SLOVENSKI STANDARD
SIST EN 1947:2014

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Nadomešča:
SIST EN 1947:2003+A1:2007

Gasilske cevi - Poltoge tlačne cevi, vgrajene k črpalkam in v vozila

Fire-fighting hoses - Semi-rigid delivery hoses and hose assemblies for pumps and vehicles

Feuerlöschschläuche - Formstabile Druckschläuche und Einbände für Pumpen und Feuerwehrfahrzeuge

Tuyaux de lutte contre l'incendie - Tuyaux de refoulement semi-rigides et flexibles pour pompes et véhicules

Ta slovenski standard je istoveten z: **EN 1947:2014**

ICS:

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

SIST EN 1947:2014 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 13.220.10; 23.040.70

Supersedes EN 1947:2002+A1:2007

English Version

Fire-fighting hoses - Semi-rigid delivery hoses and hose assemblies for pumps and vehicles

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 1947:2014) has been prepared by Technical Committee CEN/TC 192 “Fire and Rescue Service Equipment”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2015 and conflicting national standards shall be withdrawn at the latest by January 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1947:2002+A1:2007.

This revised standard now references EN 15889:2011, *Fire-fighting hoses - Test methods,* which includes the test methods formerly in annexes within EN 1947.

Requirements for semi-rigid hoses for use with fixed systems are given in EN 694; those for non-percolating layflat hoses for fixed systems are given EN 14540.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

These semi-rigid delivery hoses are used by the fire service and incorporates those hoses used manually to control and extinguish fires.

The hose requires to be fitted with couplings to form a hose assembly which is fitted onto reels on fire fighting vehicles.

1 Scope

This European Standard specifies the requirements and test methods for semi-rigid hoses for use on fire-fighting vehicles and trailer pumps. The hoses are intended for use at a maximum working pressure of 1,5 MPa for normal pressure hoses (category I) and 4,0 MPa for high pressure hoses (category II). The hoses are further subdivided into types and classes (see Clause 4).

This European Standard applies to hoses for fire-fighting purposes intended for use at ambient conditions within the temperature range −20 °C to +60 °C.

NOTE 1 Hoses for use at ambient temperatures below −20 °C can be supplied if they have been tested at the specified lower temperature in accordance with 6.5 and identified by their marking in Clause 8 h).

Hoses conforming to this standard are intended for use with fire hose couplings conforming to the relevant national standards for couplings.'

Requirements are also given for hose assemblies (see Clause 9) where these are fitted by the hose manufacturer.

NOTE 2 All pressures are expressed in megapascals. 1 MPa = 10 bar.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15889:2011, *Fire-fighting hoses - Test methods*

EN ISO 176:2005, *Plastics - Determination of loss of plasticizers - Activated carbon method (ISO 176:2005)*

EN ISO 1307, *Rubber and plastics hoses - Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses (ISO 1307:2006)*

EN ISO 1402, *Rubber and plastics hoses and hose assemblies - Hydrostatic testing (ISO 1402:2009)*

EN ISO 4671:2007, *Rubber and plastics hoses and hose assemblies - Methods of measurement of the dimensions of hoses and the lengths of hose assemblies (ISO 4671:2007)*

EN ISO 7326:2008, *Rubber and plastics hoses - Assessment of ozone resistance under static conditions (ISO 7326:2006)*

EN ISO 8033, *Rubber and plastics hoses - Determination of adhesion between components (ISO 8033:2006)*

EN ISO 8330, *Rubber and plastics hoses and hose assemblies - Vocabulary (ISO 8330:2007)*

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

3 Terms and definitions

For the purposes of this document the following term and definition apply, together with those for working pressure, proof pressure and burst pressure given in EN ISO 8330.

3.1
semi-rigid hose
hose which maintains its round cross-section even when unpressurised

4 Classification

4.1 General

All types and classes of hose shall be so flexible that they can be rolled and kept on a drum of minimum diameter 200 mm for 12 mm inside diameter, 19 mm inside diameter and 25 mm inside diameter hose and of minimum diameter 280 mm for 33 mm inside diameter hose.

Hoses shall be one of two categories distinguished by the maximum working pressure. Each hose shall be further divided into one of three types distinguished by its construction, and then into six classes distinguished by the materials used for lining and cover.

NOTE The hose may be coloured by agreement between the purchaser and the manufacturer.

4.2 Classification by types (hose construction)

Type A hoses shall consist of:

a) a seamless rubber or plastics lining;

b) a textile spiral or braided reinforcement;

c) a rubber or plastics cover.

Type B hoses shall consist of:

d) a seamless rubber or plastics lining;

e) a circular woven textile reinforcement with a rigid spiral helix;

f) an uncovered or rubber or plastics cover.

Type C hoses shall consist of:

g) a seamless rubber or plastics lining;

h) any suitable reinforcement;

i) a rubber or plastics cover.

NOTE Whilst the construction of types A and C hoses may be similar or even identical, the performance requirements differ for the following: burst and proof pressure, adhesion, hot surface resistance, crush resistance.

4.3 Classification by class (materials for lining and cover)

The hose types shall be further subdivided into six classes dependent on the materials used in the construction in accordance with Table 1.

Table 1 — Classes and materials

Class	Lining material	Cover material
1	rubber	rubber
2	plastics	plastics
3	rubber	plastics
4	plastics	rubber
5	rubber	no cover
6	plastics	no cover

4.4 Classification by category

All hoses shall be divided into two categories dependent on the maximum working pressure in accordance with Table 2.

Table 2 — Maximum working pressure, proof pressure and minimum burst pressure

Pressure Mpa	Category I	Category II	
	Types A and B Classes 1 to 6	Types A and B Classes 1 to 6	Type C Classes 1 to 6
Maximum working pressure	1,5	4,0	4,0
Proof pressure	3,0	6,0	8,0
Minimum burst pressure	4,5	10,0	12,0

EXAMPLE: A type C hose, constructed using a rubber lining and rubber cover and which has a maximum working pressure of 4,0 MPa, a proof pressure of 8,0 MPa and a minimum burst pressure of 12,0 MPa is classified as II/C/1.

5 Dimensions, tolerances and maximum mass

5.1 Inside diameter and maximum mass

The inside diameter of the hose and tolerances, when measured in accordance with EN ISO 4671 using any suitable method stated in Clause 4 of that standard, shall conform to the requirements given in Table 3. The mass per metre length of the hose shall be in accordance with Table 3.