Free access multi-sports equipment - Requirements, including safety, and test methods

Free access multi-sports equipment - Requirements, including safety, and test methods



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15312:2007 sisaldab Euroopa standardi EN 15312:2007 ingliskeelset teksti.

Käesolev dokument on jõustatud 30.10.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 15312:2007 consists of the English text of the European standard EN 15312:2007.

This document is endorsed on 30.10.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

Käsitlusala:

This European Standard is applicable to free access multi-sports equipment and combinations intended for permanent installation (not temporary), which includes, but not exclusively, equipment for sports such as badminton, basketball. football, handball, hockey, table tennis, tennis, volleyball. This European Standard specifies requirements, including safety, for the equipment itself as well as for its installation, inspection and maintenance. This European Standard is applicable to multi-sports equipment intended for individual and collective public use primarily by children and teenagers. This type of equipment is not intended for use by very young children, e.g. less than 36 months. This European Standard is not applicable to playground equipment as defined in EN 1176-1, free access facilities used for roller sports equipment (see prEN 14974), fitness trails, artificial climbing structures (see EN 12572). This European Standard does not deal with beach equipment, the ground surfaces the local environment and any feature outside the multi-sports equipment. This European Standard does not include any specific requirements other than for access and egress for disabled users.

Scope:

This European Standard is applicable to free access multi-sports equipment and combinations intended for permanent installation (not temporary), which includes, but not exclusively, equipment for sports such as badminton, basketball. football, handball, hockey, table tennis, tennis, volleyball. This European Standard specifies requirements, including safety, for the equipment itself as well as for its installation, inspection and maintenance. This European Standard is applicable to multi-sports equipment intended for individual and collective public use primarily by children and teenagers. This type of equipment is not intended for use by very young children, e.g. less than 36 months. This European Standard is not applicable to playground equipment as defined in EN 1176-1, free access facilities used for roller sports equipment (see prEN 14974), fitness trails, artificial climbing structures (see EN 12572). This European Standard does not deal with beach equipment, the ground surfaces the local environment and any feature outside the multi-sports equipment. This European Standard does not include any specific requirements other than for access and egress for disabled users.

ICS 97.220.40

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 15312

February 2007

ICS 97,220,40

English Version

Free access multi-sports equipment - Requirements, including safety, and test methods

Equipements sportifs en accès libre - Exigences, y compris de sécurité, et méthodes d'essais

Frei zugängliche Multisportgeräte - Anforderungen einschließlich Sicherheit und Prüfverfahren

This European Standard was approved by CEN on 23 December 2006.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Forewo	ord	4
1	Scope	
2	Normative references	
3	Terms and definitions	•
4	General requirements	
4.1	Materials	
4.2	Structural integrity	
4.3	Finish of equipment	
4.4	Entrapment	
4.4.1 4.4.2	Moving parts Protection against entrapment	
4.4.2 4.5	Protection against entrapment Protection against injuries due to movement	
4.5 4.6	Connections	
4.6 4.7	Consumable components (parts of wear and tear)	
4. <i>1</i> 4.8	Wire ropes	
4.6 4.9	Chains	
4.9 4.10	Foundations	
4.10 4.11	Accessibility	
4.11 4.12	Removable elements	
4.12		
5	Specific requirements	13
5.1	General	
5.2	Basketball equipment	
5.2.1	Requirements	
5.2.2	Safety requirements	19
5.3	Goals	20
5.3.1	General	
5.3.2	Structural stability and integrity	
5.4	Nets and net fixings	
5.4.1	Nets	
5.4.2	Net fixings	
5.5	Multi-sports surround and ball stop screen	
5.5.1	Multi-sports surround	
5.5.2	Ball stop screen	
5.6	Multi-function central nets and posts	
5.7	Table tennis tables	
6	Test methods	23
6.1	General test methods	
6.2	Test methods specific to basketball equipment	
6.2.1	Ring	24
6.2.2	Net	
6.2.3	Rigidity	
6.2.4	Stability	
7	Test report	
	Information for users	
8		
9	Marking	
10	Information provided by the supplier and/or the manufacturer	
	A (normative) Loads	
A .1	Permanent loads	
A.1.1	General	
A.1.2	Self weight	
A.1.3	Prestressing loads	27
A 4 4	Mana at water	2-

A.2	Variable loads	
A.2.1	General	27
A.2.2	User loads	28
A.2.3	Snow loads	30
A.2.4	Wind loads	30
A.2.5	Temperature loads	30
A.2.6	Seats: Specific loads	30
A.3	Numbers of users on the equipment	31
A.3.1	General	31
A.3.2	Number of users on a point	31
A.3.3	Number of users on line type elements	31
A.3.4	Number of users on an area	
A	D (a secondary) Mathead of a classical an affective at a transitive	
	B (normative) Method of calculation of structural integrity	
B.1	General principles: Limit state	
B.1.1	Limit state	
B.1.2	Ultimate limit state	
B.1.3	Serviceability limit state	
B.2	Load combinations for static analysis	34
B.3	Worked example of the calculation of user loads (without safety factors) for a	_
	surround/barrier	34
Annex	C (normative) Physical testing of structural integrity	36
C.1	Pass/fail criteria	
C.1.1	Load carrying ability	36
C.1.2	Failure	
C.2	Test load for equipment	
C.2.1	Load combinations for testing	
C.2.2	Safety factor for tests on identical series	
C.2.3	Safety factor for tests on a unique product	
C.3	Load application	
C.3.1	Point loads	
C.3.2	Line loads	
C.3.3	Area loads	
	D (normative) Test methods for entrapment	
D.1	General	
D.2	Finger entrapment	
D.2.1	Apparatus	
D.2.2	Procedure	
D.3	Head and neck entrapment	
D.3.1	Completely bound openings	
D.3.2	Partially bound and V-shaped openings	41
Annex	E (normative) Information to be provided by the supplier and/or manufacturer	48
E.1	Information provided by the manufacturer of equipment	
E.1.1	General product information	
E.1.2	Pre information	
E.1.3	Installation information	
E.1.4	Inspection and maintenance information	
	F (normative) Test methods for resistance surround	51
F.1	Testing repeated impact resistance to footballs and kicks	
F.2	Impact resistance (violent kick from player)	
Bibliog	raphy	53
3		

Foreword

This document (EN 15312:2007) has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational equipment", the secretariat of which is held by DIN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2007 and conflicting national standards shall be withdrawn at the latest by August 2007.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Repub-France ds, Nonwoom, lic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard is applicable to free access multi-sports equipment and combinations intended for permanent installation (not temporary), which includes, but not exclusively, equipment for sports such as badminton, basketball, football, handball, hockey, table tennis, tennis, volleyball.

This European Standard specifies requirements, including safety, for the equipment itself as well as for its installation, inspection and maintenance. This European Standard is applicable to multi-sports equipment intended for individual and collective public use primarily by children and teenagers.

This type of equipment is not intended for use by very young children, e.g. less than 36 months.

This European Standard is not applicable to playground equipment as defined in EN 1176-1, free access facilities used for roller sports equipment (see EN 14974), fitness trails, artificial climbing structures (see EN 12572).

This European Standard does not deal with beach equipment, the ground surfaces the local environment and any feature outside the multi-sports equipment.

This European Standard does not include any specific requirements other than for access and egress for disabled users.

2 Normative references

The following referenced documents are indispensable for the application 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 636-3, Plywood — Specifications — Part 3: Requirements for plywood for use in exterior conditions

prEN 1176-1:2006, Playground equipment and surfacing — Part 1: General safety requirements and test methods

EN 1271, Playing field equipment — Volleyball equipment — Functional and safety requirements, test methods

EN 1991-1-3, Eurocode 1 — Actions on structures — Part 1-3: General actions — Snow loads

EN 1991-1-4, Eurocode 1: Actions on structures — Part 2-4: General actions — Wind actions

EN 1991-1-5, Eurocode 1: Actions on structures — Part 1-5: General actions — Thermal actions

EN 12572, Artificial climbing structures — Protection points, stability requirements and test methods

EN ISO 1806, Fishing nets — Determination of mesh breaking force of netting (ISO 1806:2002)

EN ISO 2062, Textiles — Yarns from packages — Determination of single-end breaking force and elongation at break (ISO 2062:1993)

EN ISO 2307, Fibre ropes — Determination of certain physical and mechanical properties (ISO 2307:2005)

ISO 8793, Steel wire ropes — Ferrule secured eye terminations