

SVENSK STANDARD

SS-EN 13814-2:2019



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Säkerhet för åkattraktioner och nöjesanordningar – Del 2: Framförande, underhåll och användning

Safety of amusement rides and amusement devices – Part 2: Operation, maintenance and use

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Europastandarden EN 13814-2:2019 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 13814-2:2019.

Denna standard ersätter SS-EN 13814:2005, utgåva 1.

The European Standard EN 13814-2:2019 has the status of a Swedish Standard. This document contains the official version of EN 13814-2:2019.

This standard supersedes the SS-EN 13814:2005, edition 1.

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Denna standard är framtagen av kommittén för Byggnadsställningar, SIS/TK 173.

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EUROPEAN STANDARD

EN 13814-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2019

ICS 97.200.40

Supersedes EN 13814:2004

English Version

Safety of amusement rides and amusement devices - Part 2: Operation, maintenance and use

Sécurité des manèges et des dispositifs de
divertissement - Partie 2: Installation, maintenance et
exploitation

Sicherheit von Fahrgeschäften und
Vergnügungseinrichtungen - Teil 2: Betrieb,
Instandhaltung und Gebrauch

This European Standard was approved by CEN on 13 May 2018.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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SS-EN 13814-2:2019 (E)

European foreword

This document (EN 13814-2:2019) has been prepared by Technical Committee CEN/TC 152 “*Fairground and amusement park machinery and structures – Safety*”, the secretariat of which is held by UNI.

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 November 2019, and conflicting national standards shall be withdrawn at the latest by May 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document, together with its first and third parts, supersedes EN 13814:2004.

EN 13814 consists of the following parts, under the general title *Safety of amusement rides and amusement devices*:

- *Part 1: Design and manufacture*
- *Part 2: Operation, maintenance and use*
- *Part 3: Requirements for inspection during design, manufacture, operation and use*

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies the minimum requirements necessary to ensure the safe maintenance, operation, inspection and testing of amusement ride and amusement devices which are intended to be installed both repeatedly without degradation or loss of integrity, and temporarily or permanently in fairgrounds and amusement parks or any other locations.

Grandstands, construction site installations, scaffolding, removable agricultural structures, simple coin operated children's amusement devices, carrying up to three children, and recreational devices like waterslides or summer toboggan runs, playground equipment, rope courses, climbing wall, inflatable, trampolines, swimming pool equipment (this list is not exhaustive) are not covered by this document.

In terms of workers' health and safety, national regulations apply.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12385 (all parts), *Steel wire ropes — Safety*

EN 13814-1:2019, *Safety of amusement rides and amusement devices — Part 1: Design and Manufacture*

EN 13814-3:2019, *Safety of amusement rides and amusement devices — Part 3: Requirements for inspection during design, manufacture, operation and use*

EN 60947-3, *Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units (IEC 60947-3)*

EN ISO 2307, *Fibre ropes - Determination of certain physical and mechanical properties (ISO 2307)*

EN ISO 9554, *Fibre ropes - General specifications (ISO 9554)*

EN ISO 13857, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

amusement device

arrangement of equipment that produces the desired effect of amusement or entertainment when the *passenger* (3.28) moves through it or on it primarily by his or her own action, or any other system that is not covered by the term *amusement ride* (3.2)

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3.2

amusement ride

equipment that is designed to entertain the *passengers* (3.28) during motion including the consequence of biomechanical effect

Note 1 to entry: In this standard, the word *amusement device* is used to refer to an *amusement device* (3.1) or *amusement ride* (3.2).

3.3

attendant

trained person appointed to work under the supervision of an *operator* (3.27), to assist in the operation of an *amusement device* (3.1) available for use by the public

3.4

barrier

device intended to prevent the user from falling and from passing beneath

3.5

closed restraint

closed restraint position in which the *restraint* (3.37) is intended to remain during the operation of the device in order to restrain the *passenger* (3.28)

3.6

competent person

person who can demonstrate that he has acquired through training, qualifications or experience, or a combination of these, the knowledge and skills enabling that person to perform a specified task

3.7

controller

ride controller

person or organisation having overall control of an *amusement device* (3.1). This may be either an individual or corporate body owning an *amusement device* (3.1) or the concessionaire or lessee who has been granted control of the amusement device, by the owner, for a specified period

3.8

design review

document detailing the review of all the applicable design documents, to determine the suitability for use of an amusement device

3.9

design risk assessment

DRA

document, produced by the *designer* (3.10) as a tool for safe design, within the agreed scope of supply

**3.10
designer
engineer**

person or body that is responsible for the design of an amusement device (or modifications thereof), including, but not limited to establishing and describing the configuration of the amusement device, conducting appropriate risk assessment(s), establishing strength (including fatigue strength), designing and specifying electrical/electronic control systems, defining the acceptable quality level for production, defining inspection criteria and including the publication of the necessary documentation

**3.11
amusement device log**

book and/or electronic data file containing all the necessary information about the use and history of any amusement device

**3.12
fail safe**

characteristic of a system, component or device the failure of which maintains a safe state

**3.13
fence**

structure designed to restrict or prevent movement across a boundary without changing elevation

**3.14
gate**

section of *fence* (3.13) or *barrier* (3.4) that may be opened to provide access or egress

**3.15
guardrail**

rail intended to prevent a user from falling

**3.16
guest**

person that may interact with an amusement device

**3.17
handrail**

rail intended to assist the user to balance

**3.18
initial approval**

design and calculation review, verification, examinations and tests executed by the *inspection body* (3.19) before a ride is first made available for public use

**3.19
inspection body**

organisation capable of carrying out examination, tests and approval of amusement devices

**3.20
latching restraint**

restraint (3.37) which is held secure against opening except by intentional action of the *passenger* (3.28), *operator* (3.27), or other means. This can include *restraints* (3.37) (e.g. drop bars) held in place by gravity, detents or other means