



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 14557:2020**  
**01-april-2020**

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**Gasilske cevi - Gumene in plastične sesalne cevi in cevni priključki (ISO/DIS 14557:2020)**

Fire-fighting hoses - Rubber and plastics suction hoses and hose assemblies (ISO/DIS 14557:2020)

Feuerlöschschläuche - Saugschläuche aus Gummi und Kunststoff (ISO/DIS 14557:2020)

**iTeh STANDARD PREVIEW**

Tuyaux de lutte contre l'incendie - Tuyaux d'aspiration et flexibles en caoutchouc et en plastique (ISO/DIS 14557:2020)

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**ICS:**

13.220.10	Gašenje požara	Fire-fighting
23.040.70	Gumene cevi in armature	Hoses and hose assemblies

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# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 14557

ISO/TC 45/SC 1

Secretariat: DIN

Voting begins on:  
2020-02-07Voting terminates on:  
2020-05-01

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## Fire-fighting hoses — Rubber and plastics suction hoses and hose assemblies

*Tuyaux de lutte contre l'incendie — Tuyaux d'aspiration et flexibles en caoutchouc et en plastique*

ICS: 83.140.40; 13.220.10

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ISO/DIS 14557:2020(E)

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Published in Switzerland

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## ISO/DIS 14557:2020(E)

## 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](http://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](http://www.iso.org/patents)).

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This document was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 14557:2002), which has been technically revised. The main changes compared to the previous edition are as follows:

- The document was reformatted and includes the changes in ISO 14557 Amendment 1 of 2007.
- Pressure units in bar were added throughout the document, as needed.
- [Clause 2](#) (Normative references) were updated.
- [Clause 6.6](#) (UV-resistance) requirement comment was added.
- [Clause 7](#) (Frequency of testing) was added and all following clause numbers were updated.
- [Annex A](#) (Test frequency for type tests and routine testes) and [Annex B](#) (Production acceptance tests) were added and all other annex numbers were updated.

## Introduction

This document specifies fire service suction hoses for fire-fighting. It can also be used manually to supply unpressurized water to the pump or for water discharge.

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# Fire-fighting hoses — Rubber and plastics suction hoses and hose assemblies

## 1 Scope

This document gives requirements and test methods for rubber and plastics suction hoses for fire-fighting purposes.

NOTE 1 All pressures are expressed in megapascals and in bar. 1 MPa = 10 bar.

Additional requirements are specified for hose assemblies, that is, hoses with couplings already fitted, where this is carried out by the hose manufacturer (see [clause 8](#)).

Type A (Rubber) hoses are intended for use at a minimum temperature of -20 °C and Type B (Thermoplastics) hoses are intended for use at a minimum temperature of -10 °C.

NOTE 2 Hoses for use at temperatures lower than those specified above can be supplied by agreement between the manufacturer and purchaser. In this case, the low temperature flexibility test (see [6.3](#)) should be carried out at the specified temperature.

## 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 176:2005, *Plastics — Determination of loss of plasticizers — Activated carbon method*

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

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, *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*

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

ISO 30013:2011, *Rubber and plastics hoses — Methods of exposure to laboratory light sources — Determination of changes in colour, appearance and other physical properties*

## 3 Terms and definitions

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

## ISO/DIS 14557:2020(E)

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

## 4 Classification

### 4.1 Type (hose construction)

Type A hoses shall consist of:

- a) a rubber lining uniform in thickness, reasonably concentric and free from holes, porosity and other defects;
- b) a textile reinforcement applied uniformly by any suitable method;
- c) an embedded wire helix or helices evenly and uniformly applied and made from metallic material that allows the hose to meet the specification requirements;
- d) a rubber cover, ozone resistant, uniform in quality and thickness and free from defects.

Type B hoses shall consist of a flexible, thermoplastics material supported in its mass by a helix of rigid polymeric material. The reinforcement and flexible components of the hose wall shall be fixed and free from cracks, porosity, foreign inclusions or other defects.

### 4.2 Hose ends

The hose ends shall be compatible with suction hose couplings conforming to the relevant national standards.

<https://standards.iteh.ai/catalog/standards/sist/8a322469-576f-4e59-ad71-ksist-prEN-ISO-14557:2021>

NOTE Where soft ends or wire-free ends are used for type A hoses, they should have an additional rubberized textile reinforcement applied as a cuff over the wire-free portion and the first turn of the embedded wire helix.

The hose ends should be capped or sealed to prevent ingress of water.

Specifying the dimensions of the soft or wire-free ends may be the subject of an agreement between the manufacturer and the purchaser.

## 5 Dimensions, tolerances and maximum mass

### 5.1 Inside diameter and maximum mass

The dimensions of the hose and tolerances, when measured in accordance with ISO 4671, shall conform to the requirements given in [Table 1](#). The mass per metre of length of the hose shall be in accordance with [Table 1](#).

**Table 1 — Inside diameter, tolerances on inside diameter and maximum mass per unit length**

Inside diameter mm	Tolerances for inside diameter mm	Maximum mass per unit length kg/m	
		Type A	Type B
45	-0,2 to +1,0	2,0	1,0
50	-0,2 to +1,0	2,3	1,6
52	-0,2 to +1,0	2,3	1,6
65	-0,2 to +1,5	3,2	2,0

Table 1 (continued)

Inside diameter mm	Tolerances for inside diameter mm	Maximum mass per unit length kg/m	
		Type A	Type B
70	-0,2 to +1,5	3,7	2,6
75	-0,2 to +1,5	4,1	3,0
76	-0,2 to +1,5	4,1	3,0
90	-0,2 to +1,5	6,0	4,0
100	-0,2 to +1,5	6,7	4,5
102	-0,2 to +1,5	6,7	4,5
110	-0,2 to +1,5	7,0	4,7
125	-0,5 to +2,0	7,8	5,0
140	-0,5 to +2,0	8,9	6,0
150	-0,5 to +2,0	11,0	8,0

## 5.2 Length and tolerance on length

The total length of hose supplied shall be in accordance with the purchaser's requirements and shall be stated in metres. Tolerances on length shall be in accordance with ISO 1307. Tolerances for fixed hose lengths shall be specified by agreement between the purchaser and the manufacturer.

## 6 Performance requirements of finished hose or hose assembly

### 6.1 Visual examination

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Check every finished hose for visual damage or defects, which are not allowed.

### 6.2 Hydrostatic requirements

NOTE The hydrostatic requirements given below are for suction hoses and unpressurized discharge hoses only. Hoses intended for use in pressurized discharge duties as well, require higher burst and proof pressures to be specified by agreement between the purchaser and the manufacturer.

#### 6.2.1 Deformation under proof pressure

When tested in accordance with ISO 1402 at temperatures and pressures shown in Table 2, the hose shall not burst or show any evidence of leakage, cracking, abrupt distortion or other signs of failure.

Table 2 — Proof pressure and minimum burst pressure

	Test temperature (23 ± 2) °C		Test temperature (55 ± 2) °C	
	Type A	Type B	Type A	Type B
<b>Proof pressure</b>	0,3 MPa (3 bar)	0,3 MPa (3 bar)	-	0,15 MPa (1,5 bar)
<b>Minimum burst pressure</b>	0,6 MPa (6 bar)	0,6 MPa (6 bar)	-	0,3 MPa (3 bar)