



SLOVENSKI STANDARD
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Gokarti za prosti čas - 2. del: Varnostne zahteve za objekte za gokart

Leisure karts - Part 2: Safety requirements for karting facilities

Freizeitkarts - Teil 2: Sicherheitstechnische Anforderungen für Kartbahnen

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Leisure karts - Part 2: Safety requirements for karting facilities

Karts de loisir - Partie 2 : Prescriptions de sécurité relatives aux installations de karting

Freizeitkarts - Teil 2: Sicherheitstechnische Anforderungen für Kartbahnen

This European Standard was approved by CEN on 20 August 2016.

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EN 16230-2:2016 (E)**European foreword**

This document (EN 16230-2:2016) has been prepared by Technical Committee CEN/TC 354 “Non-type approved light motorized vehicles for the transportation of persons and goods and related facilities”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

Karting facilities come in a wide range of types. Such a wide range implies a gradation of the safety requirements, considering the specific level of hazards.

On the basis of regular risk assessment, karting facilities operators should take reasonable measures to ensure the safety of users taking into consideration the risks as well as the restrictions imposed by technical and commercial factors.

Karting facilities operators should also consider EN 16230-1:2013+A1:2014, when carrying out risk assessments.

This European Standard includes requirements, guidance and notes. While compliance with requirements is mandatory, guidance, which can be used in accordance with a risk assessment and notes, gives additional information and/or explanations.

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EN 16230-2:2016 (E)**1 Scope**

This European Standard is applicable for karting facilities, as defined in 3.1 below, relating to karts that are not intended to be used on public roads.

This European Standard applies to:

- operation of leisure karts only;
- operation of karts propelled by a combustion engine, including LPG (liquefied petroleum gas) combustion engines;
- operation of karts used on indoor and outdoor tracks, permanent or temporary;
- operation of karts used on supervised tracks designed for leisure karting, with a permanent hard surface (such as asphalt, concrete, timber and steel);

This part 2 does not consider the use of karts on ice or snow.

This European Standard does not apply to:

- operation of karts used for competition organized by and under the responsibility of Commission International of Karting (CIK), Federation International of Automobile (FIA) and/or ASN (a national automobile club or other national body recognized by the FIA as sole holder of sporting power in a country), ensuring through the granting of licenses by an ASN or one of its affiliated members as defined in the International Sporting code, compliance with the safety, sporting, disciplinary and technical rules of the CIK-FIA and/ or ASN;
- operation of karts designed exclusively for competition and toys;
- operation of cross country karts;
- operation of karts with two or more seats;
- operation of karts used on tracks not mentioned above (such as mud, earth);
- operation of karts used in amusement parks.

The requirements related to the hazards of electrical propulsion are not covered in this European Standard. Other than when the hazards of electrical propulsion dictate the operational standards herein are applicable to electrical carts.

This European Standard specifies appropriate measures to eliminate or reduce the risks arising from significant hazards, hazardous situations and events (see Clause 6) during operation and maintenance of the karts, when carried out as intended by the manufacturer.

This document is the part 2 covering track design and operation referred to in the scope of part 1.

This document serves to provide guidance for circuit operators regarding the safe operation of karting facilities. It does not remove the participants' responsibility for their own safety, nor does it remove the overriding principle that motorsport, due to its very nature, can be dangerous.

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 1838, *Lighting applications - Emergency lighting*

EN 12193, *Light and lighting - Sports lighting*

EN 16230-1:2013+A1:2014, *Leisure karts - Part 1: Safety requirements and test methods for karts*

UNECE 22, *Regulation No. 22; Uniform provisions concerning the approval of protective helmets and their visors for drivers and passengers of motor cycles and mopeds*

3 Terms and definitions

For the purposes of this document terms and definitions given in EN 16230-1:2013+A1:2014 and the following apply.

3.1

karting facility

area including kart track, paddock, pits, briefing area, garage/workshop and other facilities directly related to the karting on the track

3.2

karting facilities operator

designated person/organization responsible for the operation of the karting facilities in terms of health and safety

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3.3

mechanical/technical staff

trained and competent persons responsible for the maintenance of the technical equipment

Note 1 to entry: E. g. Mechanics.

3.4

kart track operations staff

trained and competent persons responsible for the safe supervision of participants on the track and pits

Note 1 to entry: E. g. race directors and marshals.

3.5

pits

clearly defined area with restricted access to and from track where karts are parked and drivers join and leave karts

3.5.1

pit entrance

clearly defined access to pits from tracks

3.5.2

pit exit

clearly defined access to tracks from pits

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3.6

barrier

means by which track is defined offering impact absorption and/or kart deflection so as to minimise the risk to drivers

3.7

kart track

defined area within which kart can be driven up to the deemed maximum speed of the track concerned

3.8

paddock

outdoor area used for the storage and maintenance of karts, which may also be used for other ancillary purposes

3.9

garage**workshop**

indoor, enclosed space used for the storage and maintenance of karts

3.10

briefing area

area or room used to brief participants before driving a kart

3.11

public area

other area of the karting facilities where the public have unrestricted access

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3.12

run off area

area separating the edge of the track from the final stop barrier

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3.13

control measure

3.13.1

physical kart control measure

physical measure taken to restrict kart movement not dependent on driver action

Note 1 to entry: Such measures include but are not confined to barriers, tyre walls, chicanes, gravel traps etc.

3.13.2

final physical kart control measure

physical measure taken to ensure karts remain within defined areas not dependent on driver action

3.13.3

interim physical kart control measure

physical measure taken to impede kart progress so as to prevent contact with or reduce the impact speed on contact with final physical kart control measures

3.14

marshal

person employed and trained in operator track procedures and in dealing with incidents that can reasonably be expected to occur within the confines of the track and pits

3.15**short-cut**

physical feature of a track designed to provide faster access for staff to recover and remove karts as required

Note 1 to entry: Although it offers access from one part of the track to another, it is constructed to appear to be a continuous barrier, discouraging use other than by staff.

3.16**outdoor track**

karting facility where the kart track is open to the weather elements (or conditions)

3.17**indoor track**

karting facility in which the kart track is covered and enclosed

3.18**appropriate protection equipment****APE**

suitable crash helmet, racesuit and gloves

4 Classification**4.1 Slow track**

Track designed and operated to minimize risk of driving karts up to 70 km/h.

4.2 Fast track

Track designed and operated to minimize risk of driving karts up to 110 km/h.

5 Safety requirements**5.1 General**

Prior to first opening to the public, after any major technical modification or after one or more incidents or accidents the karting facilities operator shall ensure that a specific risk assessment or review thereof is carried out. An example of a risk assessment procedure is provided in Annex A. Kart safety is dependent on five critical factors:

- manufacture of kart;
- kart selection;
- operation;
- driver briefing and information; and
- driver responsibility.

The karting operation shall be designed and managed such as to minimize risk to the participants. Such risk cannot be completely eliminated from the kart sporting environment.

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The track shall have appropriate barriers minimising the probability of and/or risk arising from a participant driving against walls, pillars or other obstacles. The operation shall comprise the following areas:

- pits;
- track;
- paddocks and/or garages.

5.2 Pits**5.2.1 Requirements**

All drivers shall access the pits from the public areas solely on the instruction of staff and join a kart promptly. On return to the pits, drivers shall leave the karts on staff instruction and leave the pits promptly.

The karts shall enter the track from the pits and shall be able to return to the pits again after the end of the ride. The pits shall provide sufficient free space for the number of karts in use.

5.2.2 Access pits to track

The karts shall enter the track in the general direction of traffic flow. The track risk assessment shall consider the risks arising from entering the track and specify procedures to minimize those risks.

5.2.3 Access track to pits

The entrance to the pits shall be located at a position where unhindered exit from the track is possible.

Drivers should not exceed walking speed to ensure the safety of the marshals and other drivers in the pits. The design of the pits entrance can assist in these objectives by the provision of speed calming measures, e.g.:

- construction of a chicane within the pit lane to avoid straight line access;
- stop-box;
- electronic measures;
- pit entrance gate.

The entrance area shall be kept clear to permit drivers to leave the track and enter the pits at any time. Should calming measures include the use of a pit entrance gate, alternative safe areas shall be available for drivers to access in an emergency.

5.2.4 Parking area

Procedures shall be in place to ensure that unoccupied karts cannot roll directly to the track.

5.2.5 Pit dimensions

The minimum dimensions of the pits shall be such as to permit the free flow of karts to and from the track and drivers to and from the karts without requiring re-arrangement of parked karts.