



**International  
Standard**

**ISO 2398**

**Rubber hoses, textile-reinforced, for  
compressed air — Specification**

*Tuyaux en caoutchouc renforcés textile pour l'air comprimé —  
Spécifications*

**Seventh edition  
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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 document 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](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Rubber and plastics hoses and hose assemblies*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 218, *Rubber and plastics hoses and hose assemblies*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This seventh edition cancels and replaces the sixth edition (ISO 2398:2016), which has been technically revised.

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The main changes are as follows:

- [Table A.1](#), test requirements have been revised;
- Annex B has been deleted.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Rubber hoses, textile-reinforced, for compressed air — Specification

**WARNING** — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate health and safety practices.

## 1 Scope

This document specifies the requirements for three types, three classes and two categories of textile-reinforced rubber hose for compressed air, up to a maximum working pressure of 2,5 MPa (25 bar) with an operating-temperature range of  $-40\text{ °C}$  to  $+70\text{ °C}$ , depending on the type and category.

## 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, *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 1817, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

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

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

ISO 8330, *Rubber and plastics hoses and hose assemblies — Vocabulary*

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

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

ISO 10619-2, *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.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

## 4 Classification

Hoses are designated as one of the following types, depending on their pressure rating.

- Type 1:** Low pressure — designed for a maximum working pressure of 1 MPa (10 bar);
- Type 2:** Medium pressure — designed for a maximum working pressure of 1,6 MPa (16 bar);
- Type 3:** High pressure — designed for a maximum working pressure of 2,5 MPa (25 bar).

These types can be subdivided into three classes depending on their oil resistance.

- Class A:** Non-oil-resistant;
- Class B:** Normal oil resistance;
- Class C:** Good oil resistance.

The types and classes above can also be further subdivided into two categories, depending on their operating-temperature range.

- Category N-T** (normal temperature): -25 °C to +70 °C;
- Category L-T** (low temperature): -40 °C to +70 °C.

## 5 Materials and construction

The hose shall consist of:

- a rubber lining;
- a reinforcement of natural or synthetic textile, applied by any suitable technique; and
- a rubber cover.

The lining and cover shall be of uniform thickness, concentric to comply with the minimum thickness specified, and free from holes, porosity and other defects. The cover finish may be smooth or fabric-marked.

## 6 Dimensions

### 6.1 Inside diameters and tolerances

When measured in accordance with ISO 4671, the inside diameters and their tolerances shall conform to the values specified in [Table 1](#).

**Table 1 — Minimum and maximum inside diameters**

Hose size	Minimum inside diameter mm	Maximum inside diameter mm
4	3,25	4,75
5	4,25	5,75
6,3	5,55	7,05
8	7,25	8,75
10	9,25	10,75
12,5	11,75	13,25
16	15,25	16,75