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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 35848-2024

Replacing GB 35848-2018

Commercial gas-burning appliances

商用燃气燃烧器具

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1 Scope

China's mandatory standard for commercial gas-burning appliances - the ranges, wok burners, ovens, fryers, steamers, griddles and boiling pans of restaurant and canteen kitchens. They differ from domestic appliances in ways that matter for safety rather than for cooking: the heat inputs are several times larger, the appliances run for many hours a day, they stand in a room with a mechanical extraction system that can pull enough air to disturb the combustion, and they are operated by staff who change often and are not the owner. It specifies the terms and definitions, the classification, the requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of commercial gas-burning appliances, and it applies to the appliances fired by town gas, natural gas or liquefied petroleum gas used in commercial catering. The requirements cover the gas circuit with its connections, taps and governors; the burners and their stability across the range of gases and pressures the appliance may see; the flame supervision device, which on a commercial appliance is the single most important safety component, because a burner that goes out unnoticed in a busy kitchen fills the room; the ignition; the combustion products, with the carbon monoxide limits that decide whether the kitchen is habitable; the thermal efficiency; the surface temperatures and the guarding of a machine that people work around all day; the electrical safety of the powered appliances; and the stability and mechanical strength. The whole appliance must also satisfy the general safety requirements for gas burning appliances of GB 16914. Issued on 29 April 2024 and in force since 1 August 2024, it replaces GB 35848-2018.

This document specifies the classification and models, requirements, test methods, inspection rules, markings, warnings and instructions for use, packaging, transportation and storage of commercial gas-burning appliances (hereinafter referred to as "appliances"). This document applies to gas appliances that use urban gas as their energy source, conforming to GB/T 13611, with combustion air drawn from indoors and combustion products discharged directly or indirectly outdoors, including.

a) Steam generator appliance which has a rated heat load not exceeding 80 kW, steam pressure not exceeding 80 kPa, a designed normal water volume less than 30 L;

b) Gas steaming oven appliance which has a rated heat load not exceeding 80 kW and steam chamber pressure not exceeding 1200 Pa;

c) Fryer appliance which has a rated heat load not exceeding 50 kW and internal chamber pressure not exceeding 80 kPa;

d) Cooking stove appliance which has a rated heat load not exceeding 50 kW;

e) Large pot stove appliance which has a rated heat load not exceeding 80 kW;

f) Open burner appliance which has a rated heat load not exceeding 50 kW;

g) Atmospheric pressure water boiler appliance which has a rated heat load not exceeding 100 kW;

h) Rice gas cookers which have a cooking capacity of 6 L or more;

i) Dishwashers which have a rated heat load of 50 kW or less;

j) Stir-fry stoves which have a rated heat load of 60 kW or less;

k) Grills which have a rated heat load of 50 kW or less;

l) Hot plate stoves which have a rated heat load of 35 kW or less;

m) Ovens which have a rated heat load of 80 kW or less;

2 Normative references

The contents of the following documents, through normative references herein, constitute essential provisions of this document. For dated references, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

GB/T 191 Packaging - Pictorial marking for handling of goods

GB/T 1527 Drawn tube of copper and copper alloys

GB/T 2828.1 Sampling procedures for inspection by attributes - Part

1.Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 3091 Welded steel pipes for low pressure fluid delivery

GB/T 4208 Degrees of protection provide by enclosure (IP code)

GB 4706.1 Household and similar electrical appliances - Safety Part

3 Terms and definitions

The terms and definitions defined in GB/T 13611, GB/T 16411, GB/T 38603, as well

4.1 Classification

4.1.1 According to the type of gas used, appliances are classified into artificial gas appliances (code R, rated pressure 1000 Pa), natural gas appliances (code T, rated pressure 1000 Pa or 2000 Pa), liquefied petroleum gas appliances (code Y, rated pressure 2800 Pa or 5000 Pa).

4.1.2 According to the exhaust method, appliance classification is shown in Table 1.

4.1.3 According to the combustion method, appliances are classified into fully premixed appliances, atmospheric appliances, diffusion appliances.

4.1.4 Based on whether the latent heat of vaporization of water vapor in the flue gas is effectively utilized, gas appliances are classified into condensation type appliances and non-condensation type appliances.

4.1.5 Classification by function is shown in Table 2.

5.1.1 General requirements

5.1.1.1 The materials used to manufacture the appliances shall be able to withstand the temperature and load under normal operating conditions.

5.1.1.2 The sealing materials in contact with the gas shall be compatible with the characteristics of the gas used.

5.1.1.3 Gas appliances shall not use materials containing asbestos.

5.1.1.4 The solder used in gas appliances shall not contain hexavalent chromium.

5.1.1.5 All components in contact with condensate, such as heat exchangers, flue pipes, seals, shall be made of corrosion-resistant materials or undergo surface anti-corrosion treatment.

5.1.2 Metallic materials

5.1.2.1 The metallic materials for gas pipelines shall conform to the specifications of GB/T 1527, GB/T 3091, GB/T 8163, or GB/T 12771.

5.1.2.2 Water pipelines for gas appliances shall be made of corrosion-resistant materials and materials that do not pollute the water.

5.1.2.3 Metal components that may be affected by corrosion (except for corrosion- resistant materials) shall undergo electroplating, painting, or other suitable surface anti- corrosion