SLOVENSKI STANDARD
SIST ISO 4079:2015

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Gumene cevi in cevni priključki – S tekstilom ojačene hidravlične cevi za tekočine na oljni ali vodni osnovi – Specifikacija

Rubber hoses and hose assemblies - Textile-reinforced hydraulic types for oil-based or water-based fluids - Specification

Tuyaux et flexibles en caoutchouc - Types hydrauliques avec armature de textile pour fluides à base d'huile ou à base d'eau - Spécifications

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INTERNATIONAL STANDARD

ISO 4079

Third edition
2009-05-01

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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.

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 4079 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This third edition of ISO 4079 cancels and replaces ISO 4079-1:2001 and ISO 4079-2:2005, which have been technically revised and combined in a single document. The main changes are as follows:

— pressures are now given in megapascals as the preferred unit;

— the requirement for an abrasion test has been deleted;

— ISO 4397 has been replaced by ISO 1307.

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

1 Scope

This International Standard specifies requirements for five types of textile-reinforced hydraulic hose and hose assembly of nominal size from 5 to 100. 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 °C to +60 °C or oil-based hydraulic fluids HH, HL, HM, HR and HV as defined in ISO 6743-4 at temperatures ranging from −40 °C to +100 °C.

This International Standard 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 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 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 — 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 4672:1997, *Rubber and plastics hoses — Sub-ambient temperature flexibility tests*[1)]

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*

1) Under revision as ISO 10619-2.

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

ISO 8033:2006, *Rubber and plastics hoses — Determination of adhesion between components*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8330 apply.

4 Classification

Five types of hose are specified, distinguished by their construction, working pressure and minimum bend radius:

— Type 1TE: hoses with a single braid of textile reinforcement.

— Type 2TE: hoses with one or more braid(s) of textile reinforcement.

— Type 3TE: hoses with one or more braid(s) of textile reinforcement (higher working pressure).

— Type R3: hoses with two braids of textile reinforcement.

— Type R6: hoses with a single braid of textile reinforcement.

NOTE Type 1TE is not subjected to the impulse or vacuum resistance tests. Type R3 is not subjected to the vacuum resistance test. Type R6 is not subjected to the impulse or vacuum resistance tests.

5 Materials and construction

5.1 Hoses

Hoses shall consist of a rubber lining that is resistant to water- and oil-based hydraulic fluids, one or more layers of suitable textile yarn and a weather- and oil-resistant rubber cover.

Hoses shall be designed to enable end fittings to be assembled without removal of the cover.

5.2 Hose assemblies

Hose assemblies shall be manufactured only with those hose fittings whose functionality has been verified in accordance with Subclauses 7.2, 7.4, 7.5 and 7.6 of this International Standard. The manufacturer's instructions shall be followed for the preparation and fabrication of hose assemblies.

6 Dimensions

6.1 Hose diameters and hose concentricity

When measured in accordance with ISO 4671, the inside and outside diameters of hoses 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.

Table 1 — Dimensions of hoses

Nominal size[a]	Inside diameter mm						Outside diameter mm									
	Types 1TE, 2TE, 3TE[b]		Type R6		Type R3		Type 1TE		Type 2TE		Type 3TE		Type R6		Type R3	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
5	4,4	5,2	4,2	5,4	4,5	5,4	10,0	11,6	11,0	12,6	12,0	13,6	10,3	11,9	11,9	13,5
6,3	5,9	6,9	5,6	7,2	6,1	7,0	11,6	13,2	12,6	14,2	13,6	15,2	11,9	13,5	13,5	15,1
8	7,4	8,4	7,2	8,8	7,6	8,5	13,1	14,7	14,1	15,7	16,1	17,7	13,5	15,1	16,7	18,3
10	9,0	10,0	8,7	10,3	9,2	10,1	14,7	16,3	15,7	17,3	17,7	19,3	15,1	16,7	18,3	19,8
12,5	12,1	13,3	11,9	13,5	12,4	13,5	17,7	19,7	18,7	20,7	20,7	22,7	19,0	20,6	23,0	24,6
16	15,3	16,5	15,1	16,7	15,6	16,7	21,9	23,9	22,9	24,9	24,9	26,9	22,2	23,8	26,2	27,8
19	18,2	19,8	18,3	19,9	18,7	19,8	—	—	26,0	28,0	28,0	30,0	25,4	27,8	31,0	32,5
25	24,6	26,2	—	—	25,1	26,2	—	—	32,9	35,9	34,4	37,4	—	—	36,9	39,3
31,5	30,8	32,8	—	—	31,4	32,9	—	—	—	—	40,8	43,8	—	—	42,9	46,0
38	37,1	39,1	—	—	—	—	—	—	—	—	47,6	51,6	—	—	—	—
51	49,8	51,8	—	—	—	—	—	—	—	—	60,3	64,3	—	—	—	—
60	58,8	61,2	—	—	—	—	—	—	—	—	70,0	74,0	—	—	—	—
80	78,8	81,2	—	—	—	—	—	—	—	—	91,5	96,5	—	—	—	—
100	98,6	101,4	—	—	—	—	—	—	—	—	113,5	118,5	—	—	—	—

[a] The nominal sizes correspond to those given in ISO 1307.

[b] Inside dimensions apply to type 3TE only for nominal sizes larger than 25.