

INTERNATIONAL STANDARD

**ISO
5772**

First edition
1998-12-15

Rubber hoses and hose assemblies for measured fuel dispensing — Specification

*Tuyaux et flexibles en caoutchouc pour distribution mesurée de carburants —
Spécification*



Reference number
ISO 5772:1998(E)

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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 5772 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

It cancels and replaces ISO 5772-1:1988, which has been technically revised.

Annexes A and B form an integral part of this International Standard.

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Rubber hoses and hose assemblies for measured fuel dispensing — Specification

1 Scope

This International Standard specifies the requirements for three types of rubber hose and hose assembly used for measured fuel dispensing, including oxygenated fuels (up to a maximum of 15 % oxygenated compounds).

The three types of hose are as follows:

- a) type 1: hoses with textile reinforcement suitable for reeling on a drum or hanging in bends;
- b) type 2: hoses with textile and helical wire reinforcement designed for torsional flexibility, suitable for coiling, reeling on a drum or hanging in bends;
- c) type 3: hoses with fine wire reinforcement designed for low dilation, suitable for reeling on a drum or hanging in bends.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were 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 editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 37:1994, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties.*

ISO 188:1998, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat-resistance tests.*

ISO 1307:1992, *Rubber and plastics hoses for general-purpose industrial applications — Bore diameters and tolerances, and tolerances on length.*

ISO 1402:1994, *Rubber and plastics hoses and hose assemblies — Hydrostatic testing.*

ISO 1746:1998, *Rubber or plastics hoses and tubing — Bending tests.*

ISO 1817:—¹⁾, *Rubber, vulcanized — Determination of the effect of liquids.*

ISO 4649:1985, *Rubber — Determination of abrasion resistance using a rotating cylindrical drum device.*

ISO 4672:1997, *Rubber and plastics hoses — Sub-ambient temperature flexibility tests.*

1) To be published. (Revision of ISO 1817:1985)

ISO 6801:1983, *Rubber or plastics hoses — Determination of volumetric expansion.*

ISO 7326:1991, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions.*

ISO 8031:1993, *Rubber and plastics hoses and hose assemblies — Determination of electrical resistance.*

ISO 8033:1991, *Rubber and plastics hose — Determination of adhesion between components.*

3 Materials and construction

The hose shall consist of the following:

- a smooth, fuel-resistant lining of rubber or thermoplastic elastomer (TPE);
- a suitable reinforcement;
- a non-corrugated, fuel- and weather-resistant rubber or TPE cover.

Coupled hose assemblies shall be capable of conducting an electrical charge from coupling to coupling.

When this capability is provided by means of metallic wires, not less than two (crossed) metallic bonding wires shall be embedded in the hose, and the metal used shall have a high resistance to fatigue, work hardening and corrosion.

Hoses with metallic wires for electrical conductivity shall be designated "M" and those using conductive compounds shall be designated "Ω", the relevant mark being branded on the hose (see clause 9).

NOTE Non-reusable corrosion-resistant couplings should preferably be used for this application.

4 Pressure requirements

For all types of hose, the following shall apply:

- maximum working pressure 1,2 MPa (12 bar)
- proof pressure 2,4 MPa (24 bar)
- minimum bursting pressure 4,8 MPa (48 bar)

5 Dimensions and tolerances

5.1 Internal diameter

The internal diameter of the hose shall comply with the dimensions given in table 1.

5.2 Minimum thickness of lining and cover

The thickness of the lining shall be not less than 1,6 mm.

The thickness of the cover shall be not less than 1,0 mm.

5.3 Cut lengths

For cut lengths, the tolerances on length shall comply with ISO 1307.