EESTI STANDARD EVS-EN 13731:2007

Tõstekottide süsteem kasutamiseks pääste- ja tuletõrjeteenistuses. Ohutus- ja talitlusnõuded

Lifting bag systems for fire and rescue service use - Safety and performance requirements

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13731:2007 sisaldab Euroopa standardi EN 13731:2007 ingliskeelset teksti. Käesolev dokument on jõustatud 18.12.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13731:2007 consists of the English text of the European standard EN 13731:2007. This document is endorsed on 18.12.2007 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies requirements for lifting bag systems, where intended operation is inflation by compressed air and used primarily by fire and rescue services. This European Standard applies to lifting bag systems including some or all of the following components: - hose assemblies and couplings; - regulators; - control devices; - pressure indicators; - safety valves; - lifting bags. This European Standard applies to lifting bag systems intended for operation under ambient temperatures between -20 °C and 55 °C.	**Scope:** This European Standard specifies requirements for lifting bag systems, where intended operation is inflation by compressed air and used primarily by fire and rescue services. This European Standard applies to lifting bag systems including some or all of the following components: - hose assemblies and couplings; - regulators; - control devices; - pressure indicators; - safety valves; - lifting bags. This European Standard applies to lifting bag systems intended for operation under ambient temperatures between -20 °C and 55 °C.

ICS 11.160, 13.220.10

Võtmesõnad: compressed air, efficiency, equipment safety, filling devices, fire brigade

EUROPEAN STANDARD

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Lifting bag systems for fire and rescue service use - Safety and performance requirements

Coussins de levage à l'usage des services d'incendie et de secours - Prescriptions de sécurité et de performances

Hebekissensysteme für Feuerwehr und Rettungsdienste - Sicherheits- und Leistungsanforderungen

This European Standard was approved by CEN on 30 September 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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Foreword

This document (EN 13731:2007) has been prepared by Technical Committee CEN/TC 192 “Fire 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 May 2008, and conflicting national standards shall be withdrawn at the latest by May 2008.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are an integral part of this document.

NOTE 1 It is recommended that users of this European Standard consider the desirability of independent (3rd party) certification of product conformity with this European Standard based on testing and continuing validation for the purpose of establishing the performance of a lifting bag system.

NOTE 2 The equipment subject to this European Standard is not considered to be subject to the Pressure Equipment Directive.

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 United Kingdom.

Introduction

This European Standard is a type C standard as stated in EN ISO 12100-1.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

Where provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

Lifting bag systems are used by Fire and Rescue Services principally to facilitate the release of persons trapped following accidents involving vehicles, heavy machinery, collapsed buildings, collapsed trenches, fallen trees and other natural objects. Lifting bag systems are generally used in conjunction with other means to support or stabilise the load being moved, for example, blocks, chocks and props.

When compiling this European Standard, it was assumed that:

a) the manufacturer will design and/or use components in accordance with the usual engineering practise and calculation codes, including all failure modes;

b) only trained and competent persons whilst wearing suitable gloves, will use and operate the machinery;

c) the working place is adequately lit;

d) negotiations occur between the manufacturer and the purchaser concerning particular conditions for the use and places of use for the machinery related to health and safety, which are not within the limits of the scope of this European Standard.

1 Scope

This European Standard specifies requirements for lifting bag systems, where intended operation is inflation by compressed air and used primarily by fire and rescue services.

This European Standard applies to lifting bag systems including some or all of the following components:

— hose assemblies and couplings;

— regulators;

— control devices;

— pressure indicators;

— safety valves;

— lifting bags.

This European Standard applies to lifting bag systems intended for operation under ambient temperatures between -20 °C and 55 °C.

This European Standard deals with all significant hazards, hazardous situations and events during the commissioning, operation and maintenance arising from a lifting bag system when it is used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This European Standard specifies minimum performance requirements and test methods for lifting bag systems.

This European Standard does not establish the additional requirements for:

a) operation in severe conditions (e.g. extreme environmental conditions such as: temperatures outside the range from -20 °C to + 55 °C, corrosive environment, tropical environment, contaminating environments, strong magnetic fields, potentially explosive atmospheres);

NOTE 1 If use of the lifting bag system is foreseen in severe conditions, this should be agreed between the purchaser and the manufacturer at the time of ordering. In this case an additional risk analysis should be carried out. Additional measures and additional information for use may be necessary.

b) risk directly arising from any means for handling or transportation of the lifting bag system by equipment other than that designed as part of the lifting bag;

c) lifting bag systems manufactured for specialized use, e.g. the lifting of persons or heavy recovery where exceptional stroke movement is required;

d) any hazard arising from the source of compressed air, except where this is a manually operated air pump.

NOTE 2 Where the source is from an air compressor or from a pressurised cylinder or other similar source, it is assumed that the source conforms to an appropriate European Standard or legislation.

This European Standard is not dealing with noise, as it is not considered to be a significant hazard.

This European Standard is not applicable to lifting bag systems which are manufactured before the date of its publication by CEN.

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 659, *Protective gloves for firefighters*

EN 764-1:2004, *Pressure equipment — Part 1: Terminology — Pressure, temperature, volume, nominal size*

EN 837-1, *Pressure gauges — Part 1: Bourdon tube pressure gauges — Dimensions, metrology, requirements and testing*

EN 837-2, *Pressure gauges — Part 2: Selection and installation recommendations for pressure gauges*

EN 837-3, *Pressure gauges — Part 3: Diaphragm and capsule pressure gauges — Dimensions, metrology, requirements and testing*

EN 894-1, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays and control actuators*

EN 894-2, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*

EN 894-3, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators*

EN 62079, *Preparation of instructions — Structuring, content and presentation (IEC 62079:2001)*

EN ISO 2398, *Rubber hose, textile-reinforced for compressed air — Specification (ISO 2398:1995)*

EN ISO 2503, *Gas welding equipment — Pressure regulators for gas cylinders used in welding, cutting and allied processes up to 300 bar (ISO 2503:1998)*

EN ISO 4126-1, *Safety devices for protection against excessive pressure — Part 1: Safety valves (ISO 4126-1:2004)*

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

EN ISO 5774, *Plastics hoses, textile-reinforced, for compressed air — Specification (ISO 5774:1997)*

EN ISO 7751, *Rubber and plastics hoses and hose assemblies — Ratios of proof and burst pressure to design working pressure (ISO 7751:1991)*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

ISO 5598:1985, *Fluid power systems and components — Vocabulary*