
**Rubber hoses and hose assemblies —
Wire-braid-reinforced hydraulic types —
Specification —**

**Part 2:
Water-based fluid applications**

*Tuyaux et flexibles en caoutchouc — Types hydrauliques avec
armature de fils métalliques tressés — Spécifications —*

Partie 2: Applications pour fluide à base d'eau



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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Classification	2
4 Materials and construction	2
4.1 Hoses	2
4.2 Hose assemblies	2
5 Dimensions	2
5.1 Hose diameters, cover thickness and hose concentricity	2
5.2 Length	4
6 Performance requirements	4
6.1 General	4
6.2 Hydrostatic requirements	4
6.3 Minimum bend radius	5
6.4 Resistance to impulse	6
6.5 Leakage of hose assemblies	6
6.6 Cold flexibility	6
6.7 Adhesion between components	6
6.8 Vacuum resistance	6
6.9 Abrasion resistance	7
6.10 Fluid resistance	7
6.11 Ozone resistance	7
7 Marking	8
7.1 Hoses	8
7.2 Hose assemblies	8
Annex A (normative) Type and routine testing of production hoses	9
Annex B (informative) Production acceptance testing	10
Annex C (informative) Recommendations for lengths of supplied hoses and tolerances on lengths of hose assemblies	11
Bibliography	12

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 1436-2 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

Together with Part 1 (see below), this part of ISO 1436 cancels and replaces ISO 1436:1991, which has been technically revised.

ISO 1436 consists of the following parts, under the general title *Rubber hoses and hose assemblies — Wire-braid-reinforced hydraulic types — Specification*:

- *Part 1: Oil-based fluid applications*
- *Part 2: Water-based fluid applications*

Rubber hoses and hose assemblies — Wire-braid-reinforced hydraulic types — Specification —

Part 2: Water-based fluid applications

1 Scope

This part of ISO 1436 specifies requirements for six types of wire-braid-reinforced hose and hose assembly of nominal size from 5 to 51. They are suitable for use with water-based hydraulic fluids HFC, HFAE, HFAS and HFB as defined in ISO 6743-4 at temperatures ranging from $-40\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$.

This part of ISO 1436 does not include requirements for end fittings. It is limited to requirements for 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 referenced documents are indispensable for the application 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 1436-1, *Rubber hoses and hose assemblies — Wire-braid-reinforced hydraulic types — Specification — Part 1: Oil-based fluid applications*

ISO 1817, *Rubber, vulcanized — Determination of the effect of liquids*

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

ISO 4672:1997, *Rubber and plastics hoses — Sub-ambient temperature flexibility tests*

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

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

ISO 6945, *Rubber hoses — Determination of abrasion resistance of the outer cover*

ISO 7233, *Rubber and plastics hoses and hose assemblies — Determination of suction resistance*

ISO 7326:1991, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

ISO 8033:1991, *Rubber and plastics hose — Determination of adhesion between components*

3 Classification

Six types of hose are specified, distinguished by their construction, working pressure and oil resistance:

- Type 1ST: hoses with a single braid of wire reinforcement and having a thick cover.
- Type 2ST: hoses with two braids of wire reinforcement and having a thick cover.
- Types 1SN and R1AT: hoses with a single braid of wire reinforcement and having a thin cover.
- Types 2SN and R2AT: hoses with two braids of wire reinforcement and having a thin cover.

NOTE Types 1SN and R1AT and types 2SN and R2AT have the same reinforcement dimensions as type 1ST and type 2ST, respectively, except that they have thinner covers designed to assemble with fittings without removal of the cover or a portion of the cover.

4 Materials and construction

4.1 Hoses

Hoses shall consist of a rubber lining resistant to water-based hydraulic fluids, one or two layers of high-tensile steel wire and a weather- and oil-resistant rubber cover.

4.2 Hose assemblies

Hose assemblies shall be manufactured using hoses conforming to the requirements of this part of ISO 1436.

Hose assemblies shall be manufactured only with those hose fittings whose correct functioning has been verified in accordance with Subclauses 6.2, 6.4, 6.5 and 6.6 of this part of ISO 1436. The manufacturer's instructions shall be followed for the preparation and fabrication of hose assemblies.

5 Dimensions

5.1 Hose diameters, cover thickness and hose concentricity

When measured in accordance with ISO 4671, the hose diameters and the cover thickness (where appropriate) shall conform to the values given in Table 1.

When measured in accordance with ISO 4671, the concentricity of hoses shall conform to the values given in Table 2.