
**Plastics hoses and hose assemblies —
Textile-reinforced types for hydraulic
applications — Specification**

*Tuyaux et flexibles en plastique — Types hydrauliques avec armature
textile — 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.

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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 fifth edition cancels and replaces the fourth edition (ISO 3949:2009), 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;
- Requirements for type R8, hose nominal size 8 have been added in [Tables 1, 3, 4](#) and [5](#);
- Reference to method A1 of ISO 10619-1:2017, has been added in [7.3](#);
- Additional requirement for marking of hoses has been added in [10.1](#);
- Reference to ISO 17165-1 has been made in [10.2](#).

Plastics hoses and hose assemblies — Textile-reinforced types for hydraulic applications — Specification

1 Scope

This document specifies requirements for three types of textile-reinforced thermoplastics hose and hose assembly of nominal size from 3,2 to 25. Each type is divided into two classes dependent on electrical conductivity requirements.

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 $+93\text{ }^{\circ}\text{C}$;
- 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 the performance of 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 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 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*

ISO 10619-2:2017, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 2: Bending tests at sub-ambient temperatures*

ISO 17165-1, *Hydraulic fluid power — Hose assemblies — Part 1: Dimensions and requirements*