

**Kummist ja termoplastist voolikud ja voolikukomplektid
vedelate ja gaasiliste kemikaalide jaoks. Spetsifikaat**

Rubber and thermoplastics hoses and hose assemblies for
liquid or gaseous chemicals - Specification

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12115:2011 sisaldab Euroopa standardi EN 12115:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 19.01.2011.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 12115:2011 consists of the English text of the European standard EN 12115:2011.

This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 19.01.2011.

The standard is available from Estonian standardisation organisation.

ICS 23.040.70

gaseous chemicals, hose assemblies, hoses, liquid chemicals, rubber, specification, thermoplastics

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English Version

Rubber and thermoplastics hoses and hose assemblies for liquid or gaseous chemicals - Specification

Tuyaux et assemblages flexibles en caoutchouc et en
matériaux thermoplastiques pour substances chimiques
liquides ou gazeuses - Spécifications

Gummi- und Kunststoffschläuche und -schlauchleitungen
für flüssige oder gasförmige Chemikalien - Anforderungen

This European Standard was approved by CEN on 30 November 2010.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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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Foreword

This document (EN 12115:2011) has been prepared by Technical Committee CEN/TC 218 "Rubber and plastics hoses and hose assemblies", 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 July 2011, and conflicting national standards shall be withdrawn at the latest by July 2011.

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 12115:1999.

In comparison with EN 12115:1999 the following changes have been made:

- a) the test procedure to determine the electrical resistance through the hose wall is given in Annex A (normative);
- b) a list of hose lining material resistant to specific chemical substances, identified by CAS number, has been added as Annex F (informative);
- c) the normative references have been updated.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard has been prepared to provide minimum acceptable requirements for the satisfactory performance of flexible rubber and thermoplastics hoses and hose assemblies with unspecified reinforcement and linings of different types of synthetic rubbers and thermoplastics, for each chemical substance conveyed.

A list of hose lining material resistant to specific chemical substances, identified by CAS number, has been added as Annex F (informative). This list is for information only.

1 Scope

This European Standard specifies requirements for two types of hose assemblies (Types D and SD) and four grades based on electrical properties with hoses made of rubber or thermoplastics and hose fittings made of metal designed to convey liquid or gaseous chemical substances, hereinafter termed the "chemicals conveyed".

The hose assemblies are intended for use with chemicals conveyed in the temperature range of -20 °C to +65 °C at a working pressure $\leq 10 \text{ bar}^{1)}$.

NOTE 1 This European Standard sets out requirements for these hose assemblies to ensure that users are not exposed to danger from fire or explosion and that the environment is protected against contamination or damage.

NOTE 2 Other temperatures and working pressures than those given above can be agreed with the manufacturer, provided that the marking on the hose (see 14.1) states this and the requirements of Table 5 and all the other requirements are met.

NOTE 3 Other diameters than those given in this European Standard can be agreed with the manufacturer.

NOTE 4 This European Standard also provides guidance on the storage of hose assemblies (Clause 15).

NOTE 5 The attention of users is drawn to Annex F concerning the selection of lining material related to the chemical(s) to be conveyed by the hoses and/or hose assemblies.

This standard does not apply to hose assemblies for:

- aircraft refuelling (EN 1361);
- fuel dispensing (EN 1360);
- oil burners (EN ISO 6806);
- refrigerant circuits;
- fuel truck delivery (EN 1761);
- liquid petroleum gases (LPG) (EN 1762);
- fire fighting (EN ISO 14557);
- oil suction and discharge (EN 1765);
- rotary drilling (EN ISO 6807);
- fuel dispensing with vapour recovery system (EN 13483).

This European Standard does not apply to multilayer hose assemblies (EN 13765 and EN 13766).

1) 1 bar = 0,1 MPa.

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.

EN 10244-2, *Steel wire and wire products — Non-ferrous metallic coatings on steel wire — Part 2: Zinc or zinc alloy coatings*

EN 10270-1, *Steel wire for mechanical springs — Part 1: Patented cold drawn unalloyed spring steel wire*

EN 10270-2, *Steel wire for mechanical springs — Part 2: Oil hardened and tempered spring steel wire*

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

EN ISO 1746, *Rubber or plastics hoses and tubing — Bending tests (ISO 1746:1998, including technical corrigendum 1:1999)*

EN ISO 4671, *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 4672:1999, *Rubber and plastics hoses — Sub-ambient temperature flexibility tests (ISO 4672:1997)*

EN ISO 7233, *Rubber and plastics hoses and hose assemblies — Determination of resistance to vacuum (ISO 7233:2006)*

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

EN ISO 8031:2009, *Rubber and plastics hoses and hose assemblies — Determination of electrical resistance and conductivity (ISO 8031:2009)*

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

EN ISO 8330:2008, *Rubber and plastics hoses and hose assemblies — Vocabulary (ISO 8330:2007)*

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1629, *Rubber and latices — Nomenclature*

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

ISO 4649:2002, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 8331, *Rubber and plastics hoses and hose assemblies — Guidelines for selection, storage, use and maintenance*

BS 3592-1:1986, *Steel wire for hose reinforcement — Specification for coated round and flat steel wire for rubber hose reinforcement*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 8330:2008 apply.