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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

GB 4706.39-1997

Safety of household and similar electrical appliances
Particular requirements for commercial electric
grillers and toasters

(idt IEC 335-2-48:1988)

家用和类似用途电器的安全

商用电烤炉和烤面包炉的特殊要求

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**Approved by: National Technical Supervision Bureau (now renamed as
General Administration of Quality Supervision, Inspection
and Quarantine of the People's Republic of China).**

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Safety of household and similar electrical appliances

Particular requirements for commercial electric grillers and toasters

1 Scope

This clause of GB 4706.1-92 applies except as follows.

1.1 Replacement:

This Standard applies to commercial electrical appliances that are not used for general household use:

- oven, including rotary or continuous;
- toaster, including rotary or continuous;
- similar appliances that use radiant heat to bake food, such as electric rotating roasters, baking sheets, etc.

The electrical parts of other energy forms are also within the scope of this Standard.

This Standard is not applicable to:

- industrial oven and toaster;
- oven and toaster for continuous operation of food for mass production;
- single and double electric heaters in direct contact with food during baking;
- appliances used in special conditions such as corrosive or explosive gases (dust, steam or gas).

Additional requirements may be required for appliances used outdoors.

Additional requirements may be required for appliances used on vehicles, ships or aircraft.

Particular requirements may be added for appliances used in tropical countries.

Additional requirements for health, water and labor protection in many countries shall be considered.

2 Definitions

This clause of GB 4706.1-92 applies except as follows.

2.2.4 Addition:

Rated input power is the sum of the rated input power of all individual components that can operate simultaneously in the appliance. In several such combinations that may exist, the combination of maximum input power is used to determine the nominal input power.

2.2.19 Addition:

"Class II" used in this Standard shall be understood as Class II structural components.

2.2.20 Addition:

"Class III" used in this Standard shall be understood as Class III structural components.

2.2.29 Replacement:

Fully exothermic conditions refer to the following conditions. Appliances work under these conditions:

The appliance runs at no load and adjusts all controllers for user operation to the highest setting. Turn on the motor normally used in the baking operation. If timers are installed, all shall be disconnected or shorted so that they do not work.

If the door, cover, reflector and drip tray are installed, they shall be installed according to the manufacturer's instructions. If not stated, the door shall be fully opened, the drip pan shall be placed at the lowest position, and the grill shall be placed in the highest possible position.

If the appliance does not work without load, refer to the manufacturer's instructions.

2.2.30 Replacement:

Normal load refers to the load when the appliance is operated under a fully exothermic condition and the motor installed in the appliance is operated in the required manner, under the worst conditions that may occur in the normal use of the manufacturer's instructions.

Addition:

6.1 Addition:

Add the following to item (2):

- Anti-jet type appliance (IPX5, according to IEC publication 529).

This sub-clause adds the following:

(3) Classify by degree of protection due to temperature rise caused by installation conditions:

- Isolated installed appliance;
- Appliances installed in other appliance units.

There are currently no additional requirements for appliances installed in other appliance units.

7 Marks

This clause of GB 4706.1-92 applies except as follows.

7.1 This sub-clause adds the following:

- For appliances connected to a water source, the water pressure or pressure range is expressed in kPa, unless otherwise stated in the instructions.

7.6 Addition:

Add the following symbols to the symbol table:

IPX5		Anti-spray structure
kPa		KiloPascal

7.12 Addition:

Instructions shall be provided at random, which shall detail the matters that must be taken care of during installation. Operating procedures and user maintenance, such as cleaning, instructions shall also be provided.

For appliances that are permanently connected to fixed wiring, the instructions shall provide information on the precautions for leakage current during installation.

If the appliance does not belong to the anti-spray structure, the user shall be provided with clear and detailed instructions together with the appliance. The instructions shall state that the appliance must not be cleaned with a spray pipe.

This sub-clause adds the following:

instructions. If the instructions are not provided, the contents of GB 4706.1-92 apply.

11.4 Replacement:

The appliance is operated in a fully exothermic condition such that the total input power of the appliance is 1.15 times the rated input power. If it is not possible to switch on all heating elements at the same time, test each combination under the conditions of the switch configuration. During the test, the line shall be connected to the highest possible load of each switch configuration.

If the appliance has a control device that limits the total input power, then the electrothermal element selected by the control device that can apply the most severe conditions or a combination thereof is tested.

11.7 Replacement:

Work the appliance until it reaches a steady state.

11.8 Addition:

For the back wall and side walls of the test corner, including the portion that protrudes in front of the appliance, the 65K temperature rise limit applies only to the top surface of the grill. If the top surface of the roast is above the temperature rise limit, the requirements of 7.110 shall apply.

This sub-clause adds the following:

In Sweden, the above "addition" does not apply.

11.10 Modification:

Use the following to replace NOTE ϕ in Table 4:

Factor "P" equals 8000.

12 Appliances with electric heating elements work under overload conditions

This clause of GB 4706.1-92 applies.

13 Electrical insulation and leakage current at

This sub-clause adds the following:

If it is not possible to place the entire appliance in a humid chamber (box), the parts with electrical components are tested separately. Pay attention to what is happening inside the appliance.

Addition:

15.101 Appliances equipped with switches for water injection or cleaning, shall be designed to keep water from the switch out of contact with live parts.

Use the following test to determine eligibility:

The appliance is connected to the water source of the maximum water supply pressure indicated by the manufacturer. Tilttable and moveable parts including covers are tilted or placed in the most unfavorable position. The rotatable outlet pipe of the water switch is placed in such a position that the water flows to those parts that shall produce the most unfavorable results. Turn on the device that controls the water inlet for 1min. After such treatment, the appliance shall immediately undergo the insulation strength test of clause 16.

16 Insulation resistance and electrical strength

This clause of GB 4706.1-92 applies except as follows.

16.2 Modification:

Replace the specified value of the leakage current of the fixed type I appliance with the following content:

* Cord and plug connected appliance		2 mA/kW maximum limit is 10mA
* Other appliances		2 mA/kW no maximum limit

Addition:

Some countries impose lower limits on leakage current regulations.

17 Overload protection

This clause of GB 4706.1-92 applies.

Appliances without doors or covers are not tested.

19.4 Replacement:

The appliance is tested under the conditions specified in clause 11. However, the voltage shall be such that the input power is 1.24 times the rated input power, and any controller used to limit the temperature during the test in clause 11 is short-circuited.

If the appliance is equipped with more than one controller, these controllers shall be shorted in sequence.

If the relevant IEC standard includes conditions that occur within the appliance, contactors that meet these criteria are not open or shorted. However, locking a contactor main contact that is used to turn the heating element on and off during normal use shall be considered a fault condition at the "on" position, unless the appliance is equipped with at least two sets of contacts connected in series. For example, equipped with two contactors that work independently of each other, or equipped with a contactor that operates two independent main contacts with two independent armatures.

19.11 Addition:

If the temperature rise above and below the top plane of the appliance exceeds 125K, the precautions given in 7.11 shall be included in the installation instructions.

This sub-clause adds the following:

In Sweden, the above "addition" does not apply.

20 Stability and mechanical hazards

This clause of GB 4706.1-92 applies except as follows.

20.1 Addition:

Covers, lids and accessories are placed in the most unfavorable position.

Appliances that can be mounted on brackets provided by the manufacturer shall be tested in accordance with the manufacturer's instructions together with the brackets used.

21 Mechanical strength

This clause of GB 4706.1-92 applies.

Check whether it is qualified by visual inspection.

25 Power connection and external flexible cable and cord

This clause of GB 4706.1-92 applies except as follows.

25.1 Addition:

Terminals that permanently connect fixed wiring may also be suitable for X connections of power cords. In this case, the instructions shall provide detailed data on the power cord.

Check whether it is qualified by visual inspection.

25.2 Addition:

Fixed-mounted appliances and designs with weights greater than 40kg and without rollers or casters shall be permitted to be installed in accordance with the manufacturer's instructions before connecting the power cord.

25.3 Addition:

Anti-jet type appliances shall not be equipped with appliance input sockets.

25.4 Addition:

Appliances without cord delivery apply X connection.

This sub-clause adds the following:

Some countries only use X connections.

25.6 Modification:

Replace the specified power cord type with the following:

The power cord shall be an oil-resistant flexible sheathed cable that is not lighter than ordinary neoprene or other equivalent synthetic rubber sheathed cord (code 245 in IEC 57).

26 External wire terminals

This clause of GB 4706.1-92 applies.

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