

MÄNGUVÄLJAKU SEADMED JA ALUSPIND. OSA 5:  
TÄIENDAVALD SPETSIAALSED OHUTUSNÕUDED JA  
KATSEMEETODID KARUSSELLIDELE

Playground equipment and surfacing - Part 5:  
Additional specific safety requirements and test  
methods for carousels

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1176-5:2019 sisaldab Euroopa standardi EN 1176-5:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 1176-5:2019 consists of the English text of the European standard EN 1176-5:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.10.2019.	Date of Availability of the European standard is 02.10.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 97.200.40

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

## Playground equipment and surfacing - Part 5: Additional specific safety requirements and test methods for carousels

Équipements et sols d'aires de jeux - Partie 5:  
Exigences de sécurité et méthodes d'essai  
complémentaires spécifiques aux manèges

Spielplatzgeräte und Spielplatzböden - Teil 5:  
Zusätzliche besondere sicherheitstechnische  
Anforderungen und Prüfverfahren für Karussells

This European Standard was approved by CEN on 12 August 2019.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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>		Page
<b>European foreword</b> .....		<b>3</b>
<b>1</b>	<b>Scope</b> .....	<b>5</b>
<b>2</b>	<b>Normative references</b> .....	<b>5</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>5</b>
<b>4</b>	<b>Safety requirements</b> .....	<b>9</b>
<b>5</b>	<b>Type specific requirements</b> .....	<b>12</b>
<b>6</b>	<b>Test reports</b> .....	<b>17</b>
<b>7</b>	<b>Marking</b> .....	<b>17</b>
<b>Annex A (normative) Method for the determination of attachment strength of supporting structure components to the rotating shaft</b> .....		<b>18</b>
<b>Annex B (informative) A-deviations</b> .....		<b>19</b>

## European foreword

This document (EN 1176-5:2019) has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational facilities and equipment”, 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 April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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 supersedes EN 1176-5:2008.

This document is part of a series of standards dealing with playground equipment and surfacing which consists of:

- *Part 1: General safety requirements and test methods;*
- *Part 2: Additional specific safety requirements and test methods for swings;*
- *Part 3: Additional specific safety requirements and test methods for slides;*
- *Part 4: Additional specific safety requirements and test methods for cableways;*
- *Part 5: Additional specific safety requirements and test methods for carousels;*
- *Part 6: Additional specific safety requirements and test methods for rocking equipment;*
- *Part 7: Guidance on installation, inspection, maintenance and operation;*
- *Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment;*
- *Part 11: Additional specific safety requirements and test methods for spatial network.*

This part of EN 1176 will be used in conjunction with EN 1176-1, EN 1176-7 and EN 1177.

For inflatable play equipment see:

- EN 14960 (series), *Inflatable play equipment — Safety requirements and test methods.*

The principal changes from the previous edition of this part of EN 1176 are as follows:

- a) the document covers equipment of all sizes where main function is rotating;
- b) information is presented in Table 1 to improve readability;
- c) entrapment requirements apply to all openings regardless to their heights;
- d) user stations are tested with protrusion ring;
- e) type-specific changes:
  - axis' maximum inclination requirement is given only to type B carousel;

- tolerance is allowed for roundness of the carousel's platform edge;
  - requirements were added for bowl-like carousels;
  - requirements were added for free standing carousels with a diameter of less than 500 mm;
- f) changes concerning layouts:
- layout recommendation is given for type C carousel;
  - impact areas of carousel types D and F are allowed to overlap with other impact areas.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This document specifies additional safety requirements for carousels intended for permanent installation for use by children.

Where the main play function is not rotating, the relevant requirements in this part of EN 1176 might be used, as appropriate. This document is not applicable to motor-driven carousels, fairground carousels or climbing drums.

## 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 1176-1:2017, *Playground equipment and surfacing — Part 1: General safety requirements and test methods*

EN 1176-2:2017, *Playground equipment and surfacing — Part 2: Additional specific safety requirements and test methods for swings*

EN 1176-6:2017+AC:2019, *Playground equipment and surfacing — Part 6: Additional specific safety requirements and test methods for rocking equipment*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1176-1 and the following 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 <https://www.iso.org/obp>

### 3.1

#### **carousel**

playground equipment where the main function is to rotate around a central axis

### 3.2

#### **rotating chairs (type A)**

carousel without a closed rotating platform whose user stations are defined by separate seats that are rigidly connected with the central axis via the supporting structure

Note 1 to entry: See Figure 1.