Hüdraulilised platvormid (HP) tuletõrje- ja päästeteenistustele. Ohutusnõuded ja katsetamine KONSOLIDEERITUD TEKST

Hydraulic platforms (HPs) for fire fighting and rescue services - Safety requirements and testing CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1777:2005+A1:2009 sisaldab Euroopa standardi EN 1777:2004+A1:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 1777:2005+A1:2009 consists of the English text of the European standard EN 1777:2004+A1:2009.
Standard on kinnitatud Eesti Standardikeskuse 30.04.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 30.04.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 04.03.2009.	Date of Availability of the European standard text 04.03.2009.
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Hydraulic platforms (HPs) for fire fighting and rescue services - Safety requirements and testing

Bras Élevateur Aérien (BEA) des services d'incendie et de secours - Prescriptions de sécurité et essais

Hubrettungsfahrzeuge für Feuerwehren und Rettungsdienste, Hubarbeitsbühnen (HABn) - Sicherheitstechnische Anforderungen und Prüfung

This European Standard was approved by CEN on 2 September 2004 and includes Amendment 1 approved by CEN on 11 January 2009.

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Foreword

This document (EN 1777:2004+A1:2009) 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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2009-01-11.

This document supersedes EN 1777:2004.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟨A1⟩ ⟨A1⟩.

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).

⟨A1⟩ For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. ⟨A1⟩

This document includes a Bibliography.

It is one of a series of standards produced by CEN/TC 192 as part of the CEN/CENELEC programme of work to produce machine safety standards. It is based on the work of CEN/TC 98 EN 280 *Mobile Elevating Work Platforms (MEWPs)*, and allows for future adaptation of any type and size of MEWP to firefighting and rescue. Because of the wide variety of sizes and types of Hydraulic Platforms (HPs), it is not a detailed specification and performance specifications other than safety requirements are a matter for agreement between suppliers and customers. It is intended to be used in conjunction with Parts 1 and 2 of EN 1846.

It was accepted that the safety related parts of the control system would need to be reformulated to take account of the methodology of EN 954 but, in view of the further delays to publication this would cause, it was decided to defer this to a second stage.

Similarly, it was accepted that re-consideration of the need for load control on HPs with a single rated load should be deferred to a second stage, to avoid further delays to publication of the standard.

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 document has been prepared to be a harmonized standard to provide one means of conforming with the essential safety requirements of the Machinery Directive and its amending Directives, and associated EFTA Regulations.

It is a type C standard as stated in EN 1070.

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

When 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.

HPs are machines used primarily to provide Fire Services with a means of firefighting, rescuing persons from dangerous locations and access to other hazardous and/or working locations, by means of a platform on an extending structure mounted on a base.

Where the mass/rigidity of the base does not provide inherent stability, stability is assured by stabilizers interlocked with movements of the extending structure.

The movements of the extending structure are normally made by fluid power (hydraulics).

The platform is self-levelling and is primarily used to carry one or more persons and any necessary equipment and/or materials. It can be fitted with one or more monitors for projecting water or other fire-fighting fluids or semi-solid materials.

Controls are provided at the platform and at the base, to control movements of the extending structure. They can also control movements of the monitor(s) and of the base if it is mobile.

The extended positions of the platform can be above and/or below and horizontally beyond the surface supporting the base.

The extent to which hazards are covered is indicated in the scope of this document.

The safety requirements of this document have been drawn up on the basis that HPs are periodically maintained by persons trained according to manufacturer's instructions, working conditions, frequency of use, and national regulations.

It is also assumed that HPs are not put into operation unless all required control- and safety-devices are available and in working order and that persons operating HPs are adequately trained.

When mention is made of a design for the sake of clarity, this should not be considered to be the only possible design; any other solution may be applied if it is at least equally safe.

As no satisfactory explanation could be found for the dynamic factors used for stability calculations in previous national standards, the results of the tests carried out by CEN/TC 98 "Lifting Platforms" to determine a suitable factor and stability calculation method for mobile elevating work platforms (MEWPs) have been adopted. The test method is described in Annex B as a guide for manufacturers wishing to use higher or lower operating speeds and to take advantage of developments in control systems.

Similarly, to avoid the unexplained inconsistencies in wire rope coefficients of utilization and drum and pulley diameters found in other standards for lifting devices, Annex C, of EN 280:2001, based on DIN 15020, together with Annex D of EN 280:2001, have been adopted.

1 Scope

1.1 General

This document identifies the significant hazards (see 4) in the use of all sizes of HP by fire fighting and rescue services, on the basis that they are supplied in a complete form, tested and ready for use, and gives methods for the elimination or reduction of these hazards and for the use of safe working practices.

NOTE The principles of this standard have been used for HPs ranging from the smallest up to working heights exceeding 70 m, and are expected to be applicable to all foreseeable developments of HPs for Fire Services.

This document deals with HPs, the base of which is normally a motor vehicle, but can also be static or fixed, or mobile in the form of:

— a trailer or de-mountable unit

— any other type of self-propelled vehicle

For vehicle mounted HPs this document is intended to be used in conjunction with EN 1846-2, *Fire fighting and rescue service vehicles –Part 2: Common requirements — Safety and performance*.

This document is not applicable to HPs which were manufactured before the date of publication of this document by CEN.

1.2 This document is applicable to the structural design calculations and stability criteria, constructional details and tests of HPs, and gives guidance on the intended life limits for HPs (see 5.2.5.2.2).

NOTE This document may also be used for machines similar to HPs equipped with monitors, surveillance or other equipment for firefighting use but not intended for lifting persons.

1.3 This document does not specify the special requirements for:

— HPs operated by programmable electronic systems and/or radio which do not rely on cables;

— use in underground work (mines);

— use in potentially explosive atmospheres;

— the use of pneumatic cylinders to operate load carrying components.

1.4 Classification

HPs are divided into two main types:

Type A: HPs where the vertical projection of the centre of gravity of the load is always inside the tipping lines.

Type B: HPs where the vertical projection of the centre of gravity of the load may be outside the tipping lines.

HPs are further divided into three groups related to travelling:

Group 1: Travelling is only allowed with the HP in its transport position.

Group 2: Travelling with raised platform is controlled only from a point of control at the chassis.

Group 3: (Self-propelled) Travelling with raised platform is controlled from a point of control at the platform.

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 349, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 418, *Safety of machinery — Emergency stop equipment, functional aspects — Principles for design*

EN 1846-1:1998, *Firefighting and rescue service vehicles — Part 1: Nomenclature and designation*

EN 1846-2:2001, *Firefighting and rescue service vehicles — Part 2: Common requirements — Safety and performance*

EN 60204-1:1997, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:1997*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN 60947-5-1, *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:2003)*

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

ISO 2408:2004, *Steel wire ropes for general purposes — Minimum requirements*

ISO 4305, *Mobile cranes — Determination of stability*

ISO 4309, *Cranes — Wire ropes — Care, maintenance, installation, examination and discard*