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Small craft — Liquid-fuelled galley stoves

Petits navires — Réchauds de cuisine alimentés par combustible liquide

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

International Standard ISO 14895 was prepared by Technical Committee ISO/TC 188, *Small craft*.

Annex A forms a normative part of this International Standard.

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Small craft — Liquid-fuelled galley stoves

1 Scope

This International Standard specifies the design and installation of permanently installed galley stoves using fuels which are liquids at atmospheric pressure on small craft of hull length up to 24 m.

Cooking appliances solely designed or intended as portable self-contained camping stoves are not covered.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 10239:2000, *Small craft — Liquefied petroleum gas (LPG) systems.*

ISO 9094-1:—¹⁾, *Small craft — Fire protection — Part 1: Craft with a hull length of up to and including 15 m.*

ISO 9094-2:—²⁾, *Small craft — Fire protection — Part 2: Craft with a hull length of over 15 m.*

ISO 10240:1995, *Small craft — Owner's manual.*

ISO 10133:2000, *Small craft — Electrical systems — Extra-low-voltage d.c. installations.*

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

3.1

galley stove stove

appliance designed for cooking that makes use of burners, an oven, a broiler or any combination of these items

3.2

liquid fuel

fuel which is liquid at atmospheric pressure

EXAMPLE Alcohol, kerosene and diesel fuel.

1) To be published.

2) To be published.

3.3

petrol

petroleum distillate fuel for spark-ignition engines

3.4

readily accessible

capable of being reached for operation, inspection or maintenance without removal of any craft structure or use of any tools

3.5

room-sealed appliance

appliance having a combustion system in which incoming combustion air and outgoing products of combustion pass through sealed ductwork connected to the enclosed combustion chamber and terminating outside the craft

4 General

4.1 Stoves shall be installed in accordance with the manufacturer's instructions for small-craft installations and the requirements of this International Standard.

4.2 Stoves using petrol as fuel or for priming, in any liquid or semi-liquid form, shall not be installed.

4.3 A durable, permanently legible sign covering the operation of the stove, including the refueling procedure, if applicable, and any unique hazards involved with use, shall be provided on or in the immediate vicinity of the stove. See 5.3, 5.8 and 5.9.

4.4 The stove shall be capable of operating during periods of craft pitch or heel at angles up to 15° from the horizontal in any direction sustained at the maximum angle for at least 15 s. Stoves in monohull sailing craft shall be gimbaled to be capable of operation at sustained angles of heel of 30°.

4.5 It shall not be necessary to reach across an operating burner to reach the burner controls.

4.6 Means shall be provided on or adjacent to stove-top cooking surfaces to prevent both deep and shallow cooking utensils from sliding across or off the stove, at pitch angles up to 15° or roll angles up to 30° for sailing craft; 15° angles of pitch or roll for engine-driven craft.

4.7 Oven doors shall be provided with a means to prevent unintentional opening due to force from sliding food and utensils.

4.8 Metal fuel tanks shall be resistant to internal and external corrosion. Seams shall be welded or brazed, except for seams in tanks containing fuel held in absorbent material.

4.9 The control knobs of the stove shall be non-metallic or located such that they do not become hot during use of the stove.

5 Installation

5.1 Stoves and any associated remote fuel tanks shall be securely fastened to the craft.

5.2 The stove shall be installed in accordance with ISO 9094-1 and ISO 9094-2 for open-flame stoves without flues. This does not apply to the control knobs of the stove. See 4.9.

5.3 A permanent, legible warning sign, in language acceptable in the country of use, shall be affixed on or adjacent to the stove. It shall contain at least the following informational elements.



The last line is not required for flued stove. A sign is not required for room-sealed stoves.

5.4 A readily accessible shut-off valve, not integral with the stove, shall be located near remote, i.e. non-integral, fuel tanks. The valve shall be designed to close against the flow of fuel and shall indicate the off and on positions and the closing direction. If the valve is outside the galley, a second valve shall be fitted in the fuel line in the galley space in a readily accessible location without reaching above the burners and outside Zone II, as defined in ISO 9094-1 and ISO 9094-2.

5.5 Remote tanks installed in the compartment with the stove shall be located outside Zone II, as defined in ISO 9094-1 and ISO 9094-2.

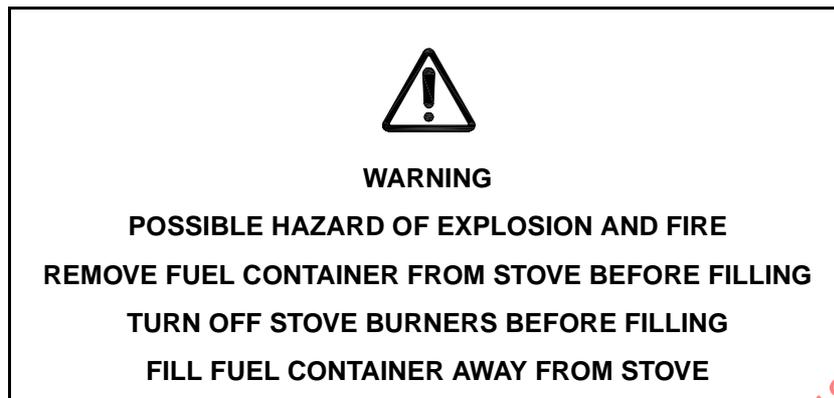
5.6 Fuel-supply piping or hoses from remote fuel tanks shall be installed as a continuous run, without joints or fittings, from the shut-off valve at the tank to the shut-off valve at the stove, or to the shut-off valve to the flexible hose section immediately before a gimbaled stove.

5.7 The provisions for filling remote tanks shall be outside Zone II, as defined in ISO 9094-1 and ISO 9094-2.

5.8 Stoves with integral fuel tanks shall have a permanent warning label on, or adjacent to, the stove with the following informational elements in language acceptable in the country of use.



5.9 Non-pressurized stoves with integral tanks, having fuel held in absorbent material, which are designed to have the fuel container removed for filling, shall display a sign with the following informational elements in language acceptable in the country of use.



5.10 Openings for filling fuel tanks shall be identified to indicate the type of fuel to be used with the system. The word "FUEL" alone shall not be used.

5.11 Ventilation of accommodation spaces containing open-flame (not room-sealed) galley stoves shall be provided in accordance with ISO 10239.

5.12 Where fitted, flues for exhausting of combustion products shall conform to the requirements of ISO 10239.

5.13 The stove manufacturer shall supply installation instructions with the stove in conformance with this International Standard.

6 Stove design and construction

6.1 Liquid-fuel priming pans or troughs shall be secured to the burner or generator so that their relationship is maintained.

6.2 Priming pans or troughs shall be designed to contain fuel without spillage under conditions of pitch or roll of the craft to 15° in any direction.

6.3 A readily accessible liquid-tight, non-flammable drip pan at least 20 mm deep shall be provided beneath all burners sufficient to contain all fuel overflowing from the priming pan under conditions of pitch and roll as described in 4.6.

6.4 Remote non-pressurized fuel-supply tanks shall be tested to withstand an internal pressure of 20 kPa without leakage.

6.5 Pressurized liquid-fuel tanks shall be equipped with a pressure relief valve designed to release at not more than twice the vapour pressure of the fuel used at 60 °C.

6.6 Pressurized liquid-fuel tanks integral with a stove shall be shielded or insulated so that, under continuous operation at maximum heat, the pressure in the tank will not exceed 50 % of the relief valve setting.

6.7 Pressurized fuel tanks shall be designed to withstand four times the relief-valve setting.

6.8 Pressurized liquid-fuel tanks shall be tested to withstand a minimum internal pressure of two times the design working pressure or 700 kPa, whichever is greater.

6.9 For stoves with extra-low-voltage electrical systems requiring connection to the craft's electrical system, the connections shall be in conformity with the requirements of ISO 10133.

7 Marking

Each stove shall be permanently marked or labelled with the following information:

- manufacturer's name or trademark;
- model number;
- serial number;
- fuel type(s) on tank at the opening used for filling.

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