

**SINGAPORE STANDARD**

**Specification for portable gas cookers –  
General specifications and test methods**



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**Specification for portable gas cookers – General specifications and test methods**

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\* Until January 1996

\*\* Until March 1996

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SINGAPORE STANDARD

**SPECIFICATION FOR PORTABLE GAS COOKERS -  
GENERAL SPECIFICATIONS AND TEST METHODS**

FOREWORD

This Singapore Standard was prepared by the Technical Committee on Storage and Transportation of Compressed Gases including LPG under the direction of the Mechanical Standards Committee.

In the early 1980's, portable gas cookers were introduced to Singapore as a convenient means of heating up food and soup. As the cost of the appliance and disposable gas canisters became more affordable to consumers, the use of this handy gadget gained greater popularity in the early 1990's, especially at parties and during festive seasons.

In view of the potential fire and explosive hazards faced by users, the Consumer Product Safety Department, Singapore Productivity and Standards Board decided to classify portable gas cookers and LPG canisters as "controlled goods" with effect from 1 June 1997 under the Consumer Protection (Safety Requirements) Regulations 1995. At their request, this Singapore Standard was established in 1997.

This Singapore Standard is based on JIS S 2147:1991 "Portable gas cookers attached to liquefied petroleum gas cylinder". Manufacturers and readers should note that the requirements stipulated herein are test-oriented since all portable LPG cookers are not made in but imported into Singapore. As such, some deviations from JIS S 2147:1991 were made to suit local requirements and conditions. They are summarised as follows:

- (a) Definitions are introduced to enhance clarity.
- (b) In Table 2, the temperature and humidity of the test room have been adjusted to suit local atmospheric conditions.
- (c) In other tests, 30°C is also adopted as the ambient temperature.
- (d) The "Inclination and toppling test" for the cookers shall be done in four directions on a horizontal plane.
- (e) Where test specimens are required, they shall be dismantled/cut out from assembled cookers (i.e not provided separately by the manufacturer for the purpose of testing). Exception may be considered when a specific size (or amount) of the specimen could not be removed from the manufactured cooker. In such cases, the specimen may be provided by the manufacturer.
- (f) Gas furnaces are not recommended in the "Heat-resistance test". An electric oven is specified since it can maintain a desired temperature with minimal fluctuation.
- (g) The procedures for executing the "Neutral salt spray test" are adopted from ISO 1462:1973, ISO 4540:1980, ISO 7384:1986, ISO 9227:1990 and JIS Z 2371:1994.
- (h) The salt spray test on electroplated surfaces is covered in Subclause 6.3.2.1.
- (i) The flame size for the "Flammability test" in Figure 4 is specified.

- (j) In Subclause 6.7.1(c)(viii), the measured value of the concentration of carbon dioxide around the intake opening of the burner, i.e.  $(CO_2)_t$ , shall be recorded under local ambient atmosphere instead of in dry atmosphere.
- (k) In Table 3, the permissible dimensional tolerance has been adjusted to  $\pm 10\%$ . The column for "roundness of the bottom of the utensil" (in JIS 2147:1991) has also been deleted.
- (l) In Figure 9, the areas for mounting the thermocouples are demarcated to avoid misinterpretation and ensure consistency amongst laboratories.
- (m) Under the clause for "Inspection", the choice of selecting a particular inspection and sampling plan shall be the prerogative of the Safety Authority.
- (n) The requirements under the clauses for "Markings" and "Operational Manual" were amended to facilitate traceability. Also, if more than one language is used, one of them must be written in English.

In preparing this standard, reference was also made to the following publications:

- (a) ISO/IEC Guide 57:1991 Guidelines for the presentation of inspection results
- (b) SS ISO 1000:1992 SI units and recommendations for the use of their multiples and of certain other units

Acknowledgement is made for the use of information from the above standards.

It must be noted that gas canisters conforming to SS 400 - "Specification for LP gas and non-refillable gas canisters for portable gas cookers" shall be used as the only fuel source. These cookers are not meant for, and should not be modified for connection to piped-in town gas or LPG cylinders.

The "Cooker Performance Test" was adopted to facilitate such assessment in the event that these appliances need to be certified as energy efficient / environmentally friendly.

Where precautions and recommendations on the use of these appliances are indicated in the manufacturer's operational manual, they should be strictly adhered to.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

#### NOTE

1. Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.
2. An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.
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## 1. SCOPE

1.1 This Singapore Standard specifies the requirements for portable gas cookers (hereinafter referred to as 'cooker'), equipped with a canister filled with liquefied petroleum gas (hereinafter referred to as 'LPG').

### NOTE.

1. The titles of the publications referred to in this standard are listed at the end of the standard.
2. Typical cookers are shown in Figures 11 and 12. Appendices B and C on test devices and apparatus are for information only.

1.2 **Purpose.** This standard serves to enhance safety and protect consumers' interest. This shall be qualified when a type/batch<sup>1)</sup> of manufactured cookers can meet and satisfy the safety requirements set out herein.

1.3 **Exclusion.** The following types of cookers are excluded from this standard:

- (a) those using AC or external DC electrical power supply for its ignition unit (i.e. by way of electrical wires or the like);
- (b) those using town gas or LPG supplied from a cylinder as fuel source (i.e. by way of flexible rubber tubing);
- (c) those using non-refillable LPG canisters which are mounted in an upright manner during operation; and
- (d) those using non-refillable LPG canisters that are not equipped with a canister valve as specified in SS 400.