



BSI Standards Publication

## Safety of amusement rides and amusement devices

---

Part 2: Operation, maintenance and use

## National foreword

This British Standard is the UK implementation of EN 13814-2:2019. Together with BS EN 13814-1:2019 and BS EN 13814-3:2019, it supersedes BS EN 13814:2004, which will be withdrawn upon publication of the rest of the series.

The UK participation in its preparation was entrusted to Technical Committee MCE/3/4, Fairground and amusement park machinery and structures - Safety.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2019  
Published by BSI Standards Limited 2019

ISBN 978 0 580 91339 6

ICS 91.040.99

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2019.

### Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

---

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

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

<b>Contents</b>	<b>Page</b>
<b>European foreword</b> .....	<b>4</b>
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 Operation, maintenance and use of amusement rides and amusement devices</b> .....	<b>11</b>
<b>4.1 General</b> .....	<b>11</b>
<b>4.2 Standard documentation</b> .....	<b>11</b>
<b>4.3 Responsibilities of the controller</b> .....	<b>11</b>
<b>4.3.1 General</b> .....	<b>11</b>
<b>4.3.2 Selection and training of staff</b> .....	<b>12</b>
<b>4.3.3 Assembly disassembly</b> .....	<b>12</b>
<b>4.3.4 Care of equipment</b> .....	<b>15</b>
<b>4.3.5 Trial operations and checks</b> .....	<b>18</b>
<b>4.3.6 Operation</b> .....	<b>19</b>
<b>4.3.7 Duties for the supervision of the operation</b> .....	<b>20</b>
<b>4.3.8 Servicing (maintenance, repair and modification)</b> .....	<b>21</b>
<b>4.4 Duties of the amusement device operator</b> .....	<b>23</b>
<b>4.4.1 General</b> .....	<b>23</b>
<b>4.4.2 General requirements</b> .....	<b>24</b>
<b>4.4.3 Safe operation</b> .....	<b>24</b>
<b>4.5 Duties of the attendant</b> .....	<b>25</b>
<b>4.6 Independent inspection</b> .....	<b>26</b>
<b>4.6.1 In-service inspection</b> .....	<b>26</b>
<b>4.6.2 Reports</b> .....	<b>26</b>
<b>4.7 Emergency situations</b> .....	<b>26</b>
<b>4.7.1 General</b> .....	<b>26</b>
<b>4.7.2 Means of evacuation and escape</b> .....	<b>26</b>
<b>4.7.3 Fire</b> .....	<b>27</b>
<b>Annex A (informative) Training, qualification and experience for competent persons</b> .....	<b>29</b>
<b>Annex B (informative) Provisions prior to use</b> .....	<b>30</b>
<b>B.1 General</b> .....	<b>30</b>
<b>B.2 Operation Authorization or Permit</b> .....	<b>30</b>
<b>B.3 Competence</b> .....	<b>30</b>
<b>B.4 Operation authorization or permit for used and imported amusement devices</b> .....	<b>30</b>
<b>B.4.1 Procedure</b> .....	<b>30</b>
<b>B.4.2 Transfer</b> .....	<b>30</b>
<b>B.5 Prolongation and Transfer of the Operation Authorization or Permit</b> .....	<b>31</b>
<b>B.6 Reports for the prolongation of an operation authorization or permit</b> .....	<b>31</b>
<b>B.7 Testing</b> .....	<b>31</b>

<b>B.8</b>	<b>Inspection bodies</b> .....	<b>32</b>
<b>B.9</b>	<b>Installation Examination</b> .....	<b>32</b>
<b>B.10</b>	<b>Examples of examination intervals used by member states' regulations</b> .....	<b>32</b>
<b>B.10.1</b>	<b>General</b> .....	<b>32</b>
<b>B.10.2</b>	<b>Germany</b> .....	<b>32</b>
<b>B.10.3</b>	<b>United Kingdom</b> .....	<b>36</b>
<b>B.10.4</b>	<b>Netherlands</b> .....	<b>36</b>
<b>B.10.5</b>	<b>Italy</b> .....	<b>36</b>
	<b>Bibliography</b> .....	<b>37</b>

## 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)