generated by household electrical products shall not produce radiation which is likely to cause a danger. In general, if the electromagnetic fields generated by the electrical product conform to the safety standard listed below, the electrical product may be regarded as satisfying the relevant safety requirements in this respect. This list is not exhaustive and will be updated as and when required. Household electrical products conforming to safety standards other than the listed standard are also acceptable if the corresponding standards are equivalent to the relevant standard on the list. For details of the scope and application of an individual standard, please refer to its latest version published by the relevant authority.

#### Standards

IEC 62233 : Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure

## C.2 Elaboration of the essential safety requirements for electrical products

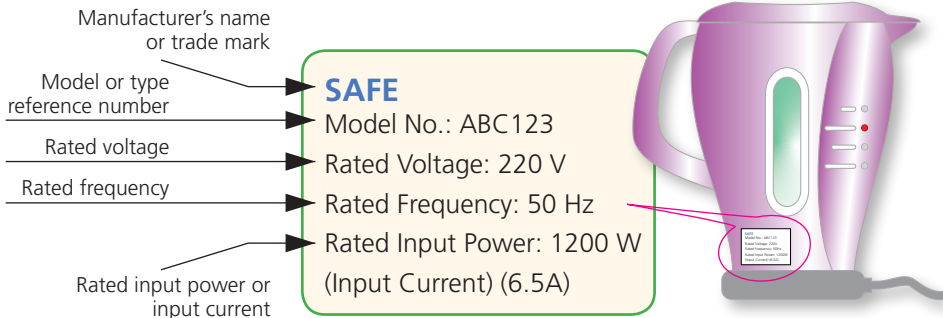
All electrical products should comply with the following essential safety requirements:-

### 1 General conditions

(A) The essential information as stated in sub-paragraph (B) below, the recognition and observance of which will ensure that an electrical product will be used safely in applications for which it is made, should be printed on the product in English, Chinese or international standard symbols; or, if this is not possible, on an accompanying notice.

(B) Such information should include:-

- (I) rated voltage (or rated voltage range in volts) and rated frequency (or rated frequency range in hertz);
- (II) rated power input in terms of watts or kilowatts or rated current input in terms of amperes or milliamperes;
- (III) model or type reference number; and
- (IV) manufacturer's name or trade mark.



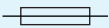



The markings of the product should be durable, legible and clearly discernible from the outside of the product but if necessary after removal of a cover. The cover should be possible to be removed or opened without the use of a tool.

If the products can be adjusted for different rated voltages, the voltage to which the products is adjusted should be clearly indicated.

The following symbols should generally be used :

V	—	volts
Hz	—	hertz
W	—	watts
kW	—	kilowatts
A	—	amperes
mA	—	milliamperes
===	or d.c.	— direct current
~	or a.c.	— alternating current

In addition, the following symbols should be used where appropriate:

	—	rated current of the appropriate fuse-link in amperes
 or  or E	—	earth
	—	class II appliance
l	—	litres
kg	—	kilogrammes
g	—	grammes
Pa	—	pascals
bar	—	bars
h	—	hours
min	—	minutes
s	—	seconds

- (C) The electrical product, together with its component parts, should be made in such a way as to ensure that it can be safely and properly assembled and connected.

## 2 Protection against hazards arising from an electrical product

An electrical product should be so designed and constructed in order to ensure that :

- (A) persons and animals are adequately protected against danger of physical injury or other harm which might be caused by electrical contact whether direct or indirect;

Some examples are:

- (I) An electrical product should be constructed so that there is adequate protection against accidental contact with live parts. This applies for all operating positions of the product, even after opening of lids and doors or removal of detachable parts.
- (II) A class II product should be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.
- (III) An electrical product if intended to be connected to the supply by means of a plug should be so designed that in normal use there is no risk of electric shock from charged capacitors when touching the pins of the plug.
- (IV) Shafts of operating knobs, handles, levers and the like of an electrical product should not become live.

- (B) temperatures, arcs or radiation which are not part of the intended function of the product, and likely to cause a danger, are not produced;

Some examples are :

- (I) An electrical product and its surroundings should not attain excessive temperature in normal use. Suitable warning label should be provided if the surface temperature of the product would cause injury when a person gets in touch with it.

(II) Harmful arcs or radiation should not be emitted from the electrical product.

(C) persons, animals and property are adequately protected against non-electrical danger caused by the electrical product which are revealed by experience;

Some examples are :

(I) Moving parts of an electrical product should, as far as it is compatible with the use and working of the product, be so arranged or enclosed as to provide, in normal use, adequate protection against personal injury.

(II) Protective enclosures, guards and the like should have adequate mechanical strength. They should not be removable without the aid of a tool, unless their removal is necessary in normal use.

(III) An electrical product and its accessories should have no sharp edges, burrs or the like which might cause injury to the users, other than those necessary for the function of the product.

(IV) Non-detachable parts of an electrical product which provide the necessary degree of protection against electric shock, moisture or contact with moving parts, should be fixed in a reliable manner and should withstand the mechanical stress occurring in normal use.

(V) Handles, knobs, grips, levers and similar parts should be fixed in a reliable manner so that they will not work loose in normal use if loosening might result in a hazard.

(D) persons and animals are adequately protected against danger due to hazardous materials used in the electrical product; and

An example is :

(I) An electrical product should not be made of toxic material.

(E) the insulation is suitable for foreseeable conditions.

An example is :

- (l) Proper insulation with adequate dielectric strength should be provided for the electrical product to cater for normal operating conditions. When the electrical product is subject to leakage current test and insulation strength test detailed in the appropriate international/national safety standards, the leakage current measured should not exceed the maximum allowed values.

### 3 Protection against hazards which may be caused by external influences on an electrical product

An electrical product should be so designed and constructed in order to ensure that :

- (A) the electrical product meets the expected mechanical requirements in such a way that persons, animals and property are adequately protected against danger caused by the electrical product;

An example is :

- (l) The electrical product should have adequate mechanical strength and be constructed to withstand rough handling that may be expected in normal use.

- (B) the electrical product is resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, animals and property are adequately protected against danger caused by the electrical product;

An example is :

- (l) The electrical product should be constructed such that its electrical insulation would not be affected by water which might condense on

cold surfaces or by liquid which might leak from containers, hoses, couplings and similar parts of the product. Moreover, the electrical insulation of a class II electrical product should not be affected, if a hose ruptures or a seal leaks.

(C) in foreseeable conditions of overload, persons, animals and property are adequately protected against danger caused by the electrical product; and

An example is :

- (l) The electrical product should be provided with appropriate overload protection device such that any overload current caused by external or internal influences would not cause a temperature rise detrimental to insulation or cause excessive temperature rise to the electrical product and its surroundings.

(D) the electrical product, other than a fixed and hand held product, has such stability that it can be maintained in a specific position.

An example is :

- (l) An electrical product, other than a fixed and a hand held product, intended to be used on a surface such as the floor or a table should have adequate stability to prevent overturn.

### C.3 Elaboration of the specific safety requirements for prescribed products

#### 3.1 Plugs



- (1) Any plug which is designed for household use at a voltage of not less than 200 volts alternating current single phase is classified as a prescribed product. In addition to the essential safety requirements, the plug is required to meet the following specific safety requirements and conform to one of the designs listed below:

Design of Plug	Safety Standards
(A) 3-rectangular-pin fused plugs rated at 13A	BS 1363 Part 1 or BS 5733
(B) 3-round-pin plugs rated at 5A or 15A	BS 546 or BS 5733
(C) 2-pin reversible plugs which are designed for connecting to a shaver supply unit conforming to IEC 61558-2-5	BS 4573 or EN 50075

- (2) Examples of electrical products that use 2-pin reversible plugs to BS 4573 or EN 50075 are those electric shavers and toothbrushes that are designed for connecting to a shaver supply unit conforming to IEC 61558-2-5.
- (3) The following type of plugs [(a) to (e) under Item 1, Schedule 2 of the Regulation refer] are not classified in the Regulation as prescribed products and yet they have to comply with the essential safety requirements of the Regulation :



- (A) a plug which incorporates any other electrical equipment (other than a fuse-link, switch or indicator light);
- (B) a plug forming part of a ceiling rose connector (that is to say, a connector designed to hold up overhead electric lighting fittings);
- (C) a plug forming part of a luminaire comprising a track system for electric lights and their fittings;
- (D) a plug forming part of an audio-visual assembly (that is to say, a plug designed to be connected to the socket installed within the audio-visual assembly and not suitable for connection to a mains socket in Hong Kong); and
- (E) a plug inside or forming an integral part of an electrical product which is not capable of being engaged with or disengaged from the socket without first dismantling the electrical product with the use of a tool.

(4) Specific safety requirements

(A) 3-rectangular-pin fused plug rated at 13A

(i) Marking

- (a) The standard to which the plug is complying with should be marked on the plug, i.e. BS 1363 Part 1 or BS 5733;
- (b) The rated current in amperes (A), identities of plug pins (line (L), neutral (N) and earth ( E or  $\text{—}\overline{\text{—}}$ )) and availability of fuse should also be marked in accordance with BS 1363 Part 1;
- (c) The word " FUSED " or " FUSE " or equivalent symbol (  $\text{—}\overline{\text{—}}$  ) together with the standard to which the fuse-link conforms (BS 1362) and the rated current of the fuse-link in amperes (A) should be marked in accordance with BS 1363 Part 1.

- (d) In addition to the marking requirements stipulated in the Regulation, the following markings and labelling should be used where appropriate :
- For rough use plug to BS 1363, BS 1363/A should be marked on the plug (rough use plug means a plug designed to withstand severe mechanical handling).
  - All rewirable plugs should be marked with the rated current on the engagement surface. All non-rewirable plugs should be marked with the rated current of the fuse-link fitted (rewirable plug means a plug so constructed that a flexible cord can be fitted or replaced using general purpose tools, non-rewirable plug means a plug so constructed that it forms a complete unit with the flexible cord after connection and assembly by the manufacturer of the plug).
  - Rewirable plug should have a removable tag or label indicating the rating of the fuse-link fitted, e.g. 'Fitted with X Ampere fuse', where X denotes the rating of the fuse-link.

## (II) Instructions

- (a) Clear instructions for the safe connection of the appropriate type and size of flexible cords should be provided in the form of a label attached to the plug showing the colour code of the flexible cores, except for a non-rewirable plug or a plug fitted to an electrical product:

brown, blue & green/yellow for line, neutral, & earth respectively;  
or  
red, black & green for line, neutral & earth respectively.

## (III) Construction and dimensions of plugs

- (a) The dimensions of plugs shall conform to BS 1363 Part 1.

- (b) No part of a line or neutral pin should be less than 9.5 mm from the periphery of the plug measured along the engagement face.
- (c) The base and cover of non-rewirable plugs should be permanently attached to each other, such that the flexible cord cannot be separated without making the plug permanently useless, and the plug cannot be opened by hand or by using a general purpose tool, for example a screwdriver used as such. A plug should be considered to be permanently useless when, for reassembling, the plug parts or materials other than the original have to be used.
- (d) The base and cover of rewirable plugs should be firmly secured to each other. It should not be possible to remove the cover unless the plug is completely withdrawn from the socket-outlet. Any fixing screw should be captive.
- (e) Plugs should be so designed and constructed that they cannot readily be deformed to allow access to live parts.
- (f) For non-rewirable plugs, means should be provided to prevent loose strands of a conductor or current-carrying parts from reducing the minimum insulation thickness requirements between such parts and all accessible external surfaces of the plug.
- (g) Plug pins should be constructed of brass. Materials other than brass should not be used in the construction of plug pins except for sleeves of pin. All exposed surfaces of plug pins should be smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters. For plugs fitted with non-solid pins, those surfaces of the non-solid plug pins which are visible when the plug is correctly assembled should be free of apertures.
- (h) All seams and joints of non-solid pins should be closed over their entire length.
- (i) Plug pins should have adequate strength to withstand the stresses of normal use.

- (j) Plugs with non-solid pins should not cause excessive wear to socket contacts or shutters of socket-outlets.
- (k) Plug pins should have adequate mechanical strength to ensure that they cannot be distorted by twisting.
- (l) The terminals of earthing and neutral plug pins should be formed as one piece or should be permanently connected to the pin in such a way that efficient electrical connection is made that cannot work loose in use. This connection should not be made by means of a screw.
- (m) The contact for the fuse-link connected to the line terminal or termination should be formed in one piece with the fixed part of the terminal or termination, or be permanently connected to it in such way that it cannot work loose in normal use, and the other contact for the fuse-link should be similarly connected to the corresponding plug pin. These connections should not be made by means of screws.
- (n) The line terminal or termination should provide for effectively clamping and securing conductors connected to it so that efficient electrical connection is made with the fuse-link.
- (o) Plugs should be so designed that when fully assembled the pins are adequately retained in position such that there is no likelihood of them becoming detached from the plug during normal use.
- (p) The degree of flexibility of mounting of the plug pins and the angular movement of the pins in the base should not be excessive.
- (q) Suitable means should be provided for withdrawing the plug without subjecting the flexible cord to stress.
- (r) Conductive component parts of plugs should be so located and separated that, in normal use, they cannot be displaced so as to affect adversely the safety or proper operation of the plug.

#### (IV) Insulating sleeves

- (a) Line and neutral plug pins should be provided with insulating sleeves. The dimensions of the pin and sleeve combination shall conform to BS 1363 Part 1.
- (b) Sleeves should not be fitted to any earthing plug pin.
- (c) Plug pin sleeves should have adequate electric strength, resistance to abrasion and resistance to deformation due to overheating of pins.

#### (V) Fuse-link

- (a) A fuse-link complying with BS 1362 should be provided within the body of the plug and the fuse-link should be mounted in appropriate contacts only between the line terminal or termination and the corresponding plug pin in such a way that it cannot be displaced when the plug is in use. The design should be such that the fuse-link cannot be left in inadequate contact when the plug cover, fuse cover or the fuse carrier is replaced and firmly secured in position. It should be impossible to replace the fuse-link in a plug unless the plug is completely withdrawn from the socket-outlet.
- (b) For rewirable plugs, the preferred ratings of fuse-links are 3A and 13A.
- (c) Fuse-link barrel should be marked in red for 3A and brown for 13A; for all other ratings the marking should be black.
- (d) In non-rewirable plugs, where the fuse-link is retained by means of a fuse carrier, this device should be either :
  - non-detachable during normal replacement of the fuse-link; or
  - readily identifiable in relation to its plug by means of marking.

(B) 3-round-pin plug rated at 5A or 15A

(I) Marking

- (a) The standard to which the plug is complying with should be marked on the plug, i.e. BS 546 or BS 5733.
- (b) The rated current in amperes (A), identities of plug pins (line (L), neutral (N) and earth (E or  $\frac{\perp}{\text{---}}$ )) should also be marked in accordance with BS 546.

(II) Instructions

- (a) Clear instructions for the safe connection of the appropriate type and size of flexible cords should be provided in the form of a label attached to the plug showing the colour code of the flexible cores except for non-rewirable plug or a plug fitted to an electrical product:

brown, blue & green/yellow for line, neutral, & earth respectively;  
 or  
 red, black & green for line, neutral & earth respectively.

(III) Construction and dimensions of plugs

- (a) The dimensions of plugs shall conform to BS 546.
- (b) Unless the external portions of the current-carrying parts of pins adjacent to a plug base are insulated with sleeves of minimum length specified in Table 1, no part of them should be less than the minimum distance given in Table 1 from the periphery of the plug base.

**TABLE 1 LENGTHS AND DISTANCES**

Current rating	Minimum length of sleeves	Minimum distance of pins from periphery of plug base
amp.	mm	mm
5	6.35	7.93
15	7.93	9.52

- (c) Plugs should be so constructed as to prevent an earthing pin from making contact with a current-carrying contact in any circumstances.
- (d) Plugs should be so constructed as to prevent a current-carrying pin from making contact with a current-carrying contact while either or both of the other pins are completely exposed.
- (e) An earthing pin should make and break contact with the corresponding earthing contact respectively before and after the associated current-carrying pins make and break contact with the corresponding current-carrying contacts.
- (f) The nominal distance between centres of pins should be as given in table 2.

**TABLE 2 PIN SPACING**

Current rating	Nominal distance between centres of current-carrying pins	Nominal distance between centres of each current-carrying pin and the earthing pin
amp.	mm	mm
5	19.05	22.22
15	25.40	28.58

- (g) The plug cover and the plug base should be firmly secured to one another. It should be impossible to remove the plug cover unless the plug is completely withdrawn from the socket-outlet. The minimum thickness of a plug base where the plug pins pass through it should be as given in Table 3, and unless the plug pins are rigidly fixed in the plug base the diameter of the holes in the plug base through which they pass should be such that they have a total lateral movement of not more than 0.152 mm.

**TABLE 3 MINIMUM THICKNESS OF PLUG BASE**

Current rating amp.	Minimum thickness mm
5	3.18
15	4.75

- (h) Plug pins should be substantially cylindrical in form and should have radiused ends. Their dimensions should be as given in Table 4.

**TABLE 4 DIMENSIONS OF PLUG PINS**

Current rating amp.	Plug pins	Diameter mm	Length of radiused end portion mm	Total projection from plug base mm
5	Current-carrying	5.08	1.58	14.86
	Earthing	7.06	1.98	20.63
15	Current-carrying	7.06	1.98	18.62
	Earthing	8.71	2.36	28.58

- (i) Each plug pin of a non-fused plug, each earthing plug pin, and each neutral plug pin of a fused plug, should be formed in one piece with the fixed part of its terminal.
- (j) Each terminal should be of substantial construction, and the terminals of a non-fused plug, and the earthing terminal and the neutral terminal of a fused plug, should each provide for clamping and securing its flexible conductor so that efficient electrical connection is made direct with an integral part of the plug pin. The connection of the flexible conductor to the earthing plug pin should be visible when the cover of the plug is in position.



- (k) The contact for the fuse-link which is connected to the line terminal of a fused plug should be formed in one piece with the fixed part of the terminal or connected to it in such a way that it cannot work loose under normal service conditions, and the other contact should be similarly connected to the corresponding plug pin. The line terminal should also provide for clamping and securing the conductor so that efficient electrical connection is made with the contact for the fuse-link.
- (l) If the plug pins are removable from the plug base, the pins and/or the plug base should be so designed that it is impossible to assemble them in such a way that the fuse is connected to the neutral terminal.
- (m) When pillar terminals are used they should be of the dimensions given in Table 5, and should have clamping screws long enough under the head to extend to the far side of the conductor holes and with slightly rounded ends to minimize damage to conductors.

**TABLE 5 DIMENSIONS OF PILLAR TERMINALS**

Current rating	Nominal diameter of hole for conductor	Minimum thickness of wall where clamping screw passes through	Size of clamping screw
amp.	mm	mm	British Association (B.A.) thread
5	3.05	1.58	No. 6
15	3.96	3.18	No. 4

- (n) Insulating barriers forming an integral part of the plug should be provided so as to separate metal at different potentials, including bared flexible conductors. The barriers should be such that when the plug has been correctly wired and assembled there is negligible risk that a wire or strand that may become loose should touch other parts with which contact may be dangerous.

- (o) A finger grip or other suitable means should be provided for inserting and withdrawing the plug without subjecting the flexible cord or cable to any stress, and such grip should be so designed as to discourage gripping the plug by the fingers at the point of entry of the flexible cord or cable.

(C) 2-pin reversible plug (which is designed for connecting to a shaver supply unit conforming to IEC 61558-2-5)

(I) Marking

- (a) For plugs to BS 4573, the plugs should be clearly and indelibly marked with the following:
  - The standard to which the plugs conform.
  - The rated current of plugs in amperes (A).
- (b) For plugs to EN 50075, the marking for rated current, rated voltage and nature of supply should be made in one of the following ways :

	2,5A	250V	~	or	2,5 / 250	~
or	<u>2,5A</u>		~	or	<u>2,5</u>	~
	250V				250	

Lines formed by the construction of the tool are not considered as part of the marking.

(II) Design of plug

Plugs to BS 4573

- (a) The dimensions of plugs shall conform to BS 4573.
- (b) Unless the plug pins are provided with suitable fixed insulating sleeves, no part of either pin should be less than 8 mm from the periphery of the face of the plug.

- (c) If fixed insulating sleeves are provided on the plug pins, they should extend outwards along the pin for a distance of not less than 8 mm and not more than 9 mm from the engagement face of the plug and should be sufficiently strong and rigid not to become displaced in normal service. The outside diameter of such fixed sleeves should not exceed 5.1 mm and the minimum thickness should be 0.5 mm.
- (d) The design of the plug should be such as to prevent a plug pin from making contact with either socket-contact whilst the other pin is completely exposed.
- (e) The diameter of the plug pins should be  $5 \text{ mm} \pm 0.02 \text{ mm}$ . The length of projection of the plug pin should be  $15.8 \text{ mm}, + 1.02 \text{ mm} - 0 \text{ mm}$ . The length of the radiused portion at the end of the plug pins should be  $1.5 \text{ mm}, + 0.25 \text{ mm} - 0 \text{ mm}$ . The nominal distance between the centres of plug pins should be 16.6 mm.
- (f) The plug cover and the plug base of a rewirable plug should be secured firmly to one another. It should be impossible to remove the cover unless the plug is completely withdrawn from the socket-outlet.
- (g) Each plug pin of a rewirable plug should be formed in one piece with, or reliably attached to, the fixed part of its terminal.
- (h) For rewirable plugs, the flexible cord should enter the plug through one hole, groove or gland and there should be provision for gripping the flexible cord and preventing acute bending at the point of entry. Where the cord enters the plug, a flexible lead-in portion should be provided.
- (i) A finger grip or other suitable means should be provided for inserting and withdrawing the plug without subjecting the flexible cord to any stress.
- (j) Insulating barriers forming an integral part of the plug should be provided to separate metal at different potentials, including bared flexible conductors. The barriers should be such that

when the plug has been correctly wired and assembled, there is negligible risk that a wire or strand should touch other parts and with which contact may be dangerous.

#### Plug to EN 50075

- (k) The dimensions of plugs shall conform to EN 50075.
- (l) Live parts of plugs, with the exception of the bare metal parts of the pins, should not be accessible.
- (m) It should not be possible to make connection between a pin of a plug and a live socket contact of a socket-outlet while the other pin is accessible.
- (n) External parts of plugs, with the exception of the pins, should be of insulating material.
- (o) Plugs according to this standard are non-rewirable.
- (p) Switches, fuses or lampholders should not be incorporated in plugs.
- (q) Pins of plugs should be solid and should have adequate mechanical strength.
- (r) Pins of plugs should be locked against rotation and adequately fixed into the body of the plug.
- (s) Plugs should be provided with soldered, welded, crimped or equally effective permanent connections; screwed or snap-on connections should not be used. Connections made by crimping a pre-soldered flexible conductor are not permitted, unless the soldered area is outside the crimping area.
- (t) Plugs should be shaped in such a way and made of such a material that they can easily be withdrawn by hand from a socket-outlet. In addition, the gripping surfaces should be so designed that the plug can be withdrawn without having to pull the cord.

## 3.2 Adaptors



- (1) Any adaptor that is designed for household use at a voltage of not less than 200 volts a.c. single phase is classified as a prescribed product. In addition to the essential safety requirements, the adaptor has to comply with the corresponding specific safety requirements of the Regulation.
- (2) Any adaptor which incorporates electrical equipment other than a fuse-link, switch or indicator light is not classified as a prescribed product and yet will have to comply with the essential safety requirements of the Regulation.
- (3) The Regulation does not apply to travel adaptor, that is to say, an adaptor which is not designed to engage with a mains socket in Hong Kong but enables a plug to be connected to a mains socket of places outside of Hong Kong.
- (4) [Specific safety requirements](#)
  - (A) [Designs of adaptors](#)
    - (I) [5A 3-round-pin adaptor](#)

5A adaptors should be designed and manufactured to BS 546 despite the following :

      - (a) A 5A adaptor protected by fuse-link conforming to BS 1362 and with a rated current not exceeding 5A is permitted (other than fuse-link to BS 646 as specified in BS 546); and
      - (b) A 5A adaptor with not more than three 5A sockets protected by one 5A main fuse-link conforming to BS 646 or BS 1362 is permitted.

(II) 13A 3-rectangular-pin adaptor

- (a) 13A adaptors should be designed and manufactured to BS 1363 Part 3.
- (b) A 13A adaptor having one or two sockets for 13A plugs conforming to BS 1363 Part 1 need not be fused.
- (c) A multiway 13A adaptor having more than two sockets for 13A plug conforming to BS 1363 Part 1 should be protected by a 13A fuse-link conforming to BS 1362.
- (d) A multiway 13A adaptor having one socket for a 13A plug conforming to BS 1363 Part 1, and one or more 5A sockets for plugs conforming to BS 546 should be provided with an appropriate fuse-link complying with BS 646 or BS 1362 to protect the outgoing circuits through the 5A sockets. The socket for the BS 1363 Part 1 plug need not be fused.
- (e) A 13A adaptor having 5A sockets for plugs conforming to BS 546 should be provided with an appropriate fuse-link conforming to BS 646 or BS 1362 to protect the outgoing circuit or circuits.
- (f) A 13A adaptor having 15A adaptor sockets is not allowed.

(III) 15A 3-round-pin adaptor

15A adaptors should be designed and manufactured to BS 546 despite the following :

- (a) a 15A adaptor protected by fuse-link conforming to BS 1362 is permitted (other than fuse-link to BS 646 as specified in BS 546);
- (b) The configurations (number and the current ratings of sockets) of 15A adaptors as shown in Table 6 are permitted.

**TABLE 6 NUMBER AND CURRENT RATING OF SOCKETS**


Number and current rating of sockets					
Non-fused socket		Sockets each with separate fuse of rating not greater than 5A		Sockets with one common 5A fuse	
Number	Current rating (A)	Number	Current rating (A)	Number	Current rating (A)
One	15	One	5	-	-
One	15	-	-	Two	5
One	13	One	5	-	-
One	13	-	-	Two	5
-	-	Three	5	-	-
-	-	-	-	Not more than three	5

**(B) Marking and labelling**

- (I) The total maximum loading of the adaptor (other than shaver adaptor) in amperes has to be marked on the external accessible surface. Examples of suitable marking are as follows:

" TOTAL LOADING MUST NOT EXCEED 5A "

" MAX 13A "

- (II) Shaver adaptors conforming to BS 1363 Part 3 should be marked on the accessible external surface with appropriate words, e.g. 'SHAVERS ONLY'. Shaver adaptors should be marked on the engagement surface with appropriate words to indicate that the adaptor should be fitted with a 1A rated fuse complying with BS 646.
- (III) All adaptors should be clearly and indelibly marked with the standard to which they conform (i.e. BS 546, BS 1363/3).
- (IV) For fused adaptors, the word "FUSED" or "FUSE" or equivalent symbol "  " together with the rating and standard (i.e. BS 646, BS 1362) for the fuse-link should be marked on the external accessible surface.

- (V) When a fuse-link is provided within the body of the adaptor, it should be mounted in appropriate contacts only between the line plug pin and the corresponding line socket contact(s) in such a way that it cannot be displaced when the adaptor is in use. The design should be such that the fuse-link cannot be left in inadequate contact when the fuse cover or fuse carrier is replaced and firmly secured in position. It should not be possible to replace the fuse-link in an adaptor unless the adaptor is completely withdrawn from the socket-outlet.

(C) Clearance

For adaptor to BS 546, unless the external portions of the current-carrying parts of pins adjacent to a socket-outlet adaptor base are insulated with sleeves of the minimum length given in Table 7, no part of them should be less than the minimum distance given in Table 7 from the periphery of the socket-outlet adaptor base.

**TABLE 7 LENGTHS AND DISTANCES**

Current rating	Minimum length of sleeves	Minimum distance of pins from periphery of adaptor base
amp.	mm	mm
5	6.35	7.93
15	7.93	9.52

(D) Safety shutters

The construction of the adaptor should be such that when a plug is withdrawn from it, the current-carrying socket contacts are automatically screened by shutters. The shutters should be operated by the insertion of the earthing pin. One socket aperture shutter should not be capable of closing independently of the other aperture shutter.



### (E) Socket of the adaptor

- (I) Each socket of the adaptor should be designed to accommodate only one type of plug, i.e. either 5A, 13A or 15A.
- (II) A 5A socket should be designed and constructed to BS 546 and matched with the dimensions of a 5A 3-round-pin plug.
- (III) A 13A socket should be designed and constructed to BS 1363 Part 2 and matched with the dimensions of a 13A 3 rectangular-pin plug to BS 1363 Part 1.
- (IV) A 15A socket should be designed and constructed to BS 546 and matched with the dimensions of a 15A 3-round-pin plug.

## 3.3 Lampholders

(1) Any lampholder of the following designs, whether it is a loose part or fitted to an electrical product, is classified as a prescribed product :

- (A) Bayonet lampholder; or
- (B) Edison screw lampholder.

(2) Other types of lampholders are not classified as prescribed products.

(3) Specific safety requirements

### (A) Marking and labelling

- (I) For Edison screw lampholders, the letter "L" should be indelibly and legibly marked adjacent to the line terminal for cable connection. The symbol should not be placed on screws, removable washers or other easily removable parts.
- (II) For metal lampholders in which the exterior of the lampholder is made wholly or partly of metal, the lampholder should be properly earthed and the words "THE LAMP-HOLDER MUST BE EARTHED" or equivalent wording should be indicated in the associated packaging of the lampholders. The symbol " E " or "  $\frac{\perp}{\equiv}$  " should be indelibly

and legibly marked adjacent to the earthing terminal. The symbol should not be placed on screws, removable washers or other easily removable parts.

(B) Construction and dimensions

(I) The construction and dimensions of the lampholders should meet the specification of one of the designs stipulated in IEC 60061-2.

(C) Material

(I) The material of the lampholder should be able to withstand the maximum temperatures specified in IEC 60598. This is to ensure that the lampholder would function properly during all operation conditions.

(II) Under conditions representing normal service, no part of the lamp holder should attain a temperature which would cause danger to the user.

## 3.4 Flexible cords

(1) Any flexible cord (including rubber or PVC-insulated, twin or 3-core flexible cord with conductor of nominal cross sectional area from 0.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup>), whether it is supplied as a loose part or fitted to an electrical product, is classified as a prescribed product.

(2) Other types of flexible cord are not classified as prescribed products.

(3) Specific Safety Requirements

(A) Marking and labelling

(I) The nominal cross sectional area of the conductor and the relevant standard to which the flexible cord conforms, should be marked on the outer sheath of the flexible cord at appropriate intervals,

except for a flexible cord fitted to an electrical product. The distance between the end of one complete set of marks and the beginning of the next should not exceed the required distance of IEC 60227 and IEC 60245.

(II) For a braided flexible cord, except for that fitted to an electrical product, markings of the nominal cross sectional area of a conductor and the relevant standard to which the braided flexible cord conforms should be on the insulation of the conductor and underneath the textile braid.

(III) Each core of the conductor should be identified by the following colour:

Twin-core : Brown for line, Blue for neutral  
or Red for line, Black for neutral

Three-core: Brown for line, Blue for neutral, Yellow/green for earth.  
or Red for line, Black for neutral, Green for earth.

(IV) The distribution of the colours for the core coloured yellow/green should comply with the following condition: for every 15 mm length of core, one of these colour should cover at least 30% and not more than 70% of the surface of the core, the other colour should cover the remainder of the surface.

#### (B) Cross sectional area

The actual nominal cross sectional area of a conductor should not be less than the nominal cross sectional area marked on the flexible cord.

#### (C) Conductor

The conductors for a flexible cord should be made of plain or metalcoated annealed copper, class 5 flexible conductor to IEC 60228.

(D) Tinsel conductor

A tinsel conductor should comprise a number of strands or groups of strands of copper or copper alloy wires. The wires in each conductor should all have the same nominal diameter. The diameter of a wire in the conductor should not exceed the maximum value given in IEC 60228.

(E) Conductivity

The conductor for a flexible cord should have good conductivity, the resistance of which should not exceed the maximum value given in IEC 60228.

(F) Insulation and sheath

The insulation and sheath of the flexible cord should be made of appropriate material such as PVC or rubber and the thickness of the insulation should not be less than the figures given in IEC 60227 and IEC 60245.

(I) Rubber-insulated Braided Cord

Appropriate type of rubber compound required in IEC 60245 should be used for insulation and the insulation should consist of at least two layers unless it is applied by extrusion.

(II) Ordinary Polychloroprene or Equivalent Synthetic Elastomer Sheathed Cord/Heavy Polychloroprene or Equivalent Synthetic Elastomer Sheathed Rubber-insulated Cord

(a) Appropriate type of rubber compound required in IEC 60245 should be used for insulation and the insulation should be applied around each conductor and it should consist of at least two layers unless it is applied by extrusion.

(b) Appropriate type of rubber compound required in IEC 60245 should be used for sheath and the sheath should be applied around the cores. The sheath should be extruded in a single layer and applied in such a way that it fills the spaces between the

cores. The sheath should be capable of being removed without damage to the cores.

(III) PVC-insulated (Tinsel Conductor) Flat Cord/PVC-insulated (Wire Conductor) Flat Non-sheathed Cord

(a) The insulation should be polyvinyl chloride compound of type PVC/D (IEC 60227) applied around each conductor. The insulation resistance should not be less than the value given in IEC 60227.

(IV) Light PVC-insulated, PVC-sheathed Cord/Ordinary PVC-insulated, PVC-sheathed Cord

(a) The insulation should be polyvinyl chloride compound of type PVC/D (IEC 60227) applied around each conductor. The insulation resistance should not be less than the value given in IEC 60227.

(b) The sheath should be polyvinyl chloride compound of Type PVC/ST5 (IEC 60227) applied around the cores. The sheath may fill the spaces between the cores, thus forming a filling, but it should not adhere to the cores. The assembly of cores may be surrounded by a separator, which should not adhere to the cores. The assembly of circular cord should have a practically circular cross-section.

### 3.5 Extension units


- (1) Any extension unit that is designed for household use at a voltage of not less than 200 volts a.c. single phase is classified as prescribed products.
- (2) Extension units other than those listed below [see also Item 5, Schedule 2 of the Regulation] are not acceptable.
- (3) Specific safety requirements

(A) Extension units should be of one of the following designs:

- (I) a 5A extension unit fitted with :

- (a) a 5A plug which conforms to the requirements stipulated in the Regulation (i.e. BS 546 or BS 5733 plug);
  - (b) a 3-core flexible cord which conforms to the requirements stipulated in the Regulation; and
  - (c) a combination of one or more 5A sockets with a main fuse-link of 5A for the protection of all the sockets (the number of 5A sockets should not be more than four).
- (II) a 13A extension unit fitted with :
- (a) a 13A fused plug which conforms to the requirements stipulated in the Regulation (i.e. BS 1363 Part 1 or BS 5733 plug);
  - (b) a 3-core flexible cord which conforms to the requirements stipulated in the Regulation; and
  - (c)
    - (i) a combination of one or more 13A sockets;
    - (ii) a combination of one or more 5A sockets with a main fuse-link of 5A for the protection of all the 5A sockets (the number of 5A sockets should not be more than four); or
    - (iii) a combination of one or more 13A sockets without a main fuse-link and one or more 5A sockets with a main fuse-link of 5A for the protection of all the 5A sockets (the number of 5A sockets should not be more than four).
- (III) a 15A extension unit fitted with :
- (a) a 15A plug which conforms to the requirements stipulated in the Regulation (i.e. BS 546 or BS 5733 plug);
  - (b) a 3-core flexible cord which conforms to the requirements stipulated in the Regulation; and
  - (c)
    - (i) one 15A or 13A socket and not more than two 5A sockets with a main fuse-link of 5A for the protection of all the 5A sockets; or

- (ii) not more than three 5A sockets with an individual fuse-link of 5A for the protection of each of the 5A sockets.
- (B) 5A, 13A and 15A plugs of the extension unit should meet the specific safety requirements of plugs in addition to the essential safety requirements stipulated in the Regulation. Plugs should conform to BS 546, BS 1363 Part 1 or BS 5733. For plugs which conform to BS 5733, the construction and dimensions of plug pins and markings on the plug should conform to BS 546 or BS 1363 Part 1.
- (C) Flexible cords of the extension unit should meet the specific safety requirements of flexible cords in addition to the essential safety requirements stipulated in the Regulation. In general, flexible cords should conform to IEC 60227 or IEC 60245. The flexible cord should be properly connected to the plug and socket portion of the extension unit with correct polarity.
- (D) The minimum cross sectional area of each conductor of the flexible cords for 5A, 13A and 15A extension units should be 0.75 mm<sup>2</sup>, 1.25 mm<sup>2</sup> and 1.5 mm<sup>2</sup> respectively.
- (E) All sockets should be on the top engagement surface of the extension unit and should not be fixed at the other sides of the extension unit. Extension units with multiple sockets should be designed to allow simultaneous use of all sockets.
- (F) Each socket of the extension unit should be designed to accommodate only one type of the following plugs:
- 5A plug to BS 546;
  - 13A plug to BS 1363 Part 1; or
  - 15A plug to BS 546.

- (G) For fused extension unit, the word "FUSED" or "FUSE" or the equivalent symbol "——" should be clearly marked on the external surface of the socket portion. The minimum cross sectional area of the associated flexible cord [see paragraph (D) above] should also be clearly marked on the external surface of the socket portion.
- (H) The construction of the socket should be such that when a plug is withdrawn from it, the current-carrying socket contacts are automatically screened by safety shutters. The shutters should be operated by the insertion of the earthing pin.
- (I) The 5A fuse-link for the protection of 5A sockets should conform to BS 646 or BS 1362. The fuse should be mounted between the line terminal and the corresponding socket contact in such a way that the fuse-link cannot be displaced accidentally during use or be left in incorrect contact when the fuse carrier is replaced and secured in position.
- (J) For 15A extension unit with a combination of not more than three 5A sockets, individual 5A fuse-link for the protection of each of the 5A socket should be provided.
- (K) The 5A socket should be designed and constructed to BS 546 and matched with the dimensions of 5A plug to BS 546.
- (L) The 13A socket should be designed and constructed to BS 1363 Part 2 and matched with the dimensions of 13A plug to BS 1363 Part 1. For 13A socket-outlets with USB circuits intended for charging portable devices, the relevant requirements have been included in the 2016 or latest edition of BS 1363 Part 2. Please refer to the latest edition published by the relevant authority.
- (M) The 15A socket should be designed and constructed to BS 546 and matched with the dimensions of 15A plug to BS 546.



- (N) When the socket portions of extension units are loosely supplied as a component part or spare part of the extension unit, the sockets should comply with the corresponding safety requirements stipulated in the Regulation. Sufficient information regarding the connection of plug and the required size of flexible cord should be marked on the external surface of the socket portion.

### 3.6 Unvented thermal storage type electric water heaters



- (1) Thermal storage type electric water heaters which are designed for household use and are not provided with individual expansion pipes, i.e. unvented type, are classified as prescribed products.
- (2) Other types of electric water heaters are not classified as prescribed products and should comply with the essential safety requirements listed in the Regulation if they are designed for household use, examples of which include :
  - (A) instantaneous electric water heater;
  - (B) thermal storage type free-outlet electric water heater; and
  - (C) vented thermal storage type electric water heater.
- (3) Specific safety requirements
  - (A) The safety standard to which the water heater conforms and the storage capacity in litres (l) should be clearly and permanently marked on the body of the water heater in addition to the marking requirements stipulated in the essential safety requirements.
  - (B) Manufacturer's installation instructions including recommendations and warnings to users and installers etc., should also be provided and clearly marked.
  - (C) Hot water cylinder or tank of a capacity of not less than 100 litres, should -

- (I) if made of mild steel, comply with the requirements for cylinders or tanks, as the case may be, of BS 417, Part 2 for galvanized mild steel cisterns, tanks and cylinders;
  - (II) if made of copper, comply with BS 699 for copper cylinders for domestic purposes or with BS 1566, Parts 1 and 2 for copper indirect cylinders; and
  - (III) after completion of all fabrication of the storage cylinder of the electric water heater but before insulation, be tested by sealing all connections and subjected to an internal pressure of 1.5 times the static water pressure head available at the water heater, either hydraulically for a period of not less than 5 minutes or pneumatically for a period of not less than 2 minutes. The rate of pressure should not exceed 1.3 bar/s and no significant distortion should be observed.
- (D) The unvented thermal storage electric water heater should be fitted with the following safety devices :
- (I) a thermostat to control the heating of the stored water;
  - (II) a thermal cut-out (complying with BS EN 60730) to cut off the supply of electricity if the stored water is heated above the temperature setting of the thermostat and before the operation of the temperature and pressure relief valve is initiated. The thermal cut-out should be connected in series with the thermostat and should be reset manually after dismantling of the enclosure of the water heater.
  - (III) a temperature and pressure relief valve which shall be either :
    - (a) (i) a non-resettable temperature relief valve having a setting of 90°C, and complete with manual test easing gear; and
    - (ii) a pressure relief valve having a set pressure of not greater than the maximum design pressure of the water heater or than 1000 kPa, and complete with manual test easing gear;

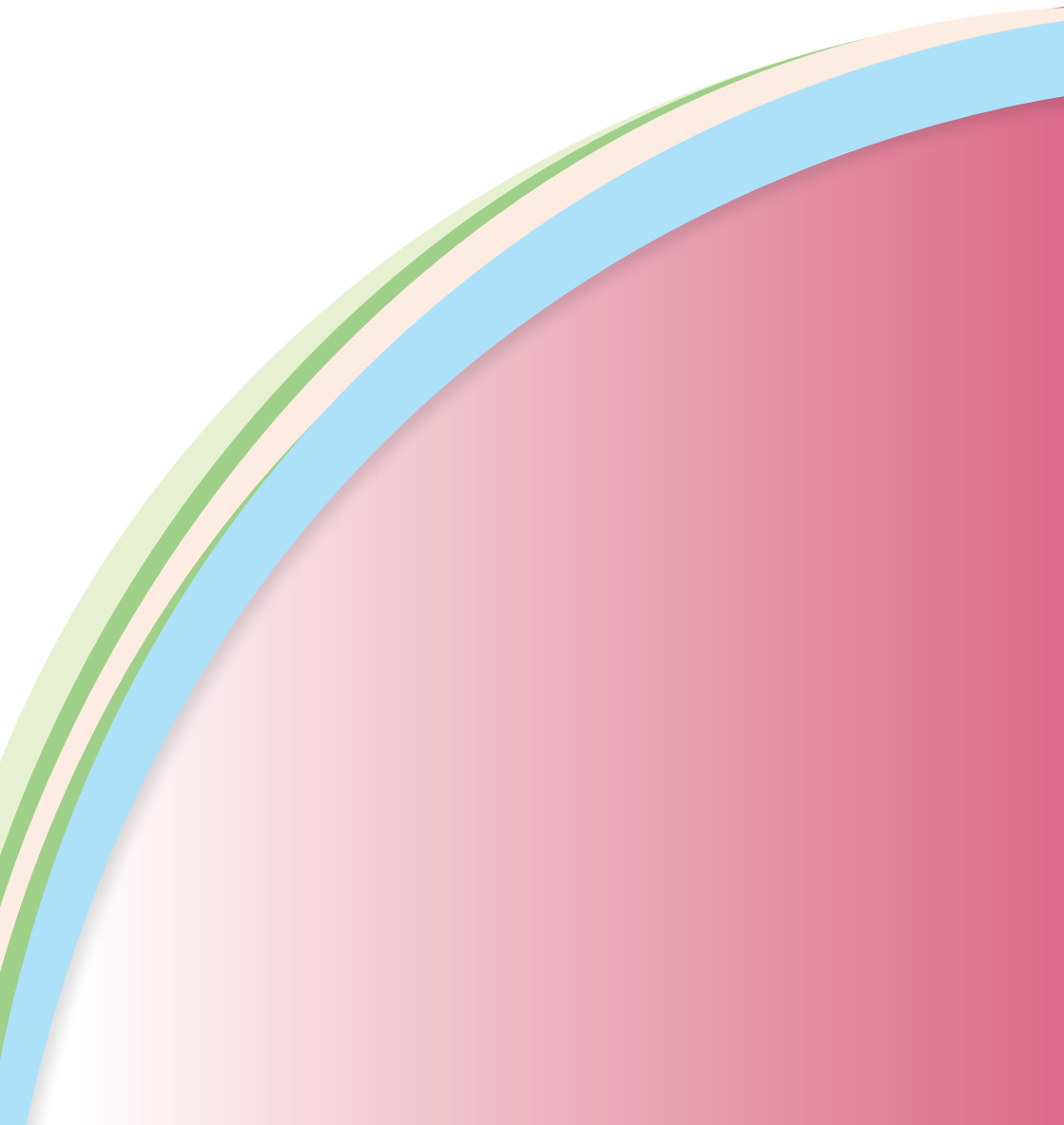
- or (b) a non-resettable temperature and pressure relief valve having a set temperature of 90°C and a set pressure not greater than the maximum designed pressure of the water heater or than 1000 kPa, and complete with manual test easing gear;
- or (c) a temperature and pressure relief valve complying with EN 1490 or equivalent safety standards.

[Notice of Exemption dated 8 March 2002]

(4) Other relevant legislation and safety guidelines on the use of electric water heater

- (A) The suppliers and installers of electric water heater should also follow the requirements stipulated in the Waterworks Regulations which are made under the Waterworks Ordinance (CAP. 102). Installation of the electric water heaters (parts other than electric wiring) shall be carried out by licensed plumbers.
- (B) The electrical parts of the electric water heaters should be installed by electrical workers and electrical contractors registered with EMSD under the Electricity Ordinance (CAP. 406).
- (C) The safe functioning of an electric water heater relies on the correct installation of the heater and its proper operation and maintenance after installation. There should not be any attempts to modify or tamper with the safety devices, electrical installation and plumbing of the water heater.
- (D) Registered electrical contractors/workers and licensed plumbers should be employed to conduct regular checks on the water heater and carry out maintenance and repair as necessary.

# Appendix





## Guidelines on second-hand electrical products

### 1 General

- 1.1 The Electrical Products (Safety) Regulation is applicable to both new and second-hand electrical products that are designed for household use and supplied in Hong Kong. Suppliers of second hand electrical products shall ensure that the products they supplied are in compliance with the applicable safety requirements of the Regulation.
- 1.2 Second-hand electrical products include those products that have previously been used by an end user/consumer.
- 1.3 Electrical products that are supplied as scrap or supplied for reconditioning are not subject to the control of the Regulation. However, the resale of such electrical products after re-conditioning or repair is subject to the control of the Regulation.
- 1.4 For a second-hand electrical product which has not been modified since first supplied, the original certificate of safety compliance is still valid.
- 1.5 Suppliers of second-hand electrical products are advised to seek technical advice from relevant product manufacturers, accredited laboratories or qualified person if they are not sure about the safety of the electrical products that they intend to supply. A qualified person means a person who possesses at least three years of relevant practical experience in repairing, reconditioning and testing of the concerned electrical products.
- 1.6 Suppliers of second-hand electrical products must ensure that these products are safe before supplying them to consumers. Suppliers should arrange necessary testing to certify the safety of the products and to prevent any danger that may arise from the use of the products.

## 2 Testing

- 2.1 The suppliers should employ qualified persons or registered electrical workers to carry out the testing for second-hand electrical products. Special care should be taken to avoid damaging the products as some of the components may have deteriorated after prolonged usage.
- 2.2 Some basic tests for second-hand electrical products should include, but not limit to, the following :

### In service tests

In service tests are carried out to determine whether a second-hand electrical product is in a satisfactory condition. In service tests should include the following:

- Preliminary inspection to identify any abnormalities of the product such as cracked parts, loose connection, damaged components, sign of overheating, burnt marks, water marks, etc;
- Inspection check to ensure that the household electrical appliance is fitted with an appropriate plug that complies with the requirements of the Electrical Products (Safety) Regulation (e.g. 3-pin plug conforming to BS 546 or BS 1363 Part 1);
- Inspection check on the compatibility of the product, its associated flexible cord and plug, and the rating of its associated fuse;
- Inspection check to ensure that the household electrical appliance is either a Class I (earthed) or a Class II (double insulated or reinforced insulated) product;
- Earth continuity tests for a Class I product (product with metal casing);
- Insulation testing;
- Functional test of the product to ensure that it operates normally, and with no sign of potential danger that may arise from excessive temperature, unguarded moving parts, abnormal noise or operation, sharp edges, loosened parts, exposed live parts, etc.

### Repair/reconditioning

- The qualified person who repairs or reconditions a second-hand electrical product should carry out necessary tests including in service tests to ascertain the safety level of the product. The qualified person should be knowledgeable about the product and the guidance for testing after repair may be obtained from the manufacturers, accredited laboratories or other relevant qualified personnel.
- The qualified person shall ensure that the replaced component parts are compatible with the original component parts and suitable for the electrical product concerned.
- Excessive dust or dirt accumulated in the product should be removed and cleaned.

The qualified person should carry out other necessary tests where appropriate to ascertain the safety level of the second-hand products.

2.3 The results of the inspection, repair and reconditioning work should be properly recorded and certified by the responsible qualified person. Sample test certificate and sample inspection and testing report on second-hand electrical products are shown in Figure 8 and Figure 9.

## 3 Documentation

A second-hand product supplier should keep the following documents :

- A register of second-hand electrical products;
- Transaction record and relevant document to prove that the products are second-hand;
- Original receipts if available;
- The certificates of inspection, repairing, reconditioning and testing for the products, which should be issued by the qualified person and endorsed by the supplier; and
- The copy of the original certificates of safety compliance where practicable.





Lampholder



Plug



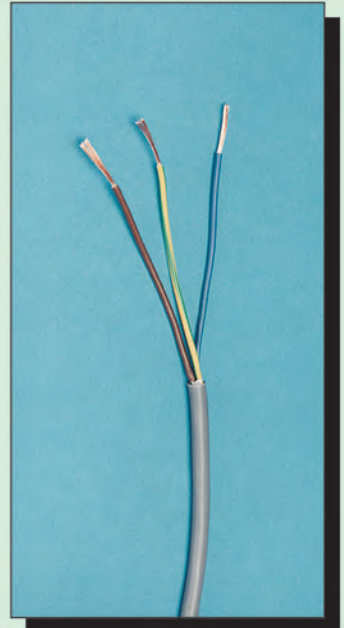
Adaptor



Extension Unit

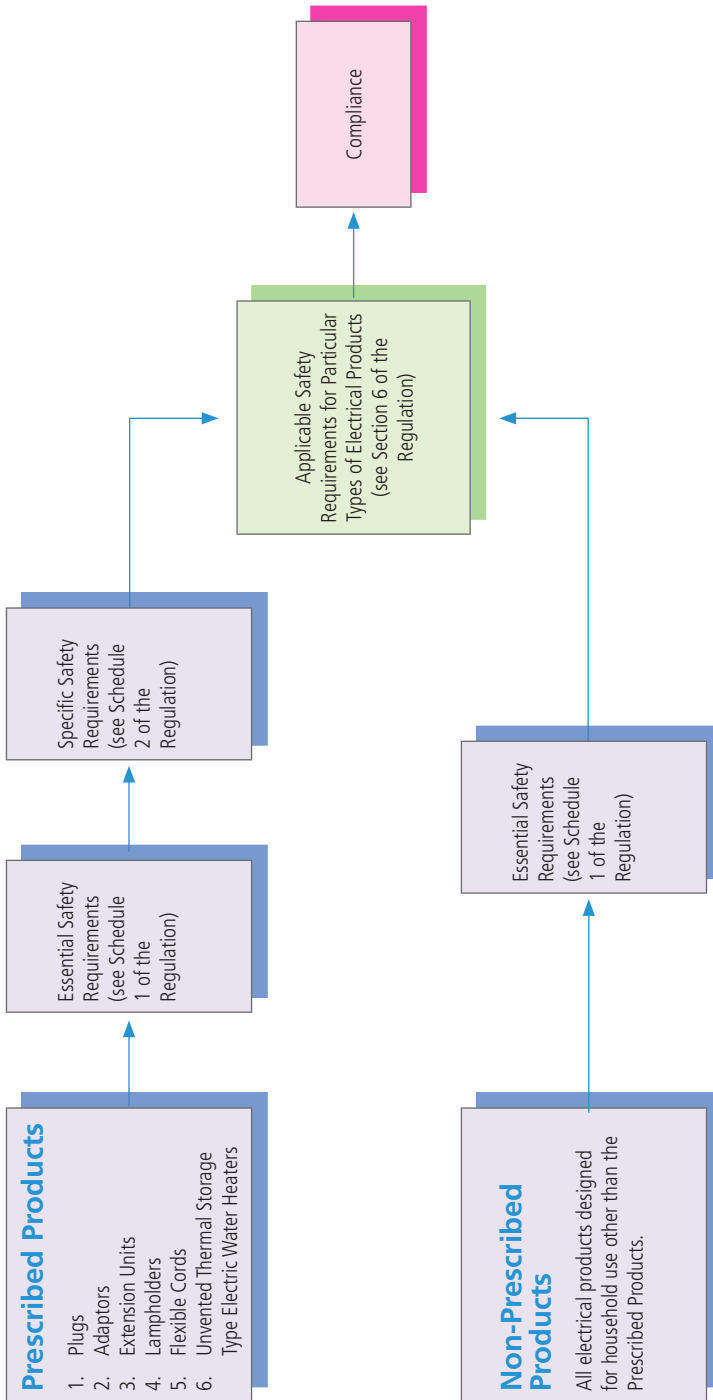


Unvented Thermal Storage Type Electric Water Heater

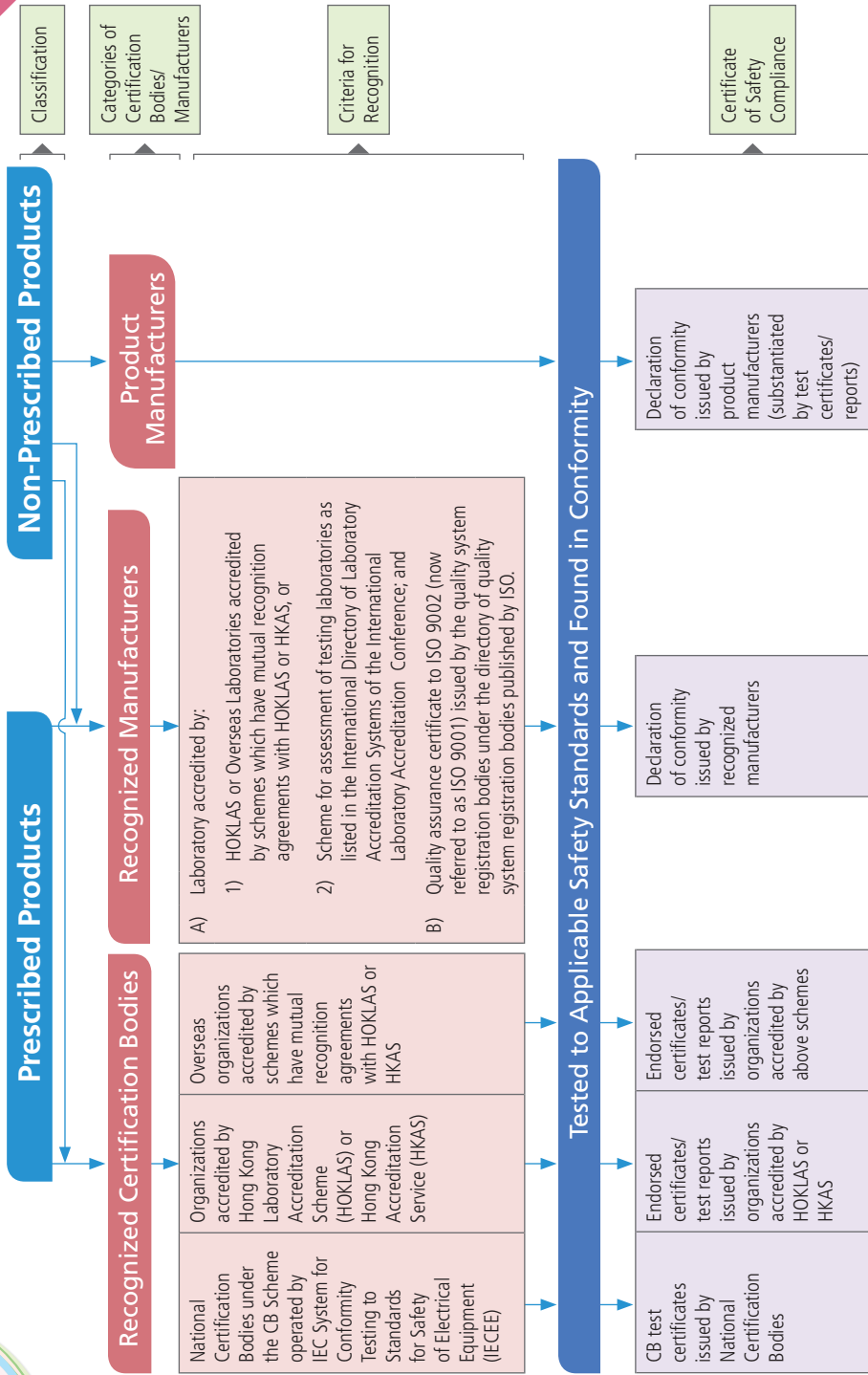


Flexible Cord

**Figure 1 Prescribed Products**



**Figure 2 Applicable Safety Requirements**

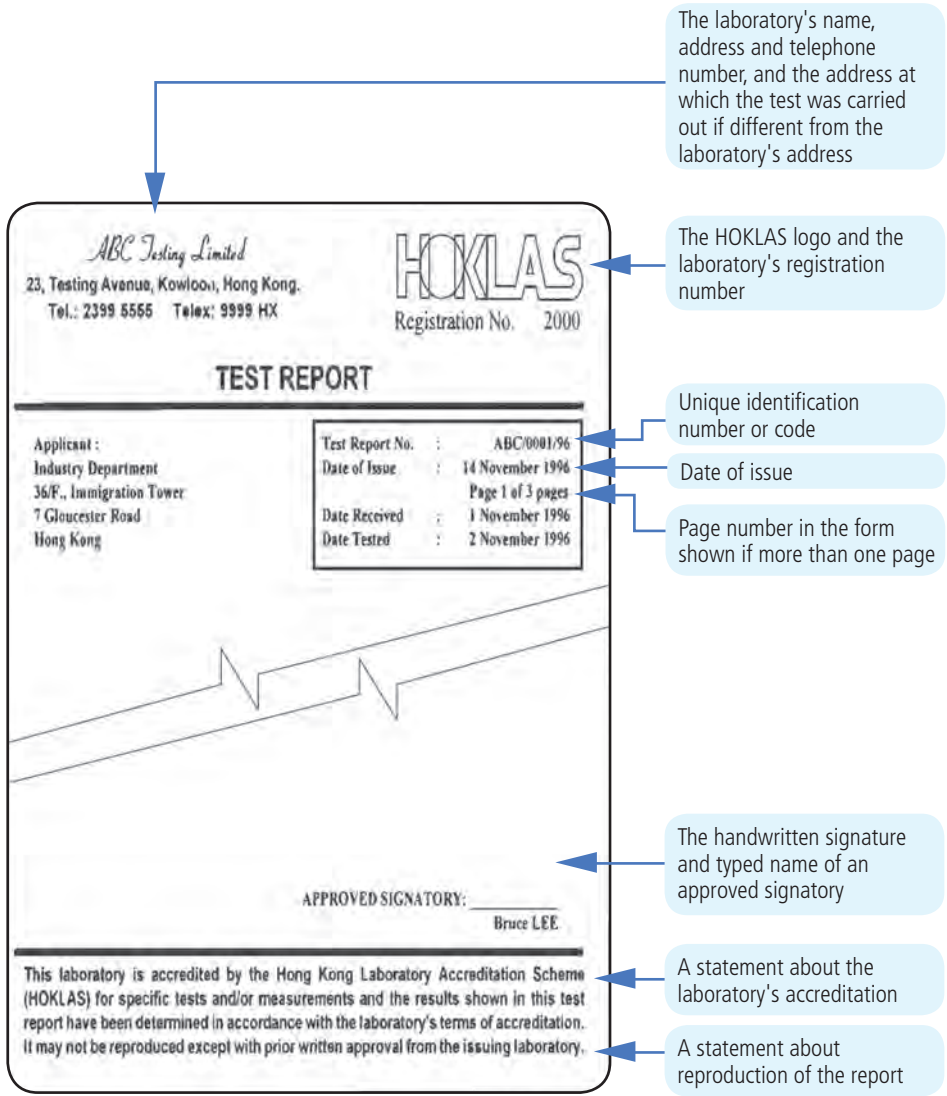


**Figure 3 Means to Obtain Certificate of Safety Compliance**

Note: Refer to Section B.8 of the Notes for details

		Ref. Certif. No. 		
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME				
<b>CB TEST CERTIFICATE</b>				
<b>Product</b>	<input type="checkbox"/> Additional information on page 2			
<b>Name and address of the applicant</b>				
<b>Name and address of the manufacturer</b>				
<b>Name and address of the factory</b>				
<i>Note: When more than one factory, please report on page 2</i>				
<b>Ratings and principal characteristics</b>				
<b>Trademark (if any)</b>				
<b>Customer's Testing Facility (CTF) Stage used</b>				
<b>Mode / Type Ref.</b>				
<b>Additional information (if necessary may also be reported on page 2)</b>			<input type="checkbox"/> Additional information on page 2	
<b>A sample of the product was tested and found to be in conformity with</b>				
<b>As shown in the Test Report Ref. No. which forms part of this Certificate</b>				
<b>This CB Test Certificate is issued by the National Certification Body</b>				
<table border="0"> <tr> <td data-bbox="101 1345 152 1364"><b>Date:</b></td> <td data-bbox="568 1345 661 1364"><b>Signature:</b></td> </tr> </table>			<b>Date:</b>	<b>Signature:</b>
<b>Date:</b>	<b>Signature:</b>			

**Figure 4 CB Test Certificate**



**Figure 5 (page 1 of 2)**  
**HOKLAS Endorsed Test Report**  
*(Prior to formation of HKAS)*

The laboratory's name, address and telephone number, and the address at which the test was carried out if different from the laboratory's address

The accreditation mark and the laboratory's registration number

Unique identification number or code

Date of issue

Page number in the form shown if more than one page

The handwritten signature and typed full name of approved signatory as indicated on his/her identity document

A statement about the laboratory's accreditation

A statement about the reproduction of the report

**ABC Testing Limited**  
 23 Testing Avenue.  
 Kowloon. Hong Kong.  
 Tel: 2399 5555 Fax: 2399 5556  
 Website: www.abctesting.com

**TEST REPORT**

Customer:  
 Innovation & Technology Commission  
 36/F. Immigration Tower  
 7 Gloucester Road  
 Hong Kong

Test Report No	: ABC/0001/13
Date of Issue	: 26 March 2013
	: Page 1 of 3 pages
Date of Receipt	: 1 March 2013
Date of Test	: 2 March 2013

LEE Ying Ho

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**Figure 5 (page 2 of 2)**  
**HOKLAS Endorsed Test Report**  
*(After formation of HKAS)*

## Declaration of Conformity

Ref. No. DOC-0123 [Note 1]

We ABC Electrical Appliances Manufacturing Company Limited [Note 2]  
(name of manufacturer)

of 8/F, DEF Industrial Building, GHI Road, Kong Kong.[Note 3]  
(address)

declare under our sole responsibility that product

BEAUTY Model No. 456-N Electric Hair Dryer [Note 4]  
(name, type or model, lot, batch or serial number, possibly sources and numbers of items)

to which this declaration relates is in conformity with the technical requirements of the following standard(s) : [Note 5]

International Standard IEC60335-1:2010 + A1:2013 + A2:2016

Household and similar electrical appliances - Safety - Part 1: General requirements

International Standard IEC60335-2-23:2016 + A1:2019

Household and similar electrical appliances - Safety - Part 2-23: Particular requirements for appliances for skin or hair care

Mr. Chan Tai Man [Note 6]

(name of authorized officer)

Mr. Chan Tai Man [Note 6]

(title of authorized officer)

1 December 2019 [Note 7]

(date of issue)



[Note 6]

(signature)



[Note 8]

(company seal)

**Figure 6 Sample of Declaration of Conformity (page 1 of 2)**

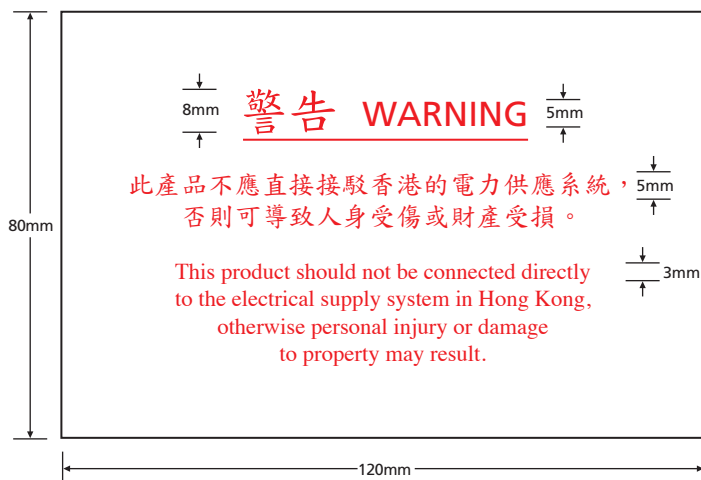
### Notes for Preparing Declaration of Conformity

- Note 1 The manufacturer should establish their own numbering system for declaration of conformity in order to facilitate future referencing.
- Note 2 The declaration of conformity should be made by the manufacturer, but not by the importer/local agent/retailer, based on relevant product safety test certificate/report. Upon request by the Electrical and Mechanical Services Department, copy of relevant safety test certificate/report should be submitted for inspection.
- Note 3 The official address of the manufacturer should be detailed.
- Note 4 The brand, model no. and description of the electrical product supplied in Hong Kong should be provided.
- Note 5 Details of applicable safety standard(s), including title, no., year of publication, applicable amendment no(s). and corresponding year of publication (or number of edition), should be provided. Details of relevant safety test certificate/report, approval or testing laboratory should not be provided instead. In case the adopted safety standard should be used in conjunction with other standard(s), for example IEC60335 series of safety standards, details of all applicable safety standards should be provided. The applicable standards related to electromagnetic compatibility (EMC) are not directly related to the safety of electrical products, and details of which are not required to be provided.
- Note 6 The authorized person means the person authorized by the manufacturer to make and sign the declaration of conformity. The authorized person does not mean the representative of testing laboratory or importer/local agent/retailer.
- Note 7 The date of issue means the date on which the declaration of conformity has been made and signed by the authorized person of the manufacturer, but not the date of issue of relevant safety test certificate/report.
- Note 8 The declaration of conformity should be stamped with the company seal of the manufacturer to certify the authenticity of the document.

**Figure 6 Sample of Declaration of Conformity (page 2 of 2)**



## Sample Warning Label for Electrical Products Designed Solely for Use at a Voltage of Less Than 200V Alternating Current Single Phase



- Note :
- (1) The warning label shall be with red text against a white background;
  - (2) The warning label shall be fixed durably and conspicuously on the surface of the packaging of the electrical product, or on the product itself if no packaging is provided when supplied;
  - (3) The warning label shall be of a size not less than -
    - (A) 120 mm by 80 mm; or
    - (B) one quarter of the area of the largest surface of the packaging of the electrical product.

**Figure 7**

## Test Certificate on Second-Hand Electrical Products

Reference no.: \_\_\_\_\_

### Part 1

<u>Product(s) Information</u>	
Product description	_____
Brand/model no.	_____
Serial no.	_____
<b><u>Supplier's information</u></b>	
Name	_____
Address	_____
Telephone no.	_____
Date of supply	_____
Business registration no./ Hawker licence no.*	_____

### Part 2

I, \_\_\_\_\_ (Registered Electrical Worker no# \_\_\_\_\_ )  
(name)

certify that inspection and testing on the product(s) mentioned in Part 1 have been carried out and the product(s) is/are\* found to be under a safe condition. The details of the inspection and testing are recorded in the inspection and testing report of ref. no. \_\_\_\_\_ .

Signature of qualified person / registered electrical worker\*

\_\_\_\_\_

Date :

I, \_\_\_\_\_ confirm that the second-hand electrical product(s)  
(name of supplier)

mentioned in Part 1 has/have\* been inspected and tested, and is/are\* found to be under a safe condition.

Authorized Signature / Company Chop\*

\_\_\_\_\_

Date :

\* Delete inappropriate

# The inspection & testing should be carried out by a qualified person or registered electrical worker. Enter the REW no. for inspection & testing carried out by a registered electrical worker.

**Figure 8**

# Inspection and Testing Report on Second-Hand Electrical Products

Reference no.: \_\_\_\_\_

## 1. Product(s) Information

Product description \_\_\_\_\_

Brand/model no. \_\_\_\_\_

Serial no. \_\_\_\_\_

## 2. Inspection and Testing

2.1 Preliminary inspection to identify any abnormalities of the product

Cracked parts  Yes  No Remark® \_\_\_\_\_

Loose connection  Yes  No Remark® \_\_\_\_\_

Damaged components  Yes  No Remark® \_\_\_\_\_

Sign of overheating  Yes  No Remark® \_\_\_\_\_

Burnt marks  Yes  No Remark® \_\_\_\_\_

Water marks  Yes  No Remark® \_\_\_\_\_

Others \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.2 Product is fitted with an appropriate plug that complies with the requirements of the Electrical Products (Safety) Regulation (e.g. 3-pin plug conforming to BS546 or BS1363 Part 1).

Yes  The original plug is replaced by the following plug \_\_\_\_\_

2.3 Inspection check on the compatibility of the product, its associated flexible cord and plug, and the rating of its associated fuse.

Satisfactory  The following part(s) has/have been replaced \_\_\_\_\_

Current rating of fuse \_\_\_\_\_ A

2.4 Inspection check on the class of product

Class I (earthed)  Class II (double/reinforced insulated) Remark® \_\_\_\_\_  
\_\_\_\_\_

**Figure 9 (page 1 of 2)**

2.5	Earth continuity test for a Class I product				
	<input type="checkbox"/> Satisfactory	Remark <sup>®</sup>	_____		
	Instrument used		_____		
	Reading		_____	Ohm	
2.6	Insulation testing				
	<input type="checkbox"/> Satisfactory	Remark <sup>®</sup>	_____		
	Insulation resistance		_____	M Ohm	
	Instrument used		_____		
	Voltage used		_____		
2.7	Functional test to ensure that the product operates normally :				
	Excessive temperature	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Remark <sup>®</sup>	_____
	Unguarded moving parts	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Remark <sup>®</sup>	_____
	Abnormal noise or operation	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Remark <sup>®</sup>	_____
	Sharp edges	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Remark <sup>®</sup>	_____
	Loosened parts	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Remark <sup>®</sup>	_____
	Exposed live parts	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Remark <sup>®</sup>	_____
	Others		_____		
			_____		
			_____		
2.8	Other tests (please specify, use separate sheet when necessary)				
	Inspected & tested by		_____		
		(Name)	(Registered Electrical Worker no #)		
	Signature of qualified person/ registered electrical worker*		_____		
	Date		_____		

# The inspection & testing should be carried out by a qualified person or registered electrical worker. Enter the REW no. for inspection & testing carried out by a registered electrical worker.

Tick the appropriate box

Remark<sup>®</sup> Record the abnormalities identified and any replacement or repairing work done.

\* Delete inappropriate

**Figure 9 (page 2 of 2)**

## Importer's Declaration

Ref. No. DOC123  
Page 1 of 2

We ABC Company Limited  
(Name of Supply Agent/ Importer)

Block A, 8th floor, DEF Building, GHI Road, HONG KONG  
(Address)

Telephone no. 12345678 Fax no. 87654321  
(Telephone & Fax no.)

declare under our sole responsibility that product(s) :

as specified in the Appendix enclosed ( ref. no. DOC123 Page 2 of 2)

to which this declaration relates is/are in conformity with the technical requirements  
of the following standard(s) :

as specified in the Appendix enclosed ( ref. no. DOC123 Page 2 of 2)

C. C. Wong  
(Name of authorized officer)

Manager  
(Title of authorized officer)

1 December 2019  
(Date of issue)



(Signature)



(Company seal / chop)

**Figure 10 (page 1 of 2)**



<u>Name/Type/ Category of Product</u>	<u>Model</u>	<u>Standards</u>	<u>Certificate of safety compliance / documentation issued in support of this Declaration</u>
'BRAND' microwave ovens	123-M	IEC 60335-2-25	CB test certificate ref. no. AB - 123
	223-M	IEC 60227	
	567- F	BS 1363 Part1	Declaration of Conformity ref. no. D001
	890- G 890- H		
'BEAUTY' electric hair dryers	456-N	IEC 60335-2-23	CB test certificate ref. no. DB - 100
	456-O	IEC 60227	
	456-P	BS 1363 Part 1	CB test certificate ref. no. DB - 101
	456-Q		
	567-N		CB test certificate ref. no. DA - 888
	567-O		
	567-P		UKAS/NAMAS endorsed test certificate ref. no. MAS/0002/01
	567-Q		
			1 December 2019 (Date of issue)
			 (Signature)
			 (Company seal / chop)

Figure 10 (page 2 of 2)

Electricity Legislation  **EMSD**

**Electrical and Mechanical Services Department**

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E-mail: [info@emsd.gov.hk](mailto:info@emsd.gov.hk)