



SLOVENSKI STANDARD
SIST EN 1176-4:2000

01-september-2000

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Playground equipment - Part 4: Additional specific safety requirements and test methods
for runways

Spielplatzgeräte - Teil 4: Zusätzliche besondere sicherheitstechnische Anforderungen
und Prüfverfahren für Seilbahnen

Equipements d'aires de jeux - Partie 4: Exigences de sécurité et méthodes d'essai
complémentaires spécifiques aux téléphériques

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Ta slovenski standard je istoveten z: EN 1176-4:1998

ICS:

97.200.40 Q|ž æ Playgrounds

SIST EN 1176-4:2000 **en**

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Descriptors: playgrounds, recreation facilities, toys, ropeways, communal equipment, safety requirements, accident prevention, specifications, tests, characteristics, marking

English version

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This European Standard was approved by CEN on 22 July 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents	Page
Foreword	3
1 Scope	4
2 Normative references	4
3 Definitions	4
4 Safety requirements	5
4.1 General	5
4.2 Framework and fixing points for the main cable	5
4.3 Calculation of forces acting on the cable of a runway	6
4.4 Stops	6
4.5 Traveller	6
4.6 Suspension element	6
4.7 Runways arranged in parallel	7
4.8 Grips	7
4.9 Seats	7
4.10 Speed	7
4.11 Free height of fall	8
4.12 Ground clearance	8
4.13 Cable clearance	10
4.14 Impact area	10
5 Test report	12
6 Information to be provided by the supplier/manufacturer	12
7 Marking	13
Annex A (normative) Method for the determination of performance of stops	14
Annex B (normative) Method for the determination of the maximum speed of the traveller	15

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational 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 February 1999, and conflicting national standards shall be withdrawn at the latest by February 1999.

This standard consists of a number of parts as follows:

EN 1176-1	Playground equipment - Part 1 : General safety requirements and test methods.
EN 1176-2	Playground equipment - Part 2 : Additional specific safety requirements and test methods for swings.
EN 1176-3	Playground equipment - Part 3 : Additional specific safety requirements and test methods for slides.
EN 1176-4	Playground equipment - Part 4 : Additional specific safety requirements and test methods for runways.
prEN 1176-5	Playground equipment - Part 5 : Additional specific safety requirements and test methods for carousels.
EN 1176-6	Playground equipment - Part 6 : Additional specific safety requirements and test methods for rocking equipment.
EN 1176-7	Playground equipment - Part 7 : Guidance on installation, inspection, maintenance and operation.

This standard should not be used in isolation, but in conjunction with EN 1176-1 and EN 1176-7 and EN 1177 - Impact absorbing playground surfacing - Safety requirements and test methods. It amends and supplements EN 1176-1 and EN 1177.

Where runways are combined with other items of children's playground equipment, the relevant standards applying to the other items of equipment should also be consulted.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies additional safety requirements for runways intended for permanent installation for use by children. This standard is applicable to runways that children travel on or along a cable by the use of gravity.

2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies:

EN 1176-1:1998	Playground equipment - Part 1 : General safety requirements and test methods.
EN 1176-2:1998	Playground equipment - Part 2 : Additional specific safety requirements and test methods for swings.

3 Definitions

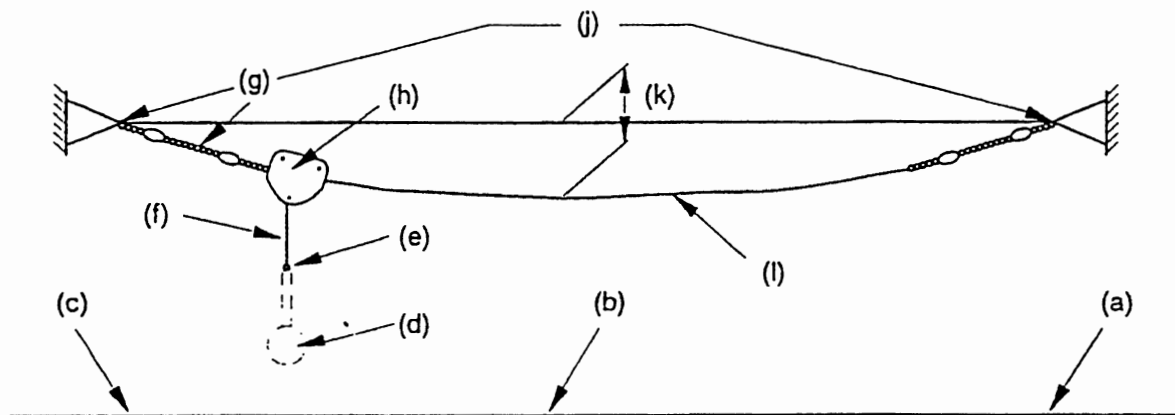
For the purposes of this standard, the definitions given in EN 1176-1 apply, together with the following.

3.1 runway; cableway: Item of children's playground equipment that children can travel on or along a cable under the force of gravity (see figure 1).

3.2 starting point: Area in which the user can reach the grip or seat and set the equipment in motion.

3.3 area of travel: Area in which the user can travel freely.

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- | | |
|----------------------------|-----------------------------|
| a) Terminus/starting point | g) Stop |
| b) Area of travel | h) Traveller |
| c) Terminus/starting point | j) Main cable fixing points |
| d) Seat | k) Sag |
| e) Grip | l) Main cable |
| f) Suspension cable | |

Figure 1: Runway terms

3.4 terminus : Area farthest away from the starting point that the user can reach by travelling across the area of travel.

3.5 traveller: Moving part that, by influence of gravity, moves the user along the main cable (see figure 1).

3.6 suspension cable: Part of the structure between the traveller and the seat or grip.

4 Safety requirements

4.1 General

Runways shall comply with the requirements of EN 1176-1 except in so far as they are modified by this standard. <https://standards.iteh.ai/catalog/standards/sist/9ae72e8f-b91f-4e11-acf1-fc74e1b63342/sist-en-1176-4-2000>

4.2 Framework and fixing points for the main cable

Framework and fixing points for the main cable shall be designed to withstand the computed loads (static and dynamic) transmitted by the cable, in accordance with EN 1176-1.

4.3 Calculation of forces acting on the cable of a runway

The main cable shall be so designed that it can withstand the forces acting upon it according to annex B of EN 1176-1 : 1998.

4.4 Stops

When tested in accordance with annex A the stop at the terminus shall progressively slow down the traveller until it stops and the suspension cable shall not swing through an angle of more than 45° as shown in figure 2.

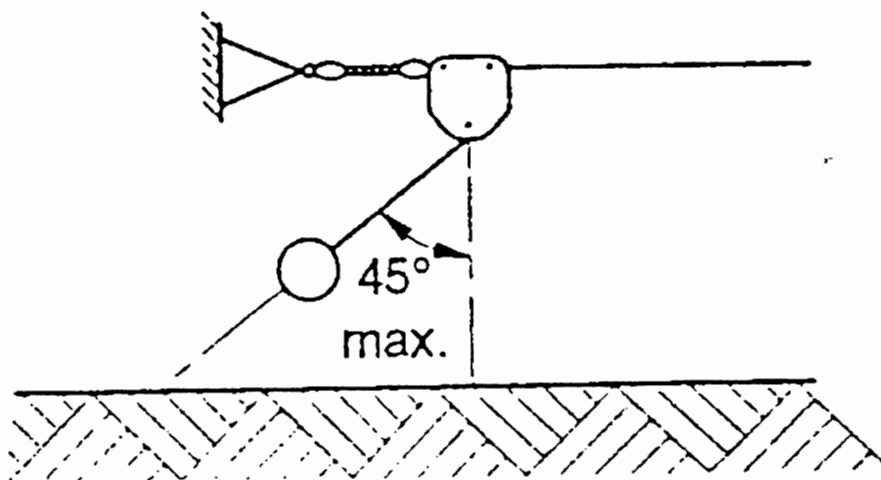


Figure 2 : Swinging at the stop when there is additional starting speed

4.5 Traveller

The traveller shall be protected so that it cannot slip out of place. Accidental access to the sheaves shall be prevented (e.g. by cladding them).

There shall be only one traveller (see figure 1) on the same cable.

If the mechanism swings in the direction of travel it shall be designed in such a way that it does not cause damage to the cable.

4.6 Suspension element

The suspension element (see figure 3a)) shall either :

- a) be flexible; or
- b) conform to the ground clearance requirements given in 4.12.

For suspension-type runways the suspension element shall be installed with a ground clearance of at least 2m (see figure 3a)) above the area of travel when measured unladen in the centre of the length of travel.

NOTE 1: The construction of the flexible suspension cable should be such as to exclude the risk of strangulation.

NOTE 2: Where necessary, a device in which people cannot become trapped and/or strangled may be provided for pulling the traveller.

4.7 Runways arranged in parallel

For cable runways arranged in parallel, the distance between the cables shall be at least 2000 mm.

4.8 Grips

In suspension type runways, from which users will hang by the hands when the equipment is used correctly, the grip shall not be enclosed (e.g. loop).

NOTE : This is to ensure that children can get off the equipment at all times.

It shall not be possible to climb on the grip. The end of the grip shall have an impact surface area of at least 15 cm².

Suspension type runways from which users will hang by the hands shall conform to the grip requirements of 4.2.4.6 of EN 1176-1 : 1998.

4.9 Seats

Seats shall be designed so that the user can get out of the seat at any time.

NOTE : Seats comprising loops or straps are unsuitable.
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When tested in accordance with annex C of EN 1176-2 : 1998, there shall be no peak values of acceleration greater than 50 g and the average surface compression shall not exceed 90 N/cm².
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4.10 Speed

When tested in accordance with annex B the maximum speed of the traveller shall not exceed 7 m/s.