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PEOPLE'S REPUBLIC OF CHINA

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GB 2099.2-2012

Replacing GB 2099.2-1997

**Plugs and socket-outlets for household and similar
purposes - Part 2: Particular requirements for socket-
outlets for appliances**

家用和类似用途插头插座 第2部分：器具插座的特殊要求

(IEC 60884-2-2:2006, Plugs and socket-outlets for household and similar
purposes - Part 2-2: Particular requirements for socket-outlets for appliances,
MOD)

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Foreword

All technical content of this part of GB 2099 is mandatory.

GB 2099 is a series of standards for household and similar plugs and sockets, which are divided into the following parts:

Part 1: General requirements (GB 2099.1)

Part 2: Particular requirements (GB 2099.2 ~ 2099.7)

- Particular requirements for plugs with fuse;
- Particular requirements for socket-outlets for appliances;
- Particular requirements for converters;
- Particular requirements for fixed non-interlocking sockets with switches;
- Particular requirements for fixed interlocking socket switches;
- Particular requirements for plugs and sockets for safety extra-low voltage.

This Part is part 2 of GB 2099: Particular requirements for socket-outlets for appliances.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB 2099.2-1997 "Plugs and socket-outlets for household and similar purposes - Part 2: Particular requirements for socket-outlets for appliances". Compared with GB 2099.2-1997, the main changes in this Part are as follows:

- In Chapter 1 Scope, SPECIFY that "the ambient temperature around the appliance socket usually does not exceed 35 °C, AND occasionally reaches 40 °C."
- MODIFY the Chapter 2 Normative references, as well as the references in the main text accordingly. DELETE IEC 320-2-2:1990 and IEC 760:1983; ADD GB/T 2423.55-2006. In the relevant provisions, USE the GB 17196 "Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements" to replace the original IEC 760 standard.
- CHANGE the title of Chapter 3 into "Terms and definitions". CHANGE the title of Chapter 5 into "Test overview". CHANGE the title of Chapter 12 into "Terminals and ends". CHANGE the title of Chapter 16 into "Aging resistance, Protection provided by enclosure and moisture resistance".

Plugs and socket-outlets for household and similar purposes - Part 2: Particular requirements for socket-outlets for appliances

1 Scope

This Chapter of GB 2099.1-2008 is applicable, after the following modifications.

USE the following descriptions to replace the first paragraph:

This Part specifies the technical requirements for terminals and ends, structural requirements, mechanical properties, electrical properties of household and similar socket-outlets for appliance.

This Part only applies to the AC socket-outlets, which have a rated voltage not exceeding 250 V AND a rated current not exceeding 16 A, with or without grounding socket, are embedded or intended to be installed in or fixed to the appliance, hereinafter referred to as socket-outlet for appliance.

ADD the following after the fourth paragraph:

If it is also intended for a fixed device, the socket-outlet for appliance shall be equipped with a device for fixing to an appropriate mounting box.

Socket-outlets for appliance are intended to be used, in stand-alone appliances and office equipment, computers, audio-visual and camera equipment, range hoods, stoves, etc.

If necessary, describe the use of socket-outlet for appliance, in the standards for appliances or equipment.

The ambient temperature, around the socket-outlet for appliance, usually does not exceed 35 °C, AND occasionally reaches 40 °C.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

11 Grounding measures

This Chapter of GB 2099.1-2008 is applicable.

12 Terminals and ends

This Chapter of GB 2099.1-2008 is applicable, after the following modifications.

12.1.1 ADD the following after the first paragraph:

Socket-outlets for appliances shall be equipped with screw-type terminals, screwless terminals or male tab for flat quick-connect terminations.

Notes a and b of Table 3 are not applicable.

ADD:

12.101 Flat quick-connect termination

The male tabs and plug sleeves, which are used for the test, shall meet the requirements of GB 17196.

12.101.1 Structural requirements

12.101.1.1 The male tab shall be of nominal size:

2.8 mm × 0.8 mm or

4.8 mm × 0.8 mm or

6.3 mm × 0.8 mm

As listed in GB 17196.

Compliance is checked by measuring 3 specimens, all of which shall meet the size requirements of GB 17196.

The structure of round grooves, rectangular grooves, hole-shaped grooves, as well as irreversible flat quick-connect termination, if any, shall also meet the requirements of GB 17196.

12.101.1.2 The male tab shall be made of (bare or tinned) copper or copper alloy. As long as the reliability of its electrical and mechanical properties is not reduced, especially in terms of corrosion resistance, contact resistance stability, mechanical strength, certain materials and plating, other than the above, can also be used.

components is not affected by the method of installing the socket-outlet on the appliance.

The fixing method shall be such, that the socket-outlet cannot be rotated or removed from the appliance, without the aid of tools.

14 Structure of plugs and mobile socket-outlets

This Chapter of GB 2099.1-2008 is not applicable.

15 Interlocking socket

This Chapter of GB 2099.1-2008 is applicable.

16 Resistance to aging, protection provided by enclosure, moisture proof

This Chapter of GB 2099.1-2008 is applicable.

17 Insulation resistance and electric strength

This Chapter of GB 2099.1-2008 is applicable.

18 Working of grounding contact

This Chapter of GB 2099.1-2008 is applicable.

19 Temperature rise

This Chapter of GB 2099.1-2008 is applicable.

20 Breaking capacity

This Chapter of GB 2099.1-2008 is applicable.

21 Normal operation

This Chapter of GB 2099.1-2008 is applicable.

22 Force required to pull out the plug

This Chapter of GB 2099.1-2008 is applicable.

23 Flexible cable and its connection

This Chapter of GB 2099.1-2008 is not applicable.

24 Mechanical strength

This Chapter of GB 2099.1-2008 is applicable, after the following modifications.

ADD:

For socket-outlets for appliances, 24.101 below applies.

ADD:

24.101 Socket-outlets for appliances can be tested, by the spring hammer test device, which is specified in GB/T 2423.55, to impose an impact on the specimen.

When the socket-outlet for appliance is installed, according to normal use, all surfaces, that may be touched, shall be tested, by the use of the above-mentioned test device.

For the socket-outlet, which is integrated with the appliance OR designed to fit into the appliance, carry out the test according to normal use.

The socket-outlet for fixing to the appliance shall be installed on a vertical plywood, which has a thickness of 8 mm AND a length and width of 175 mm. The plywood does not have a metal backing plate. The plywood shall be installed on a rigid frame, which is fixed to a brick, concrete or similar solid wall.

To apply an impact to all accessible surfaces, the test device shall be calibrated, so that the energy it delivers is corresponding to the energy, which is delivered by the impact element of the impact pendulum, as shown in the relevant Figures and Table 21 of GB 2099.1

For all such surfaces, find the three weakest points AND apply 3 impacts to each point (up to 9 impacts).

Note: The energy value of the following spring hammer is regarded as corresponding to the energy value, which is delivered by the impact pendulum. See Table 103.

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