

## **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 BS 3535 Part 1.

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 884-1 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 884-1 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 884-1 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 884-1 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 BS 3535 Part 1 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).