

**Kummivoolikud ja voolikukomplektid.  
Kummikattega spiraaltraadiga  
sarrustatud hüdrauliline tüüp.  
Tehnilised nõuded**

Rubber hoses and hose assemblies - Rubber-covered spiral wire reinforced hydraulic type - Specification

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 856:1999 sisaldab Euroopa standardi EN 856:1996 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 856:1999 consists of the English text of the European standard EN 856:1996.</p> <p>This document is endorsed on 12.12.1999 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><b>Käsitlusala:</b> Käesolev standard määrab kindlaks nõuded selliste nelja tüüpi kummikattega spiraaltraadiga sarrustatud hüdrauliliste voolikute ja voolikukomplektide kohta, mille ava nimisuurus on 6 kuni 51. Standard ei sisalda nõudeid otsarmatuuri kohta. Standardi ulatus on piiratud voolikute ja voolikukomplektide funktsioneerimisega.</p>	<p><b>Scope:</b></p>
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**ICS** 23.100.40

**Võtmesõnad:** ankrud, hüdraulilised süsteemid, hüdraulilised vedelikud, kummivoolikud, mõõtmed, mõõtmeterantsid, märgistus, tehnilised andmed, testimine, traat, voolikud

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Descriptors: Hydraulic systems, rubber, hoses, requirements.

**English version**

**Rubber hoses and hose assemblies**

**Rubber-covered spiral wire reinforced hydraulic type  
Specification**

Tuyaux et flexibles en caoutchouc – Type  
hydraulique avec armature hélicoïdale de  
fils métalliques – Spécification

Gummischläuche und -schlauchleitungen –  
Hydraulikschläuche mit Drahtspiral-  
einlage – Spezifikation

This European Standard was approved by CEN on 1996-09-19.

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**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

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## Foreword

This European Standard 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 standard is based on ISO 3862.

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 April 1997, and conflicting national standards shall be withdrawn at the latest by April 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies requirements for four types of rubber covered spiral wire reinforced hydraulic hoses and hose assemblies of nominal bore from 6 to 51. They are suitable for use with :

- hydraulic fluids in accordance with ISO 6743-4 with the exception of HFD R, HFD S and HFD T at temperatures ranging from - 40 °C to + 100 °C for types 4SP and 4SH and -40 °C to +120 °C for types R12 and R13;
- water based fluids at temperatures ranging from -40 °C to 70 °C.
- water fluids at temperatures ranging from 0 °C to +70 °C.

The Standard does not include requirements for end fittings. It is limited to the performance of hoses and hose assemblies.

NOTE 1: The hoses are not suitable for use with castor oil based nor ester based fluids.

NOTE 2: Hoses and hose assemblies should not be operated outside the limits of this standard.

NOTE 3: Requirements for hydraulic hoses for underground mining are standardised in separate standard

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision.

For undated references the latest edition of the publication referred to applies.

EN 24671	Rubber and plastics hose and hose assemblies - Methods of measurement of dimensions (ISO 4671:1984)
EN 24672	Rubber and plastics hoses - Sub-ambient temperature flexibility tests (ISO 4672:1988)
EN 27326	Rubber and plastics hoses - Assessment of ozone resistance under static conditions (ISO 7326:1991)
EN 28033:1993	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 6945	Rubber hoses - Determination of abrasion resistance of the outer cover (ISO 6945:1991)
ISO 1817	Rubber, vulcanized - Determination of the effect of liquids
ISO 6743-4	Lubricants, industrial oils and related products (Class L) - Classification - Part 4 : Family H (Hydraulic systems)
ISO 6803	Rubber and plastics hoses and hose assemblies - Hydraulic pressure impulse test without flexing

### **3 Types of hose**

Four types of hose are specified:

- Type 4SP - a 4-steel wire spiral medium pressure hoses;
- Type 4SH - a 4-steel wire spiral extra high pressure hoses;
- Type R12 - a 4-steel wire spiral heavy duty high temperature hoses - medium pressure rating;
- Type R13 - a multiple steel wire spiral heavy duty high temperature hoses - high pressure rating.

### **4 Materials and construction**

#### **4.1 Hoses**

Hoses shall consist of an oil and water resistant synthetic rubber lining, spiral plies of steel wire wrapped in alternating directions, and an oil and weather resistant synthetic rubber cover. Each spiral wire ply shall be separated by an insulating layer of synthetic rubber.