SLOVENSKI STANDARD
SIST ISO 4079:2020

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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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23.100.40	Cevna napeljava in sklopke	Piping and couplings
83.140.40	Gumene cevi	Hoses

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INTERNATIONAL STANDARD

ISO 4079

Fifth edition
2017-07

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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).

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 fifth edition cancels and replaces the fourth edition (ISO 4079:2015), 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 revised: year of publication of a standard shall be included in the marking if previous edition is used.

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

1 Scope

This document 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:

— 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;

— water-based fluids HFC, HFAE, HFAS and HFB as defined in ISO 6743-4 at temperatures ranging from 0 °C to +60 °C;

— water at temperatures ranging from 0 °C to +60 °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*

ISO 10619-1:2011, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature*

ISO 10619-2:2011, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 2: Bending tests at sub-ambient temperatures*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

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 test. Type R3 is not subjected to the vacuum resistance test. Type R6 is not subjected to the impulse or vacuum resistance test.

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 7.2, 7.4, 7.5 and 7.6. The manufacturer's instructions shall be followed for the preparation and fabrication of hose assemblies.

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.