INTERNATIONAL STANDARD

ISO 2398

Sixth edition
2016-11-01

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

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

Reference number
ISO 2398:2016(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 sixth edition cancels and replaces the fifth edition (ISO 2398:2006), which has been technically revised with the following main changes.

— Clause 2 has been updated: ISO 1746 and ISO 4672 have been deleted and replaced by ISO 10619-1 and ISO 10619-2. ISO 7326:1991 has been replaced by ISO 7326:2006.

— New clauses (Clause 8, Clause 9 and Clause 10) describing frequency of testing, routine tests, type tests and production acceptance tests have been added.

— Clause 8 has been renumbered as Clause 11; a), b), f) and the example have been amended.

— Annex A and Annex B have been introduced in accordance with ISO/TC 45/SC 1 Guide 976 — Rev 7:2013.

— Clause 10, describing a test report or certificate supplied on request of the purchaser, has been added.

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 and to ensure compliance with any national regulatory conditions.

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 25 bar with an operating-temperature range of −40 °C to +70 °C, depending on the type and category.

NOTE 1 bar = 0,1 MPa.

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 1817:2015, *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 7326:2006, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

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 10619-2:2011, *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.

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

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.