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Cylinders for permanent gases — Inspection at time of filling

iTeh STANDARD PREVIEW
Bouteilles pour gaz permanents — Contrôle au moment du remplissage
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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.

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.

International Standard ISO 10463 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Sub-Committee SC 4, *Operational requirements for gas cylinders*.

Annex A of this International Standard is for information only.

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Introduction

Transportable gas cylinders require filling inspections in order to establish that:

- the cylinder has no serious defects;
- the cylinder can be identified and complies with the relevant requirements with regard to marking, colour coding and completeness of its accessories;
- the cylinder valve functions satisfactorily.

A cylinder filling inspection is not a measure of quality control but should, however, be assigned to persons who are competent in the subject and can assure that a cylinder is safe for continued use.

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Cylinders for permanent gases — Inspection at time of filling

1 Scope

This International Standard specifies minimum requirements for filling inspections of transportable gas cylinders. These requirements reflect current practice and experience.

This International Standard applies to cylinders of water capacity from 0,5 l to 150 l for the transportation of permanent gases under pressure.

This International Standard does not deal with manifolded bundles or manifolded trailer cylinders, nor does it deal with inspecting or testing for internal contamination.

- identification of cylinder;
- establishment of valve integrity and its suitability;
- establishment of integrity of neck ring/threaded boss;
- verification of correct filling pressure.

4.1 Establishment of serviceable condition

It shall be established that each cylinder is in a serviceable condition.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 10286:1992, *Gas cylinders — Terminology*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 10286 apply.

4 Filling inspection

Each cylinder shall be submitted to inspection prior to, during and immediately after filling. The following items shall be covered by a filling inspection:

- establishment of serviceable condition;

4.1.1 Individual cylinder

Before a cylinder is taken to the filling rack it shall be established that the cylinder is reasonably clean, reasonably free of foreign material, and does not exhibit any serious defects such as arc burns, severe corrosion, heat/fire damage, or significant mechanical damage. In the case of steel cylinders a ring/hammer test, or equivalent, may be performed.

4.1.2 Palletized cylinders

A pallet (a device for handling several cylinders at a time) shall be submitted for filling without unloading the cylinders only if either:

- a) it displays a notice warning the user to place in the pallet only cylinders which are in serviceable condition (see 3.1);

or

- b) a written procedure exists within the filling company and its representatives stating that a defective cylinder may only be transported either with a visible warning attached to the cylinder valve or in a separate pallet designated for defective cylinders.

4.2 Identification of cylinder

4.2.1 Before filling a cylinder, it shall be identified that

- the cylinder is permitted to be filled in the country of the filling station;
- the cylinder is suitable for the intended gas content and filling pressure;
- the content indicated on the cylinder corresponds with the colour of the cylinder shoulder paint and with any attached labels (any disagreement between content indicators and colour must be rectified prior to filling).

A list of information which may appear on the cylinder is given in annex A.

4.2.2 If required, before filling, the identity of the cylinder's owner should be established and his authorization to fill the cylinder obtained.

4.3 Establishment of valve integrity and suitability

4.3.1 Before filling a cylinder, it shall be established that the installed valve is suitable for the intended gas and is in a satisfactory condition, i.e.:

- is free from contaminants;
- is easy to operate;
- exhibits undamaged outlet threads and body;

- exhibits undamaged pressure relief device, if required;
- its handwheel, or key-operated spindle, is essentially undamaged and properly fixed;
- attaches correctly to the filling connector.

4.3.2 During the filling cycle of a cylinder, the filler shall determine:

- that the valve is not obstructed and that the operation is progressing satisfactorily;
- that the valve does not leak when in the open position; if leakage is suspected, check, for example, at the bonnet or gland nut packing.

4.3.3 After filling a cylinder, the filler shall ensure that the valve does not leak when in the closed position. If leakage is suspected, the seat shall be checked for leakage at the valve outlet. The interface between the valve and the cylinder shall also be checked for leakage.

4.4 Establishment of integrity of neck ring/threaded boss

Before filling a cylinder, it shall be established that the neck ring/threaded boss is fit for the intended purpose and that the neck ring, if one exists, is not loose. If there is a permanent valve guard, it shall be checked to ensure that it is properly attached.

4.5 Verification of correct filling pressure

The filler shall ensure that the filling pressure is consistent with the intended working pressure.

Annex A (informative)

Data which may appear on cylinder shell

A.1 Identification data

- sign of identification for type approval;
- manufacturer's mark/serial number;
- date of manufacture;
- inspection mark of authorized testing organization;
- owner's name/serial number;
- size/capacity;
- test pressure.

A.2 Filling data

- identification of gas or group of gases;
- working pressure.

A.3 Inspection data

- day/month/quarter and year of initial test;
- day/month/quarter and year of last and/or next retest.

A.4 Other data

- yield stress/ultimate tensile strength;
- identification letter of heat treatment;
- material identification;

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— water capacity;

— gas volume;

— tare weight;

— empty mass.

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