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

*Tuyaux et flexibles en caoutchouc — Types hydrauliques avec
armature hélicoïdale de fils métalliques pour fluides à base d'huile ou
à base 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).

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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.

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 fifth edition cancels and replaces the fourth edition (ISO 3862:2017), which has been technically revised.

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

- in [Clause 1](#), the temperature of water and water-based fluids has been increased from +60 °C to +70 °C;
- in [6.1](#), definitions of [Table 1](#), [Table 2](#), [Table 3](#) and [Table 4](#) have been updated;
- [Table 1](#) has been split into [Table 1](#), [Table 2](#) and [Table 3](#); subsequent tables and references have been renumbered;
- dimensions in [Table 1](#), [Table 2](#) and [Table 3](#) have been updated;
- in [Table 5](#), [Table 6](#) and [Table 7](#), maximum working pressure, proof pressure and minimum burst pressure have been updated;
- in [7.4.2](#) and [7.9.3](#), the temperature of water and water-based fluids has been increased from +60 °C to +70 °C;
- in [Clause 9](#), some of the marking requirements have been revised.

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.

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

1 Scope

This document specifies requirements for five types of spiral-wire-reinforced hydraulic hoses and hose assemblies of nominal size from 6,3 to 51.

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 °C to $+100\text{ °C}$ for types 4SP and 4SH hoses and from -40 °C to $+120\text{ °C}$ for types R12, R13 and R15 hoses;
- water-based fluids HFC, HFAE, HFAS and HFB as defined in ISO 6743-4 at temperatures ranging from -40 °C to $+70\text{ °C}$;
- water at temperatures ranging from 0 °C to $+70\text{ °C}$.

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 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 — Test methods for hoses and hose assemblies*

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 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*

ISO 10619-1:2017, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature*