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Safety requirements for suspended access equipment -  
Design calculations, stability criteria, construction -  
Examinations and tests

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1808:2015 sisaldab Euroopa standardi EN 1808:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 1808:2015 consists of the English text of the European standard EN 1808:2015.
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English Version

## Safety requirements for suspended access equipment - Design calculations, stability criteria, construction - Examinations and tests

Exigences de sécurité des plates-formes suspendues à niveau variable - Calculs, stabilité, construction - Examen et essais

Sicherheitsanforderungen an hängende Personenaufnahmemittel - Berechnung, Standsicherheit, Bau - Prüfungen

This European Standard was approved by CEN on 10 February 2015.

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# Contents

Page

Foreword.....	3
Introduction .....	4
1 <b>Scope</b> .....	5
2 <b>Normative references</b> .....	6
3 <b>Terms and definitions, symbols and abbreviations</b> .....	6
4 <b>Hazards and preventative actions</b> .....	23
5 <b>Safety requirements and/or measures</b> .....	27
6 <b>Structural, stability and mechanical calculations for SAE</b> .....	27
7 <b>Suspended platforms</b> .....	47
8 <b>Hoisting systems</b> .....	57
9 <b>Suspension rigs</b> .....	66
10 <b>Electrical, hydraulic and pneumatic systems</b> .....	72
11 <b>Control systems</b> .....	73
12 <b>Verification and certification</b> .....	77
13 <b>Marking of SAE</b> .....	79
14 <b>Accompanying documents</b> .....	81
<b>Annex A (normative) Platform type-tests</b> .....	85
<b>Annex B (normative) Hoist and secondary device type-tests</b> .....	90
<b>Annex C (normative) Suspension rig type-tests</b> .....	96
<b>Annex D (informative) Guidance on the presentation and interpretation of loads imposed by SAE structures</b> .....	98
<b>Annex E (informative) Maximum permitted horizontal displacement of platform</b> .....	101
<b>Annex F (normative) Guidance on the requirements for wireless control systems</b> .....	105
<b>Annex G (normative) Design requirements for rail tracks, monorail tracks and support systems</b> .....	107
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC</b> .....	130
<b>Bibliography</b> .....	131

## Foreword

This document (EN 1808:2015) has been prepared by Technical Committee CEN/TC 98 "Lifting platforms", the secretariat of which is held by DIN.

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 October 2015 and conflicting national standards shall be withdrawn at the latest by October 2015.

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 1808:1999+A1:2010.

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 Annex ZA, which is an integral part of this document.

This document also includes information that building designers, structural engineers and contractors need to consider before specific suspended access equipment (SAE) manufacturers/suppliers are appointed.

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

## Introduction

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

The machinery concerned and the extent to which hazards are covered are indicated in the scope of this standard.

It is assumed that:

- a) discussions take place between the manufacturer/supplier and purchaser/hirer about specific local installation conditions and expected duty;
- b) a risk analysis for each component that might be incorporated into a complete SAE installation has been made and rules have been drawn up;
- c) the safety requirements of this standard have been drawn up on the basis that the components are:
  - 1) designed in accordance with good engineering practice and calculation codes, including all failure modes;
  - 2) of sound mechanical and electrical construction;
  - 3) made of materials with adequate strength and of suitable quality;
  - 4) free of visible defects;
- d) harmful materials such as asbestos are not used;
- e) the equipment is maintained in good working order;
- f) any mechanical device manufactured in accordance with good practice and the requirements of this standard shall not be allowed to deteriorate to the point of creating a hazard without being detected;
- g) the working ambient temperature range is between  $-10\text{ }^{\circ}\text{C}$  and  $+55\text{ }^{\circ}\text{C}$ ;
- h) the structure on which the SAE is installed is of adequate strength to resist the expected imposed loads.

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 in accordance with the provisions of this type C standard.

# 1 Scope

## 1.1 Application

This European Standard specifies the requirements, test methods, marking and information to be provided by the manufacturer/supplier for suspended access equipment (SAE).

It is applicable to both permanent and temporary equipment which can be powered or hand operated and which are defined in Clause 3.

The requirements of this standard include the rails, tracks and other support systems on which SAE depend for their integrity and safety as well as taking into account all associated loads and fixings to the building structure.

This document is not applicable to SAE which is manufactured before the date of its publication as an EN.

## 1.2 Hazards

This European Standard deals with significant hazards pertinent to SAE when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This European Standard specifies appropriate technical measures to eliminate or reduce risks arising from the significant hazards.

## 1.3 Exclusions

The following are not covered in this document:

- a) operation in severe and special conditions (e.g. extreme environmental conditions, corrosive environments, strong magnetic fields);
- b) operation subject to special rules (e.g. potentially explosive atmospheres, work on live overhead electrical lines);
- c) transportation of passengers from one level to another;
- d) handling of loads which could lead to a dangerous situation (e.g. molten metal, acids/bases, radioactive materials);
- e) working platforms suspended by cranes;
- f) silo access equipment;
- g) SAE using chains for the direct suspension of a platform;
- h) SAE using fibre ropes for the suspension of a platform;
- i) SAE intended to be used underground;
- j) SAE intended to be used in shafts;
- k) SAE directly powered by combustion engines.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 795, *Personal fall protection equipment — Anchor devices*

EN 1993 (all parts), *Eurocode 3: Design of steel structures*

EN 1999 (all parts), *Eurocode 9: Design of aluminium structures*

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

EN 60204-32:2008, *Safety of machinery — Electrical equipment of machines — Part 32: Requirements for hoisting machines (IEC 60204-32:2008)*

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

EN ISO 4413, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413)*

EN ISO 4414, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13849-2:2012, *Safety of machinery — Safety-related parts of control systems — Part 2: Validation (ISO 13849-2:2012)*

EN ISO 13850, *Safety of machinery — Emergency stop — Principles for design (ISO 13850)*

## 3 Terms and definitions, symbols and abbreviations

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply. They are classified in terms of key words.

### 3.1

#### **building maintenance unit**

BMU

SAE that are permanently installed on and dedicated to a specific building or structure and intended to be used for planned routine inspection, cleaning and maintenance of the particular building and where the general public might have access below the suspended platform when in operation

Note 1 to entry: BMUs may consist of a platform suspended from a suspension rig that is generally a trolley unit with hoist(s) operating either on a rail track or on a suitable running surface (e.g. concrete track).

Note 2 to entry: Monorails with traversing trolleys or other suspension rigs (e.g. davits) fixed to a building and from which a platform may be suspended should be considered as parts of a BMU and should only be used in conjunction with suspended platforms conforming to the requirements of this standard.