
**Rubber hoses and hose assemblies
for water suction and discharge —
Specification**

*Tuyaux et flexibles en caoutchouc pour aspiration et refoulement
d'eau — Spécifications*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Rubber and plastics hoses and hose assemblies*.

This fifth edition cancels and replaces the fourth edition (ISO 4641:2010), of which it constitutes a minor revision with the following changes:

- [Clause 2](#) has been updated, where ISO 1746 and ISO 4672 have been deleted and replaced by ISO 10619-1 and ISO 10619-2, respectively;
- tolerance dimension “in mm” has been added to [7.1](#);
- the text of [8.2.3](#), [8.2.5](#), [10.1](#) and [10.2](#) has been slightly modified to bring the references up to date;
- [Table 4](#) has been slightly modified to bring the references up to date;
- Bibliography has been updated as ISO 10619-1 and ISO 10619-2 are now published and listed in [Clause 2](#).
- the text has been editorially revised to comply with the most recent editing rules.

Rubber hoses and hose assemblies for water suction and discharge — Specification

1 Scope

This document specifies the minimum requirements for textile-reinforced, smooth-bore rubber water-suction and discharge hoses and hose assemblies.

Three types of hoses and hose assemblies are specified according to their operating duty requirements, i.e. their ambient and water temperature ranges:

- ambient temperatures: $-25\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$;
- water temperatures during operation: $0\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1307:2006, *Rubber and plastics hoses — Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses*

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

ISO 2393, *Rubber test mixes — Preparation, mixing and vulcanization — Equipment and procedures*

ISO 4671, *Rubber and plastics hoses and hose assemblies — Methods of measurement of the dimensions of hoses and the lengths of hose assemblies*

ISO 7233:2016, *Rubber and plastics hoses and hose assemblies — Determination of resistance to vacuum*

ISO 7326:2016, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

ISO 8033, *Rubber and plastics hoses — Determination of adhesion between components*

ISO 8331, *Rubber and plastics hoses and hose assemblies — Guidelines for selection, storage, use and maintenance*

ISO 10619-1, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature*

ISO 10619-2:2011, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 2: Bending tests at sub-ambient temperatures*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8330 apply.