

Rubber hose assemblies for oil suction and discharge services - Specification for the assemblies

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1765:2005 sisaldab Euroopa standardi EN 1765:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.01.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1765:2005 consists of the English text of the European standard EN 1765:2004.</p> <p>This document is endorsed on 25.01.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies the characteristics of four types of oil suction and discharge hose assemblies used for the conveyance of petroleum, including crude oils and other liquid petroleum products containing a maximum aromatics content of 50 % (v/v). It is not suitable for liquefied petroleum gas and natural gas. Hose assemblies to this European Standard can be used in the temperature range -20 °C to 82 °C. The hoses specified are in the size range of nominal bore 50 to 500 and may be smooth bore, rough bore or armoured rough bore.</p>	<p>Scope:</p> <p>This European Standard specifies the characteristics of four types of oil suction and discharge hose assemblies used for the conveyance of petroleum, including crude oils and other liquid petroleum products containing a maximum aromatics content of 50 % (v/v). It is not suitable for liquefied petroleum gas and natural gas. Hose assemblies to this European Standard can be used in the temperature range -20 °C to 82 °C. The hoses specified are in the size range of nominal bore 50 to 500 and may be smooth bore, rough bore or armoured rough bore.</p>
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ICS 23.040.70, 75.200

Võtmesõnad:

ICS 23.040.70; 75.200

English version

Rubber hose assemblies for oil suction and discharge services - Specification for the assemblies

Flexibles en caoutchouc pour chargement et déchargement
des produits pétroliers - Spécifications pour les flexibles

Gummischlauchleitungen für das Ansaugen und Fördern
von Öl - Anforderungen an die Schlauchleitungen

This European Standard was approved by CEN on 6 May 2004.

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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 Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 1765:2004) 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 May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

This document supersedes EN 1765:1997.

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

Introduction

This document specifies minimum requirements for the satisfactory performance of wire or textile reinforced rubber hose assemblies of both smooth and rough bore types for oil suction and discharge services. The hoses are commonly used for transferring crude oil and liquid petroleum products, other than liquefied petroleum gas and natural gas, to and from tanker and bunkering vessels or for similar duties ashore.

Specific details of the construction of hoses are not rigidly defined in this document since it is felt that this could restrict the introduction of improved methods of construction. The hose assemblies have been classified and designated in terms of service pressure, which includes an allowance for surge pressure and which equates to the factory test pressure. To keep this specification in line with other documents this factory test pressure is also defined as the maximum working pressure (see Table 1). It is the responsibility of the user to determine the appropriate working pressure, which will depend on the severity of the user's operating conditions and on the service life that is expected of the hose assembly.

It is necessary for the purchaser to provide certain information about the hose assembly and its intended use at the time of enquiry and/or order; this information is listed in Annex A (informative). Recommendations concerning packaging and transportation are given in Annex B (informative) and expected masses of hoses, in kilograms per metre of free length, are given in Annex C (informative).

1 Scope

This document specifies the characteristics of four types of oil suction and discharge hose assemblies used for the conveyance of petroleum, including crude oils and other liquid petroleum products containing a maximum aromatics content of 50 % (v/v). It is not suitable for liquefied petroleum gas and natural gas.

Hose assemblies to this document can be used in the temperature range -20 °C to 82 °C.

The hoses specified are in the size range of nominal bore 50 to 500 and may be smooth bore, rough bore or armoured rough bore.

NOTE Hoses for use with petroleum products having an aromatic content greater than 50 % (v/v) are outside the scope of this document but the requirements may be used as a basis for such hoses on request to the manufacturer.

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 288-3:1992, *Specification and approval of welding procedures for metallic materials – Part 3: Welding procedure tests for arc welding of steels*

EN 22063, *Metallic and other inorganic coatings – Thermal spraying – Zinc, aluminium and their alloys (ISO 2063:1991, modified)*

EN 28033, *Rubber and plastics hose - Determination of adhesion between components (ISO 8033:1991)*

EN ISO 1402, *Rubber and plastics hoses and hose assemblies – Hydrostatic testing (ISO 1402:1994)*

EN ISO 1460, *Metallic coatings – Hot dip galvanized coatings on ferrous materials – Gravimetric determination of the mass per unit area (ISO 1460:1992)*.

EN ISO 7233, *Rubber and plastics hoses and hose assemblies – Determination of suction resistance (ISO 7233:1991)*.

EN ISO 8330:2000, *Rubber and plastics hoses and hose assemblies – Vocabulary (ISO 8330:1998)*.

EN ISO 8031, *Rubber and plastic hoses and hose assemblies – Determination of electrical resistance (ISO 8031:1993)*.

ISO 1431-1, *Rubber, vulcanized or thermoplastic – Resistance to ozone cracking – Part 1: Static strain test*.

ISO 1461, *Metallic coatings – Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods (ISO 1461:1999)*.

ISO 1817, *Rubber, vulcanized – Determination of the effect of liquids*.

ISO 4649, *Rubber, vulcanized or thermoplastic – Determination of abrasion resistance using a rotating cylindrical drum device*.

ISO 7005-1, *Metallic flanges – Part 1: Steel flanges*.

ASME B.1.20.1, *Pipe threads, general purposes (inch)*.

BS 3592-1, *Steel wire for hose reinforcement – Part 1: Specification for coated round and flat steel wire for rubber hose reinforcement*.

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 8330:2000 and the following apply.

3.1 Electrically bonded hose assembly

hose assembly that uses a metallic wire connection to create a low-resistance electrical connection between the end connections

3.2 Electrically discontinuous hose assembly

hose assembly that incorporates an electrical insulation between the end of the helical wire or/and wire cord reinforcement and on or both couplings

4 Classification

4.1 General

WARNING — Careful consideration needs to be given before the use of electrically discontinuous hoses for transferring liquids known to generate static charges. In no circumstances should more than one length of electrically discontinuous hose be used in an individual transfer pipeline and effective electrical continuity to earth from both ends of the electrically discontinuous hose should be maintained.

4.2 End – use

Hose assemblies for this application are classified according to end-use as follows:

- **Type R**, rough bore hose assemblies for dock operation and intended for situations where a relatively stiff, heavy and robust assembly can be used. The lining of the rubberized fabric is supported and reinforced by an internal (hot-dipped) zinc coated steel wire helix. Type R assemblies are electrically continuous;
- **Type A**, armoured rough bore hose assemblies for dock operation. In addition to an internal zinc coated steel wire helix there shall be external helical armour of a similar material. Type A hoses are electrically continuous and may be lighter and more flexible than type R;
- **Type S**, smooth bore hose assemblies for dock operation where flexibility and lightness are important. Type S hose assemblies may be electrically continuous or electrically discontinuous (see Warning);
- **Type L**, hose assemblies for dock service where greater flexibility, lower weight and ease of handling are of primary consideration. Type L hose assemblies may be electrically continuous or electrically discontinuous. They are only suitable for discharge applications (see Warning).

4.3 Pressure ratings and designations

Each type of hose assembly shall be designated according to the type letters R, A, S, or L followed by the maximum working pressure given in Table 1.

For the purposes of this document the maximum working pressure includes an allowance for surge pressures above the normal operating pressure.