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Leisure accommodation vehicles — Oil-fired heating systems

Véhicules habitables de loisirs — Installations et appareils de chauffage à combustibles liquides

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7420 was prepared by Technical Committee ISO/TC 177, *Caravans*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Leisure accommodation vehicles — Oil-fired heating systems

0 Introduction

This International Standard is one of a series that is being published for leisure accommodation vehicles as habitations.

1 Scope and field of application

This International Standard lays down requirements for installing oil-fired heating systems in leisure accommodation vehicles, with reference to safety. It applies to installations using oil fuels as defined in ISO 7418.

2 References

ISO 3768, *Metallic coatings — Neutral salt spray test (NSS test)*.

ISO 7418, *Leisure accommodation vehicles — Vocabulary* 1)

ISO 7419, *Leisure accommodation vehicles — Ventilation requirements*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 7418 shall apply.

4 Oil tanks

4.1 Locations

The tanks, if separate from the heating appliances, shall be located so as to permit filling and draining from outside, and shall be placed in a fuel storage compartment or fuel storage housing. This compartment or housing shall be ventilated to the outside of the leisure accommodation vehicle and an opening shall be provided at the bottom to permit the drainage of any liquid to the outside of the leisure accommodation vehicle.

4.2 Stopcock

A stopcock shall be provided at the outlet of each tank. It shall be readily accessible.

4.3 Capacity

The capacity of the tank to the installation shall not exceed 50 L for caravans and motor caravans, nor 200 L for leisure homes.

4.4 Provision for motor caravans

Where the type of fuel is suitable for both vehicle propulsion and the heating installation, it shall be permissible for a motor caravan to draw the oil supply for the heating installation from the vehicle fuel tank.

5 Installation of the system and heating appliances

5.1 General

The installation shall be carried out in accordance with the instructions of the manufacturers of the equipment and appliances, taking account of the ventilation requirements laid down in ISO 7419.

5.2 Products of combustion

All heating appliances shall be installed in such a way that the products of combustion shall be ducted to the outside of the leisure accommodation vehicle. They shall be sealed so that fumes resulting from combustion shall not escape into the interior of the leisure accommodation vehicle.

5.3 Air intake

An air intake shall be installed so that the combustion air supply comes from outside the leisure accommodation vehicle. Except for room-sealed appliances, a fresh air inlet or inlets shall be provided having a total effective free area of 1 000 mm²/kW of nominal output of the appliance. This shall be in addition to the total effective free area of ventilation required by ISO 7419.

5.4 Accessibility

Every appliance shall be accessible for inspection, service, repair or replacement.

1) At present at the stage of draft.

5.5 Leakage

Provision shall be made to ensure that, in the case of leakage, no fuel shall be dispersed inside the leisure accommodation vehicle, whether the tank is integral with an appliance or not.

6 Fuel pipes

6.1 General

The bore of piping shall not be restricted either through bending or cutting.

6.2 Materials

Pipework shall be of seam-welded steel or of seamless steel, stainless steel or copper.

6.3 Corrosion protection

Steel pipe shall show no external sign of corrosion after being submitted to a neutral salt spray test for 48 h in accordance with the methods laid down in ISO 3768.

6.4 Joints

Connections shall be made by flat union joints and shall be sealed with petroleum-resisting compound. Soft soldered joints shall not be used. Joints shall be accessible and secured so that they are not affected by vibration.

6.5 Protection

Pipework shall be protected against mechanical damage, either by its location or by grommets or other means, where necessary.

7 Flues

7.1 Flue pipes

Flue pipes shall be sealed to prevent the products of combustion entering the leisure accommodation vehicle and shall be constructed of non-combustible material, which shall be compatible with the characteristics of the appliance. They shall remain firmly in position when the leisure accommodation vehicle is in motion.

7.2 Weather protection

Where a flue pipe passes through a wall or roof, measures shall be taken to prevent ingress of rain. The flue terminal shall be fitted with a weather cap, so designed as not to obstruct the emission of flue gases.

7.3 Draught diverters and dampers

When a draught diverter is fitted, it shall be integral with an appliance or immediately adjacent to it. No additional draught diverter nor damper that restricts the area of a flue shall be fitted.

7.4 Accessibility of flues

Means shall be provided to allow periodic inspection of the whole of the circumference and length of uninsulated flue pipes or the flue ends and attachments and the whole of the outside of the insulating sleeve of insulated flue pipes. Panels or structure shall be removable by means of a simple tool such as a screwdriver. It shall be permissible to carry out an inspection by the use of a hand-held mirror or by feel as an acceptable alternative to direct visual inspection.

8 Fire valve

A thermally operated fire valve shall be fitted as an integral part of the installation to shut off the fuel supply should overheating occur.

9 Operating instructions

With each new leisure accommodation vehicle, the manufacturer shall provide instructions for the correct operation and maintenance of the system, which shall be included as part of the Users' Handbook. These instructions shall clearly state the type of fuel for which the system has been designed and, where applicable, whether the system is suitable for use while the leisure accommodation vehicle is in motion.

10 Heat-generating appliances and equipment

All appliances shall be securely fixed and no directly accessible part of any heat-generating appliance or equipment shall reach a temperature of more than 150 °C at the rated output of the appliance. Curtains shall not be nearer than 300 mm to an open flame of any appliance.

NOTE — Provision should be made to protect any combustible material adjacent to any heat-generating appliance, and any flue or forced air duct, which might otherwise attain a temperature of 65 °C.

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