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Minimum allowable values of energy efficiency and energy efficiency grades for commercial gas cooking appliance

商用燃气灶具能效限定值及能效等级

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Minimum allowable values of energy efficiency and energy efficiency grades for commercial gas cooking appliance

1 Scope

This Standard specifies energy efficiency grades, minimum allowable values of energy efficiency, energy saving evaluation values, test methods and inspection rules for commercial gas cooking appliance.

This Standard is applicable to Chinese gas cooking stove that uses gas as energy, of which rated heat load of a single burner is not more than 60kW (hereinafter referred to as cooking stove), gas cooking oven of which rated heat load per burner is not more than 80kW and nominal diameter of oven is not less than 600mm (hereinafter referred to as cooking oven) as well as gas steamer of which rated thermal load is not more than 80kW and steam chamber steam pressure is not more than 500Pa (gauge pressure) (hereinafter referred to as steamer).

Gas referred in this Standard is gas specified in GB/T 13611.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 13611, *Classification and basic characteristics of city gas*

CJ/T 28, *Chinese cooking gas appliances*

CJ/T 187, *Gas steaming oven*

CJ/T 392, *Commercial gas oven for cooking*

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in CJ/T 28, CJ/T 187 and CJ/T 392 as well as the followings apply.

Evaluating values of energy conservation for commercial gas cooking appliances are grade-2 values of energy efficiency in Table 1.

5 Test and calculation methods

5.1 Test conditions and test methods for cooking stove are in accordance with CJ/T 28.

5.2 Test conditions and test methods for cooking oven are in accordance with CJ/T 392.

5.3 Test conditions and test methods for steamer are in accordance with CJ/T 187.

5.4 Thermal efficiency value after heat load is weighted average for multi-fog cooking stove and cooking oven is calculated according to formula (1):

$$\eta = \frac{\sum I_i \eta_i}{\sum I_i} \dots\dots\dots (1)$$

Where,

I_i - actual measured converted thermal load of each fog, in kilowatts (kW);

η_i - thermal efficiency of each fog, in percentage (%).

6 Inspection rules

6.1 Exit-factory inspection

Minimum allowable values of energy efficiency shall be exit-factory inspection item for cooking stove, cooking oven and steamer. Products of which efficiency is inspected as failed to meet requirements in 4.3 are not allowed to exit factory.

6.2 Type inspection

6.2.1 In one of following cases for cooking stove, cooking oven and steamer, type inspection shall be carried out:

- a) test stereotypes identification of new product;
- b) changes in product design, process or material used which may affect product performances;
- c) required by quality and technical supervision department.

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