PD CEN/TR 16396:2012

BSI Standards Publication

Playground equipment for children — Replies to requests for interpretation of EN 1176:2008 and its parts

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The UK participation in its preparation was entrusted to Technical Committee SW/65, Children's playground equipment.

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

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Playground equipment for children - Replies to requests for interpretation of EN 1176:2008 and its parts

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Kinderspielplatzgeräte - Antworten zu Interpretationsanfragen zur EN 1176:2008 und deren Teilen

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Foreword

This document (CEN/TR 16396:2012) 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.

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

Introduction

Interpretations and no-action decisions

This Technical Report contains replies to requests for interpretations concerning the understanding of clauses in EN 1176:2008 and its parts. The replies concern those requests that have resulted in an interpretation or a decision that no action is required as the standard is sufficiently clear.

An interpretation does not have the same status as the text of the standard. However, following an interpretation gives assurance that the relevant clause of the standard has been correctly applied. An interpretation is a clarification of the meaning of the standard.

Disclaimer

The interpretations have been derived by expert groups of CEN/TC 136/SC 1 and have been circulated to National Standards Bodies for approval. The information contained herein does not reflect the full formal approval by CEN or CEN member bodies. It should be noted that the interpretations are neither part of any standard nor have been referenced in the Official Journal of the European Union.

Requests for interpretations may be submitted by a CEN member body through its national committee or by a CEN/TC 136 liaison (but not directly by an individual or a company) – in accordance with the interpretation protocols agreed by CEN/TC 136/SC 1. The requests are then channelled to the CEN/TC 136/SC 1 interpretation panel, which will then deal with the request.

A request for an interpretation may lead to:

a) an interpretation of the standard with no action to the standard (no revision and no amendment)

This should reflect a reasonable interpretation of how the standard should be used, taking into account:

1) the wording of the standard;

2) the rationale of the standard;

3) the history of the standard.

This is also applicable when it is agreed that the standard appropriately specifies how playground equipment shall be assessed.

b) a proposal for an amendment of the standard

This is applicable when it is agreed that the standard is deficient in some way.

NOTE Interpretation and no-action decisions are published in CEN/TR 16396, which will be updated on a regular basis

Proposals for amendments will be progressed as new work item proposals in accordance with CEN rules.

c) a future revision

This is applicable when the standard is not clear and a suitable amendment cannot be found to fully clarify the question. Further work is needed on existing requirements or new requirements may need to be drafted.

Proposals for a revision will be progressed as a new work item proposal in accordance with CEN rules.

Answers to requests for interpretations

Since requests for interpretations are submitted through a CEN member body, it is assumed that the member body will keep itself informed about decisions concerning the request and its progress and will itself inform the originator of the request as appropriate.

The following information requests have been included in this Technical Report:

2009
2009-01 DS - Part 4 - 4.5
2009-02 DS - Part 10 - 4.3.7
2009-03 DS - Part 10 - 4.4.2.4
2009-04 AFNOR - Part 1 - 4.2.8.1 Table 2
2009-05 AFNOR - Part 1 - 4.2.8.1 Figure 14
2009-06 DS - Part 1 - 4.2.8.4
2009-07 DS - Part 6 - 4.6
2009-08 DS - Part 6 - 4.10
2009-09 SN - Part 1 - 4.2.7.2 a) and b) and Annex D

2010
2010-01 SFS - Part 1 - 4.2.4.4
2010-02 SFS - Part 1 - 3.5
2010-03 SFS - Part 1 - 4.2.8.5.3
2010-04 SFS - Part 1 – Scope
2010-05 DS - Part 2 - 4.10.1
2010-06 DS - Part 2 - 4.2
2010-07 DIN - Part 1 - 4.2.8.5.2
2010-08 CEN/TC 136/SC 1/TG 1 - Part 6 - Table 1
2010-09 SII - Part 1 gGeneral

2011
2011-01 ASI - Part 11 - Scope, signage
2011-02 TSI - Part 1 - 4.2
2011-03 SNV - Part 1 - 4.2.7.3
2011-04 SNV - Part 1 - 4.2.4; 4.2.4.4
2011-05 SIS - Part 3 - 4.2
2011-06 DS - Part 2 - Annex B

NOTE ASI – Austria, DS – Denmark, SFS – Finland, AFNOR – France, DIN – Germany, SII – Israel, SIS – Sweden, SN – Switzerland, TSI – Turkey,

1 Scope

The purpose of this CEN Technical Report is to provide replies to requests for interpretations of all parts to EN 1176.

2 EN 1176-1:1998, Playground equipment — Part 1: General safety requirements and test method

2.1 General (interpretation request 2010-09 – SII)

Question

1 We would appreciate a formal answer from the TC136/WG in relation to how to test the "rope carousel" and to provide an explanation for the rationale for testing them only according to EN 1176-1 and not according to EN 1176-5?

2 During that period our WG discussed the EN 1176-1:2008 standard, and now have a few questions:

a) We need to obtain the position regarding the criteria for fire resistance of playground equipment placed mainly in open areas.

b) We need to obtain an explanation as to why the instructions for tests of playground equipment in accordance with EN 1021 have been deleted.

c) Why are there no clear instructions besides the regulations of the countries as to where the equipment is assembled?

3 We are also involved with musical playground equipment (see attached photographs). Would the requirements of EN 1176 be applicable to some of them? Which types would be covered by EN 1176 and which would not? Is there any restriction to placing them in an area together with other playground equipment?

Reply

No action/interpretation

1) A picture of the specific product would be required to make a formal judgement.

EN 1176-1, 4.2.1 confirms; ‘Equipment where the primary play function is augmented by a secondary motion, e.g. rocking and/or rotating, shall conform to the additional parts of EN 1176 relating to both play functions, as appropriate, unless the equipment is specifically covered in just one of the additional parts of EN 1176.’

EN 1176-5, scope confirms; ‘This document is not applicable to equipment where the main play function in not rotating’.

2)

d) Contained Playground Equipment has the greatest risk and these requirements are now covered in the new EN 1176-10. Other than this the greatest risk is from materials that produce a surface flash effect and would not give time for users to leave the area.

e) EN 1021 was no longer thought to be necessary as a general requirement, but is still referred to in EN 1176-10.

f) All countries have different National Regulations, from which no universal requirements could be identified.

3) There are no specific requirements in EN 1176 for 'Musical' Playground Equipment. However, EN 1176-1 provides a basis for assessing all types of Playground Equipment. The judgement of when and how much of this specification to apply not only relates to the type of product, but also to where it is provided. In an unsupervised/free access situation, together with other Playground Equipment items, then some assessment to EN 1176 may be helpful.

Comments:

Question 1: Future work required to determine what is relevant for this specific type of product. This would need to be determined by risk assessment.

Questions 2 & 3: No further action required.

2.2 Scope (interpretation request 2010-04 SFS)

Question

Question 1: How high should the fence be, if it is used as the sole means of separating the playground from the exercise area?

Question 2: If distance alone is used as means of separating the playground from the exercise area, how long should this distance be?

Question 3: Can you give any other example of what other means of separating these areas there could be?

Reply

No action/interpretation

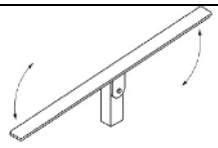
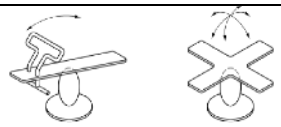
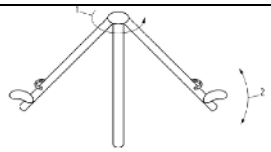
The interpretation panel recommend work is started, as a priority, for exercise equipment of this type as it is now being specified in most European countries, in association with children's playground equipment.

The panel advises that when products of this type are installed in association with children's playground equipment it will get used by children, whether intentional or not, because segregating by fencing, for example, does not work as a solution. Therefore, this type of equipment should be designed and provided without unacceptable risks to these children, and comply with relevant requirements in EN 1176, e.g. according to test protocols from accredited test houses, until a new standard is developed.

2.3 3.5 (interpretation request 2010-02 SFS)

Question

3.5 explains that forced movement is "e.g. sliding, swinging, rocking". Different rocking equipment provides different types of movement. This is expressed in the table below:

	Type 1 and 6	Type 2-4	Type 5
Product example			
Movement type	Up-down	Slow and short horizontal movement	Rotation with vertical movement
Length of movement	60 - 130 cm	20 - 40 cm	infinite
Movement speed	Free fall down is possible	Slow	Potentially fast

It is obvious that there is a distinction between different "rocking" movements.

Question 1: Are types 2 – 4 rocking equipment intended to require free space like in 3.5?

4.2.8.2.5, 3rd paragraph: "In most cases there may be overlapping of falling spaces including impact areas. Unless specified in other parts of this standard, overlapping of the *falling space where forced movement exists should not occur.*"

Question 2: Are types 2 – 4 rocking equipment intended to be installed without overlapping falling space as in 4.2.8.2.5?

Reply

No action/interpretation

Answer to the question 1)

The definition for Free Space in EN 1176-1:2008 point 3.5 refers to 'Rocking Equipment'.

In addition, in 4.2.8.5.2, 1st paragraph, there is a clear reference to rocking equipment as having forced movement (thus free space).

As no exceptions are given in EN 1176-6 it applies to all types of rocking items.

Additionally during the 2008 revision, changes were made to the requirements for a tested surface to be provided. Part of these discussions assumed that small rocking items, such as type 2a, had a forced movement/free space to ensure they were required to have an impact attenuating surface in accordance with EN 1176-1.

Answer to the question 2)

Yes, types 2 – 4 rocking equipment are intended to be installed without overlapping falling space according to EN1176-1, 4.2.8.2.5, 3rd paragraph, as there is no exception in Part 6.

However, please also see EN 1176-6, 4.10; This allows the Falling Space for rocking equipment types 1, 2, 3 and 4, to be reduced to a minimum of 1m, from the general requirements in EN 1176-1.

Comments:

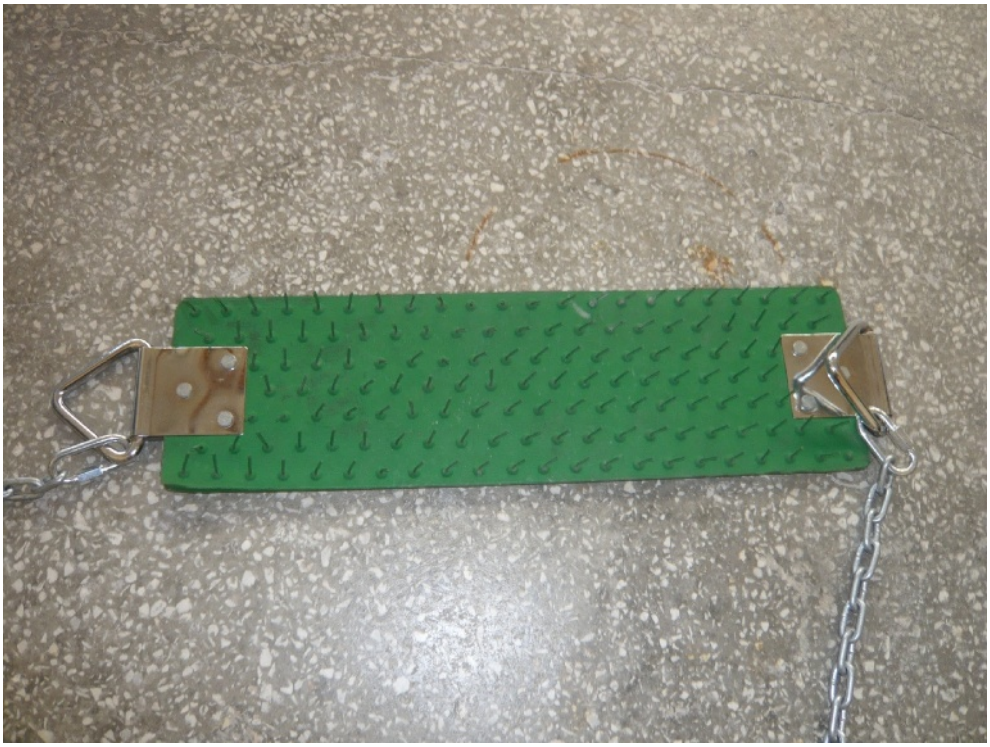
Risks associated with a closer separation/proximity of single-user rockers, such as type 2a, are much less than for multiuser types as that single user has a far higher level of control. A closer separation distance for Rocking Equipment, of this type, could be considered, as an exemption, as future work. This would need to be carefully considered to the existing requirements of EN 1176-1, - 4.2.8.2.

We would recommend that specific types of Rocking Equipment complying with EN 1176-6 should be exempt from the restriction in EN 1176-1, not to overlap Falling Spaces (should be confirmed by risk assessment). This would still enforce that they include some forced movement, but acknowledges it to be of a small, lower risk, amplitude.

2.4 4.2 (interpretation request 2011-02 TSI)

Question

Is the product seen in the photos suitable for 4.2 of EN 1176-1?



Reply

No action/interpretation

EN1176-2 does not contain any specific requirements for the stiffness of swing seats.

EN 1176-1, 4.2.1 requires that: 'The dimensions and degree of difficulty…..is apparent and foreseeable by the child'. Some of these judgements will be subjective and it is not possible for this committee to comment on specific products and circumstances.

However, the panel is aware that 'belt seats' are common in some markets, for use on swings, and we are not aware of any reason why this type of seat should not be accepted in principle.

2.5 4.2.4; 4.2.4.4 (interpretation request 2011-04 SNV)

Question

How are the requirements for protection against falling on easily accessible suspension bridges?

Reply

Future Revision

There are no specific requirements for protection against falling on easily accessible suspension bridges (see comments below).

Suspension bridges offer much higher levels of challenge than rigid platforms. The movement of the walkway and the construction of the side elements will provide encouragement to users to hold on. This is different to a 'platform', which is defined in EN 1176-1, 3.20, where barriers or guardrails are required.

In the case of suspension bridges, which include handhold supports to the side, the free height of fall should be measured from the walkway.

EN 1176-1, 4.2.1 states that 'the dimensions and degree of difficulty of the equipment should be suitable for the intended user group'. In the case of access, this would include an assessment to ensure any access provided is not 'easily accessible' to those users who may not be able to cope with the expected risk factors.

Comment:

The proposal to introduce new requirements including protection against falling and limiting the height of 'easily accessible' suspension bridges may be helpful to allow better supervision of less able users. We recommend that this is considered as future work.

2.6 4.2.4.4 (interpretation request 2010-01 SFS)

Question

It is not clear how the width of the opening should be measured. Text speaks about "clear opening" and even Figure 10a indicates that opening is measured from narrowest point. Still some clarifying information in text would be nice as well a figure showing how the width of the opening should be measured.

Reply

No action/interpretation

Agreed this could be clarified:

Propose to amend 4.2.4.3, 2nd Para., 2nd sentence;

'The width of entrance and exit opening in guardrails, with exception of stairs, ramps and bridges, shall have a maximum clear opening of 500 mm, when measured horizontally at a position, with a height between 600 mm to 850 mm from the platform.'

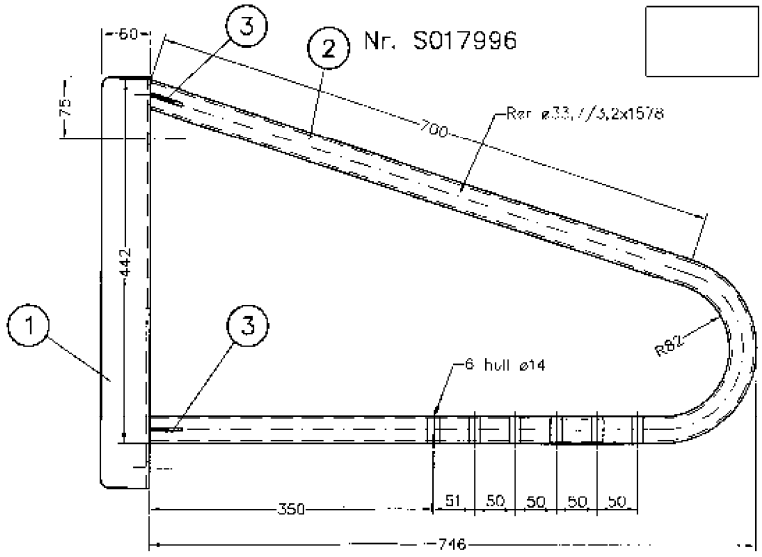
Propose to amend 4.2.4.4, 2nd sentence:

'The width of entrance and exit opening in barriers shall have a clear opening of 500mm maximum, when measured horizontally at any point, unless a guardrail is provided across the opening……'

2.7 4.2.7.2 a) and b) and Annex D (interpretation request 2009-09 SN)

Question

Is this part of the equipment, defined as a "completely bound opening", supposed to comply with the requirements in 4.2.7.2 a) and to be tested in accordance with Annex D, D.2.1, probe a), b) and c)? Or, is this a V-shaped opening which is supposed to comply with 4.2.7.2 b) partially bound and V-shaped openings, to be tested in accordance to D.2.2 and the use of the test template for V-shaped openings?


Nr. S017996
60
75
442
700
Rør ø33,7/3,2x1578
R82
6 hull ø14
350
51
50
50
50
50
746

Reply

No action/interpretation

1) Yes, this entrapment situation is defined as a completely bound opening and so must comply with the requirements in EN 1176-1, 4.2.7.2a)

2) Yes, this large completely bound opening also includes a 'V' shaped opening and so must comply with the requirements in EN 1176-1, 4.2.7.2b)

2.8 4.2.7.3 (interpretation request 2011-03 – SNV)

Question

Does it make sense to test the climbing knobs by the toggle test?

Reply

No action/interpretation

The current test requirements in EN 1176-1, 4.2.7.3 'entrapment of clothing/hair' are restricted to Slides, Sliding Pole and Roofs. These were viewed to be the highest priority for this type of risk based on accident data that was reviewed at the time of the standards publication. In all of these cases, the user is subject to 'forced movement' on equipment items, where no hand or foot support elements are provided.

The current standard does not view climbing as a 'forced movement' activity.

A climbing wall presents a different risk case, as there will generally be a number of hand and foot holds within reach of the user, at any one time, which gives them greater opportunities to control their movements.

Should new accident data become available that suggests climbing walls are higher risk situations that require a new standard requirement and method of test, then this should be presented to the committee for review as 'future work'

2.9 4.2.8.1 Table 2 (interpretation request 2009-04 AFNOR)

Question

In the case of a hanging position whereupon the user cannot lift himself up to the hand support (please see example below), what is the free height of fall to be taken into account?

Table 2 — Free height of fall for different types of use

Hanging (**When full body support is provided by the** hands only and the whole body can be lifted up to the hand support, see Figure 14b)	From hand support height to surface below

Example:

Reply

No action/interpretation

The standard is clear.

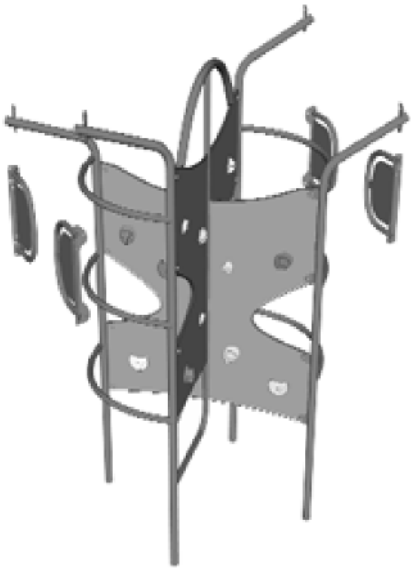
For hanging use, the free height of fall is measured from the hand support position.

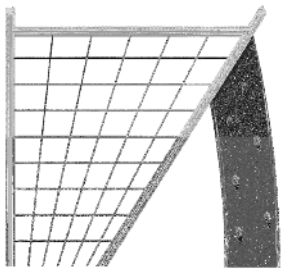
It is not always clear whether a user can lift themselves up, so it is the hand support that is referred to in Table 2 for Hanging use.

2.10 4.2.8.1 Figure 14 (interpretation request 2009-05 AFNOR)

Question

How do we measure the free height of fall of the following:





Reply

No action/interpretation

For the left hand example, the Free Height of Fall (h) is measured from the top, as access is encouraged to this position.

For the right hand example the Free Height of Fall (h) is measured from the top of the climbing panel/horizontal curved support, as it appears access is encouraged to this position.

— If there are no support points for feet (climbing hold, rope, mesh,…) between the highest hands position and this height minus 1 m, we consider playground equipment free height of fall as being the highest hands position minus 1 m.

— If there are support points for feet (climbing hold, rope, mesh,…) between the highest hands position and this height minus 1m, we consider playground equipment free height of fall as being from the highest hands position.

The Panel does recognise that climbing use offers the best security to the user and the measurement of Free Height of Fall should be reviewed by SC1.

2.11 4.2.8.4 (interpretation request 2009-06 DS)

Question

It is stated in 4.2.8.4 that adjacent parts of play structures with a difference in free height of fall of less than 600 mm may be in the falling space. This leads us to ask the following questions:

— From where and to where is the 600 mm measured?

— What is the definition of "adjacent parts"?

In addition, we would welcome illustrations of acceptable parts of equipment or play structures in the falling space.

Reply

No action/interpretation

1) The difference in height between adjacent parts is measured from the Free Height of Fall position of the upper structure to the top of the structure below. (From where the user can fall to where the user can fall on).

2) An adjacent part means a part of the same play equipment that is adjoining/near by, within the Falling Space.

2.12 4.2.8.5.2 (interpretation request 2010-07 DIN)

Question

With reference to passage of text: "The critical fall height of the surfacing shall be equal to, or greater than the free height of fall of the equipment."

1) Is an impact attenuating of the impact area in case of a fall height of 0 cm (slide lies directly on the ground) required, although no minimum requirement for surface on the lateral sides of the slide exists?

2) What about the definition of the objective in relation to the slides with fall heights below 60 cm?

Example:

Reply

No action/interpretation

Question 1 - The Standard is clear:

EN 1176-3, 4.8 states that the surface around the run-out section shall have a critical fall height of at least 1000 mm. This is the highest risk area, as a slide designed to EN 1176-3 will 'contain and guide' the user until they reach this section of the slide. (There are no specific requirements given for the sliding or starting section of the slide).

When tested in accordance with EN 1177 a zero mm Fall Height onto any type of surface will produce a zero HIC value. Therefore, an Impact Area for a zero Fall Height will by implication will have no test requirements, but it must still comply with the requirements for the Falling Space given in EN 1176-1, 4.2.8.4.

Question 2 – The Panel could not understand this question.

Within the revision of EN 1176-1, 4.2.8.5 it is clear that no test is required for a surface material that is in accordance with the requirements of Table 4. However, for surface materials not in accordance with Table 4 and provided for equipment with forced movement, such as slides, then a test is required at all fall heights.

The Interpretation Panel understand that the surface to the side of a sliding section on an Embankment Slide has a low risk of falling, as the structure contains and guides the user. This could be considered for an exception from the Part 1 requirements for a tested surface.

The panel would however recommend that the requirements for Falling Space in EN 1176-1, 4.2.8.4, are still maintained, including the requirement that the space stall not contain any obstacles onto which a user could fall and cause injuries.

2.13 4.2.8.5.3 (interpretation request 2010-03 SFS)

Question

Question 1: As there are no requirements for normal impact area other than "softness", what requirements are there for "impact area surface with no test requirement"?

Question 2: As "impact area surface with no test requirements" can only exist when the falling height is less than 60 cm and there is no forced movement involved, is it possible to have be soft or blunt objects (not considered obstacles according to EN 1176-1, 3.18) in this area, e.g. a tree or wall?

Reply

No action/interpretation

Answer for question 1) Although this part of the Impact Area does not require a tested surface, it must still comply with the requirements for the Falling Space given in EN 1176-1, 4.2.8.4. Further information on obstacles is also given in EN 1176-1, 3.18.

Answer for question 2) Anything within this space will require a risk assessment to determine whether it could cause injuries to the user as defined in the EN 1176-1, 4.2.8.4 and 3.18.

For further information, in the case of equipment installed on or against a wall; EN 1176-1, 4.2.8.2.5 refers to a reduction in the extent of the Falling Space being permitted.

3 EN 1176-2:2008 - Playground equipment - Part 2: Additional specific safety requirements and test methods for swings

3.1 4.2 (interpretation request 2010-06 DS)

Question

What is the required ground clearance for a multiple user swing seat, diameter > 900mm?

4.2 specifies the minimum ground clearance to be 400mm for tyre seats.

Question 1: Does this also apply for bird's nest seats and in the affirmative, should the standard then be amended accordingly?

Fig. 5 clearly and unambiguously shows that h4 is the "ground clearance" and that the measuring point is the underside of the seat component.

Question 2: At what point of a multiple user platform with a flexible net (or small flexible tyre) hanging underneath should the ground clearance be measured?

In case it is the underside of a flexible net, should a load be applied before measurement, and if so, how much load?

Reply

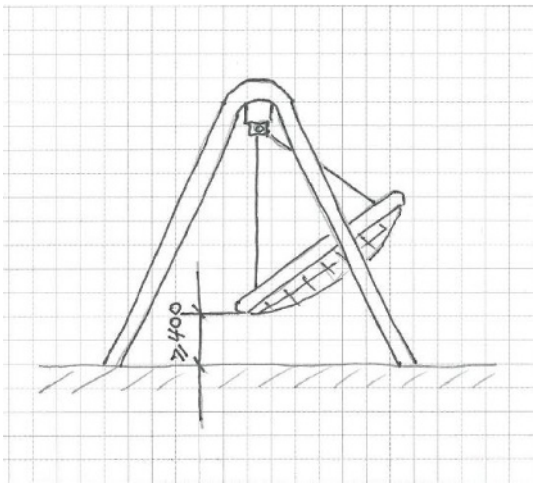
Amendment

Amend EN 1176-2, 4.2, 2nd paragraph;

For tyre and basket seats of swings of Types 1, 2 and 3, the ground clearance in the resting position shall be at least 400 mm.

In the case of contact swings with vertical tyres as seats (see Figure 11), the ground clearance can be reduced to 100 mm minimum.

In the case of a basket seat (i.e. birds nest) the ground clearance is measured from the rigid part of the seat in its most onerous position. See Fig X.



Basket type seats (i.e. birds nest) are relatively new to the market and should be considered for future work, in case new specific clauses are required.

Other similar types of seat with flexible elements hanging below the main rigid body support section, should also be considered.

3.2 4.10.1 (interpretation request 2010-05 DS)

Question

How do we measure the free height of fall for a multiple user swing w/ diameter > 900mm?

The Danish position is that Figure 9 in EN1176-2 is unambiguously clear to the effect that the measuring point is the centre of the seat when raised by 60°, but practice seems to vary nationally; i.e. a DIN Beiblatt describes it as the upper edge of the seat at 60°.

Which one is correct?

Reply

No action/interpretation

EN 1176-2, 4.10.1 is clear that the Free Height of Fall is measured from the centre of the seat vertically to the ground when the swing seat is raised by 60º.

This is a universal requirement for all types of seat.

Basket type seats (i.e. birds nests) are relatively new to the market and should be considered for future work, in case new specific clauses are required.

3.3 Annex B (interpretation request 2011-06 DS)

Question

EN 1176-2 does not specify the requirements for the accelerometer and the recording device used for the swing impact testing. Should the specification in EN 1177 (Impact attenuating surfaces) apply (range 0,3 to 1 kHz and a minimum sampling rate of 10 kHz) or should other specifications be used for the swing impact measurements?

Reply

Future Revision

In principal the measuring device of EN 1177 can be used. Especially on account of the duration of the impact time and economic reasons the range 0,3 Hz to 1000 Hz can be changed to 1 Hz to 1000 Hz.

Proposal:

Add a new clause after clause B.3.9

(original text from EN 1177:2008, underlined correction)

B.4: Impact measuring equipment

~~**4.2.8**~~ **B.4.1 Impact measuring equipment**, consisting of an accelerometer measurement system ~~(4.2.9)~~, B.4.2 and a recording device ~~(4.2.10)~~ **B.4.3** ~~and a HIC calculation program (4.2.11).~~

~~**4.2.9**~~ **B.4.2** Accelerometer measurement system, capable of measuring all frequencies in the range ~~0,3~~ 1 Hz to 1 000 Hz and having a sufficient response at all frequencies to keep amplitude errors below 5 %, in accordance with ISO 6487. It shall be capable of measuring, recording and displaying the acceleration and time duration of each complete impact.

~~NOTE For a sufficient response at low frequencies, the −3 dB lower limiting frequency should be less than or equal to 0,3 1 Hz to reduce the error by overshooting the baseline after the impact and underestimating the g-max. and HIC score, particularly for longer pulse durations (see frequency response diagram in ISO 6487:2002, Figure 1). An accelerometer with a time constant of 2 s or greater and appropriate signal conditioning will generally meet this requirement.~~

~~**4.2.10**~~ **B.4.3 Recording device,** capable of capturing and recording the acceleration time signals produced during an impact with a minimum sampling rate of 10 kHz. Signal conditioning and filtering shall be compatible with the accelerometer and the data channel specified and shall conform to ISO 6487.

NOTE According to ISO 6487 the analogue anti-aliasing filters can have an attenuation of at least 30 dB at half the sampling rate.

4.2.11 Program for calculating the HIC value for the recorded acceleration time history of each impact, in accordance with 4.6.

~~4.3~~ B.5 Accuracy of tests

~~**4.3.1**~~ **B.5.1** Apparatus shall be equipped with calibrated measuring devices. The impact measuring system, including the signal processing equipment ~~and the measuring of drop height~~, shall be validated at least annually by a competent laboratory in accordance with EN ISO/IEC 17025.

NOTE For on-site testing, it is recommended that the frequency of equipment validation be increased.

~~**4.3.2**~~ **B.5.2** Accelerometers shall be calibrated for the whole frequency range. Recalibration shall be carried out at time intervals recommended by the manufacturer of the accelerometer or at least every two years.

Accelerometers shall have an uncertainty not greater than 5 %.

~~**4.3.3** Velocity measurement systems shall be calibrated for the whole velocity range (up to 3 m drop height).~~

~~**4.3.4** The computer algorithm used for the calculation shall be checked by imposing a half-sine curve and the result, when compared with an independent mathematical calculation of this curve, shall not deviate by more than ± 1 %.~~

~~**4.3.5**~~ **B.5.3** Reactions from the release system on the ~~headform~~ aluminium ball shall be tested by a series of at least three consecutive ~~drop~~ tests on a defined reference ~~surface~~ swing seat with constant properties. The acceleration ~~HIC~~ values obtained shall not differ more than ± 5 %.

NOTE 1 These tests are for checking any deviations or anomalies in the components and neither replace calibration nor the validation for compliance of the apparatus with this European Standard.

NOTE 2 Experience has shown that comparative testing on defined ~~surfaces~~ swing seats might not be sufficient and that an external calibration of the measuring device is required.

4 EN 1176-3:2008 - Playground equipment - Part 3: Additional specific safety requirements and test methods for slides

4.1 4.2 (interpretation request 2011-05 SIS)

Question

In 4.2, there is a requirement that the exit of all attachment slides is protected with a rail across the opening.

What danger is the rail supposed to protect from?

Is it the danger of someone being involuntary pushed or falling through the exit by mistake and then falling over the lateral protection?

If the danger is not falling over the lateral protection, but only the danger of falling down the slide, why is the requirement not valid for embankment slides?

If everything else is equal, does it really matter if you fall down an attachment slide or an embankment slide? It is only a matter of having solid ground under and beside the slide or not when you are falling, and this will not affect the outcome of the accident.

Reply

No action/interpretation

EN 1176-3, 4.2, requires attachment slides with a free height of fall greater than 1 000 mm to have a crossbar across the access opening.

The rationale of this crossbar is to encourage users into sitting position, before they attempt the sliding activity.

5 EN 1176-4:2008 - Playground equipment - Part 4: Additional specific safety requirements and test methods for cableways

5.1 4.5 (interpretation request 2009-01 DS)

Question

In the first paragraph of 4.5, does the wording "Travellers shall be provided with means to prevent accidental access to the sheaves (e.g. by cladding them)." mean that the traveller shall have an additional device for protection of fingers or can the requirement be met by constructing the traveller in such a way that its construction prevents accidental access to the sheaves? Please clarify. We also draw the attention of the Panel to 4.4.2.4 of EN 1176-10 in which a different wording has been used. In both cases, we assume that the intention is that the traveller shall be constructed so that entrapment of e.g. fingers is not possible. Please

clarify and propose a new unambiguous and identical wording for the two parts (Part 4 and Part 10) for inclusion in a possible future amendment.

Reply

The means of protection against entrapment may be integrated into the design of the traveller. (As well as the example given of 'by cladding').

The intention of the requirement is the same as EN 1176-10, 4.4.2.4.

NOTE The requirement can be assessed by using the 8 mm finger rod in EN 1176-1:2008, Figure D.10. (For additional information, the German standard for safety and powered pedestrian doors DIN 18650-2:2005, which requires gaps of less than 8 mm).

Possible action for revision:

Harmonise the wording between Part 10 and Part 4 of EN 1176.

6 EN 1176-6:2008 - Playground equipment - Part 6: Additional specific safety requirements and test methods for rocking equipment

6.1 4.6 (interpretation request 2009-07 DS)

Question

It is stated in 4.6 that "Foot rests shall be provided for each seating position when both of the following apply: the ground clearance is less than 230 mm and the structure is not damped.

How can both of the two conditions be present when the requirements of 4.9 are fulfilled?

The effect of mounting Type 1 equipment without damping effects with foot rests in accordance with 4.6 will be in conflict with Note 2 of 4.5.

Reply

Future Amendment

We agree there is a contradiction in the first paragraph of EN 1176-6, 4.6.

We recommend that 4.6 is amended.

Delete 1st paragraph;

Amend 2nd paragraph; 'Where foot rests are provided they shall be firmly fixed….'

6.2 4.10 (interpretation request 2009-08 DS)

Question

It is stated in 4.10 that "… the falling space shall be a minimum of 1 000 mm" for equipment Types 1, 2, 3 and 4.

Does this exception from Part 1 ("at least 1,5 m") also apply when the free height of fall exceeds 1 m which may be the case for Type 1 equipment (see table 1)?

Reply

No action/interpretation

EN1176-6, 4.10 allows the extent of the Falling Space to be reduced to 1 m for Type 1 rocking equipment, even when the Free Height of Fall is the maximum 1.5 m.

6.3 Table 1 (interpretation request 2010-08 CEN/TC 136/SC 1/TG 1)

Question

TG1 questions whether the superscript ‘a’ after the column heading ‘Ground Clearance’ is in the correct place – as it currently reads ANY rocking equipment can have zero ground clearance if the conditions 1) & 2) are met.

It is the opinion of TG1 that ‘a’ should be included after the word ‘optional’ at the end of lines 2 and 4 in Table 1. The effect then is that the opportunity for rocking equipment to have zero ground clearance only exists if the equipment has a damped suspension and the motion at the extremity of movement is mainly horizontal.

Reply

No action/interpretation

Not agreed at this stage:

More work is required on the consequences of this proposal to confirm this is a complete solution.

7 EN 1176-10:2008 - Playground equipment - Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment

7.1 4.3.7 (interpretation request 2009-02 DS)

Question

Paragraph 3 of 4.3.7: What does the requirement "Rope climbs and walks shall be designed to prevent limbs falling through" actually mean? Please explain and illustrate how this can be prevented.

Reply

No action/interpretation

Comments/proposal for an answer:

The intention of ‘to prevent limbs falling through’ was for them to prevent them passing through.

See example of provision where square mesh of suitable size has been used.

7.2 4.4.2.4 (interpretation request 2009-03 DS)

Question

Does the wording "The traveller shall be protected to prevent … ." mean that the traveller shall have an additional device for protection of fingers or can the requirement be met by constructing the traveller in such a way that it by it self in its own construction prevents the users trapping their fingers in the overhead track as the traveller moves along? Please clarify. We also draw the attention of the Panel to 4.5 of EN 1176-4 in which a different wording has been used. In both cases we assume that the intention is that the traveller shall be so constructed that entrapment of e.g. fingers is not possible. Please clarify and propose a new unambiguous and identical wording for the two parts (Part 10 and Part 4) for inclusion in a possible future amendment

Reply

Future Revision

The means of protection may be integrated into the design of the traveller, as well as by covering device.

The intention of the requirement is the same as EN 1176-4, 4.5. (*It is noted that indoor rides are generally on a fixed and rigid track and it is recommended that designers and manufacturers eliminate by design any finger traps in all parts of the Overhead Track Ride, in particular the traveller and linkage elements.)*

NOTE The requirement can be assessed by using the 8 mm finger rod in EN 1176-1:2008, Figure D.10. (For additional information, the German standard for safety and powered pedestrian doors DIN 18650-2:2005, which requires gaps of less than 8 mm).

Possible action for revision:

Harmonise the wording between Part 10 and Part 4 of EN 1176.

8 EN 1176-11:2008 - Playground equipment and surfacing - Part 11: Additional specific safety requirements and test methods for spatial network

8.1 Scope, signage (interpretation request 2011-01 – ASI)

Question

Question 1:

EN 1176-10, 4.3.9 signage - calls for displaying the rules for play.

Does the MB have to understand this requirement in that way that fully enclosed equipment must display rules for play since they shall be kept under supervision as stated under 4.3.4.2?

Question 2:

Contrary to this for all other playground equipment according to EN 1176-1 parts 6 to 11 and in EN 1176-7 no requirements exist to display the rules for play.

Does the MB have to understand that there is no requirement to display the rules for play for all the other equipment that is not fully enclosed since these equipments are public accessible as stated under Clause 1 in EN 1176-1?

Question 3:

If a signage is installed on a playground equipment, e. g. warning "Don´t push user on a cableway seat" even though it is not required according to EN 1176-1 parts 6 to 11, however this signage does not warn of all other hazards that can arise during playing.

Has this signage to be removed since it warns only of one hazard respectively have warnings of all other hazards that can arise to be installed or Is signage on playground equipment according EN 1176-1 parts 6 to 11 not permitted?

Reply

No action/interpretation

Question 1:

Rules of Play as referred to in EN 1176, Part 10, 4.3.9 are specific to, and are required to be displayed with, fully enclosed (indoor) play facilities. Unlike open (outdoor) facilities these require a higher level of parental/carer supervision of the users and this information is required to ensure this supervision is adequately and correctly informed. Therefore, there needs to be publicly displayed signage setting out the facility's required *Rules of Play* and these need to be specific both to the particular equipment and to the wider facility.

Question 2:

There are no general requirements to display *Rules of Play* in EN 1176 Parts 1 to 6 and in Part 11. The requirement is specific to Part 10 only.

Question 3:

Signage on playground equipment is not required by EN 1176-1 to 6 and Part 11. The suitability of any signage that is provided in addition to the requirements of the standard should be carefully assessed as to its suitability. This is the responsibility of the operator who may be aware of specific issues relating to their facility.

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