
**Rubber hoses and hose assemblies —
Compact wire-braid-reinforced
hydraulic types for oil-based or water-
based fluids — Specification**

*Tuyaux et flexibles en caoutchouc — Types hydrauliques compacts
avec armature de fils métalliques tressés pour fluides à base d'huile
ou à base d'eau — Spécifications*

Sample Document

get full document from standards.iteh.ai



Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification	2
5 Materials and construction	2
5.1 Hoses	2
5.2 Hose assemblies	2
6 Dimensions	2
6.1 Hose diameters and cover thickness	2
6.2 Concentricity	3
6.3 Hose cover thickness	3
7 Performance requirements	3
7.1 General	3
7.2 Change in length requirements	4
7.3 Hydrostatic requirements	4
7.4 Minimum bend radius	5
7.5 Resistance to impulse	5
7.5.1 Oil-based fluid impulse test	5
7.5.2 Water-based fluid impulse test	6
7.5.3 Optional impulse test	6
7.6 Leakage of hose assemblies	6
7.7 Cold flexibility	6
7.8 Adhesion between components	6
7.9 Vacuum resistance	7
7.10 Fluid resistance	7
7.10.1 General	7
7.10.2 Oil resistance	7
7.10.3 Water resistance	7
7.11 Ozone resistance	7
7.12 Visual examination	8
8 Marking	8
8.1 Hoses	8
8.2 Hose assemblies	8
9 Recommendations for length of supplied hoses and tolerances on lengths of hose assemblies	8
Annex A (normative) Type and routine testing of production hoses	9
Annex B (informative) Periodic testing of production hoses	10
Annex C (informative) Recommendations for lengths of supplied hoses and length tolerances for hose assemblies	11

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 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 the following URL: 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*.

This second edition cancels and replaces the first edition (ISO 11237:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Clause 1](#) has been updated to be more precise;
- [Clause 2](#) has been updated: ISO 4672 has been deleted and replaced by ISO 10619-2 and ISO 10619-1 has been added;
- [8.1](#) has been amended, year of publication of a standard shall be included in the marking if previous edition is used;
- [Clause 9](#) has been added to cite [Annex C](#).

Rubber hoses and hose assemblies — Compact wire-braid-reinforced hydraulic types for oil-based or water-based fluids — Specification

1 Scope

This document specifies requirements for five types of compact, wire-braid-reinforced hose and hose assembly of nominal size from 5 to 31,5.

They are suitable for use with

- oil-based hydraulic fluids HH, HL, HM, HR and HV as defined in ISO 6743-4 at temperatures ranging from $-40\text{ }^{\circ}\text{C}$ to $+100\text{ }^{\circ}\text{C}$;
- water-based fluids HFC, HFAE, HFAS and HFB as defined in ISO 6743-4 at temperatures ranging from $0\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$;
- water at temperatures ranging from $0\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$.

This document does not include requirements for end fittings. It is limited to requirements for hoses and hose assemblies.

NOTE It is the responsibility of the user, in consultation with the hose manufacturer, to establish the compatibility of the hose with the fluid to be used.

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 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 6605, *Hydraulic fluid power — Hoses and hose assemblies — Test methods*

ISO 6743-4, *Lubricants, industrial oils and related products (class L) — Classification — Part 4: Family H (Hydraulic systems)*

ISO 6803, *Rubber or plastics hoses and hose assemblies — Hydraulic-pressure impulse test without flexing*

ISO 7233, *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 8033:2016, *Rubber and plastics hoses — Determination of adhesion between components*

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