



SLOVENSKI STANDARD

SIST EN 13200-6:2013

01-junij-2013

Nadomešča:

SIST EN 13200-6:2006

Prostori za gledalce - 6. del: Razstavljive (začasne) tribune

Spectator facilities - Part 6: Demountable (temporary) stands

Zuschaueranlagen - Teil 6: Demontierbare (kurzzeitige) Tribünen

Installations pour spectateurs - Partie 6: Tribunes (temporaires) démontables

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Ta slovenski standard je istoveten z: EN 13200-6:2012

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ICS:

91.040.10	Javne stavbe	Public buildings
97.200.10	Gledališka, odrska in studijska oprema ter delovne postaje	Theatre, stage and studio equipment
97.220.10	Športni objekti	Sports facilities

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13200-6

December 2012

ICS 97.200.10; 97.220.10

Supersedes EN 13200-6:2006

English Version

Spectator facilities - Part 6 : Demountable (temporary) stands

Installations pour spectateurs - Partie 6: Tribunes
(temporaires) démontables

Zuschaueranlagen - Teil 6: Demontierbare (provisorische)
Tribünen

This European Standard was approved by CEN on 13 October 2012.

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, 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 United Kingdom.

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Foreword

This document (EN 13200-6:2012) has been prepared by Technical Committee CEN/TC 315 "Spectator facilities", the secretariat of which is held by UNI.

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 June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

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.

This document supersedes EN 13200-6:2006.

Compared with the previous version, the scope of the present document has been changed in order to exclude stands of moveable type in which the last row of places for spectators is less than 1 m height from the ground.

This European Standard (EN 13200), with the general title "Spectator facilities", is divided into seven parts:

- EN 13200-1, *Spectator facilities — Part 1: General characteristics for spectator viewing area*;
- CEN/TR 13200-2, *Spectator facilities — Layout criteria of service area — Part 2: Characteristics and national situations*;
- EN 13200-3, *Spectator facilities — Part 3: Separating elements — Requirements*;
- EN 13200-4, *Spectator facilities — Part 4: Seats — Product Characteristics*;
- EN 13200-5, *Spectator facilities — Part 5: Telescopic stands*;
- EN 13200-6, *Spectator facilities — Part 6: Demountable (temporary) stands*;
- prEN 13200-7, *Spectator facilities — Part 7: Entry and exit elements and routes*;
- prEN 13200-8, *Spectator facilities — Part 8: Safety Management*;
- prEN 13200-9, *Spectator facilities — Part 9: Communications systems in spectator facilities*.

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.

EN 13200-6:2012 (E)

Introduction

This European Standard has been prepared in order to specify the general design criteria for spectator facilities (permanent, movable, demountable and telescopic), with the purpose of enabling their functionality.

Within this standard, minimum and recommended values for dimensions are occasionally presented. It should be recognised that these values are to be considered as values that, in part, recognise different national requirements as a basic provision.

Attention is drawn to the fact that in certain countries additional/different requirements may be applicable due to existing national regulations or the equivalent.

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1 Scope

This European Standard specifies product characteristics for demountable (temporary) stands at permanent or temporary entertainment venues including sports stadiums, sport halls and indoor and outdoor facilities. Stands in fairgrounds and amusement parks are excluded from this standard (see EN 13814).

This European Standard is not applicable to stands of moveable type in which the last row of places for spectators is less than 1 m height from the ground.

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 1991-1-1, *Eurocode 1: Actions on structures — Part 1-1: General actions — Densities, self-weight, imposed loads for buildings*

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

EN 13200-1:2012, *Spectator facilities — Part 1: General characteristics for spectator viewing area*

EN 13200-3, *Spectator facilities — Part 3: Separating elements — Requirements*

3 Terms and definitions

For the purposes of document, the terms and definitions given in EN 13200-1:2012 and the following apply.

3.1

demountable (temporary) stands

tiered system constructed from standardised components that can be erected and dismantled, moved from place to place and deployed in various configurations both indoors and outdoors to produce standing or seating accommodation for spectators

3.2

design documentation

documents provided by the designer of demountable (temporary) stands that ensure that the basis of design may be clearly understood and from which all design criteria can be verified

3.3

guard rail

safety barrier fitted to the sides, rear or front of a grandstand or within the seating area in order to protect users from falling

3.4

handrail

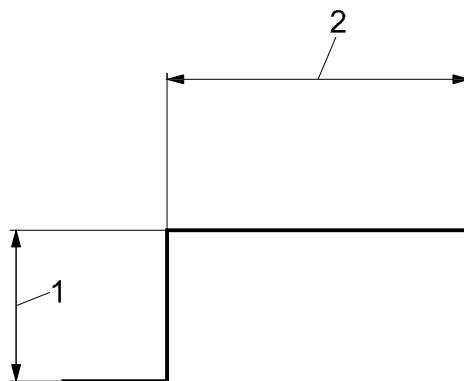
component designed to protect and assist the passage of users of the grandstand

3.5

riser

vertical component between one row and another row or landing above or below it (see Figure 1)

EN 13200-6:2012 (E)

**Key**

- 1 riser
- 2 row depth

Figure 1 — Riser**3.6****row depth**

horizontal distance between successive risers (see Figure 1)

3.7**seat-way**

clearway

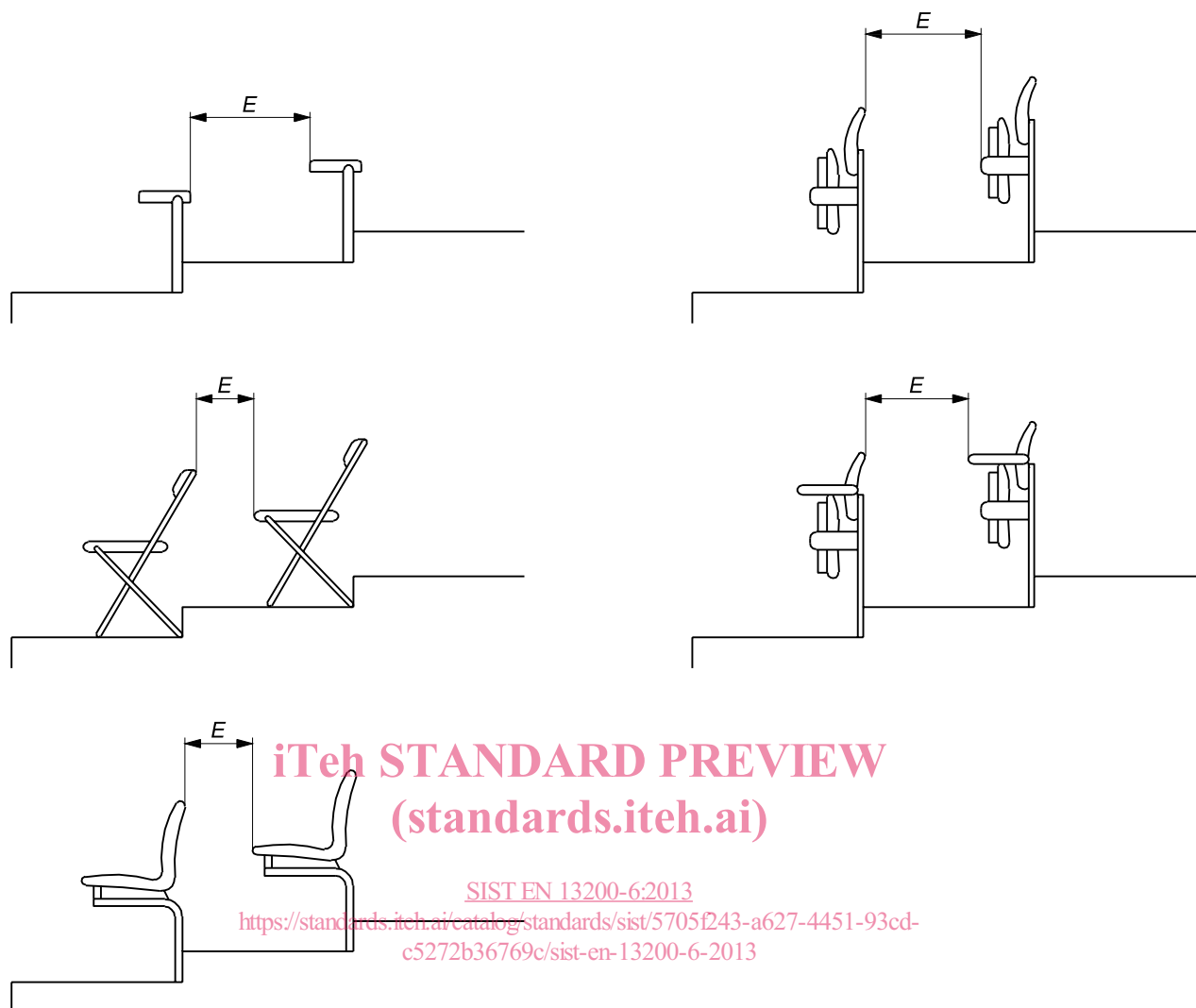
clear space measured at right angles between perpendiculars

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Note 1 to entry: See Figure 2: In all the following cases, the minimum value of the seat-way 'E' is 350 mm and the recommended minimum value is 400 mm.

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**Key**

E clearway

Figure 2 — Seat-way**3.8****tread**

horizontal component of a step

3.9**vomitory**

access route built into the gradient of a stand which directly links spectator accommodation with routes for ingress, egress or emergency evacuation

3.10**stands of movable type for spectators**

light stands, composed of prefabricated modules, each module being designed to be used independently from one another and to be moved and lifted manually in upright position for storage

EN 13200-6:2012 (E)**4 Materials requirements**

Demountable (temporary) stands incorporate elements from a range of materials including steel, aluminium, timber, plywood, paints and plastic components. Where materials, components and methods of design and construction are not specifically covered by CEN Standards, the designer should be satisfied that the materials and methods to be employed are such as to ensure sufficient levels of safety, durability, integrity, strength, serviceability and performance. Alternatively, a test assembly should be built to test the structure, component, material or method under consideration. The test assembly should be representative as to materials, workmanship and details of the design and construction for which approval is sought.

5 Design**5.1 General**

Demountable stands shall fulfil the national requirements for fire escape and emergency evacuation.

Demountable (temporary) stands may be described as a seating or standing deck of a stepped tiered nature supported by a substructure possessing large numbers of common elements.

Demountable (temporary) stands are used for a wide spectrum of events both indoors and outdoors ranging from minor local events to major international events seating thousands of spectators.

A seating place is required to provide a minimum viewing standard together with a sufficient level of safety for the spectator body. Viewing standards refer to the ability of a seated spectator to see a predetermined focal point in the activity area. This viewing standard is often referred to as a sight line.

The layout of the seating deck and the geometry of the deck are required to provide for the safe ingress and egress of spectators.

Protective barriers at the perimeter of the seating deck and within the seating layout provide protection against falling.

The supporting structure is required to safely resist the static and dynamic forces created by the spectator body and other dynamic forces that are required by applicable national standards.

Criteria concerning sightline, layout and protection from falling are similar to permanent and temporary seating decks. The nature of vertical support of permanent and temporary seating decks is significantly different as is the ratio of live load to dead load.

For demountable stands manufactured before the publication of this standard, a written risk assessment shall be necessary to justify a departure from the minimum values.

5.2 Sightlines

Requirements and recommendations pertaining to sightlines are given in EN 13200-1.

Where sightlines resulting from the installation of temporary seating do not meet the standards required for permanent seating, the matter should be dealt with by a risk assessment made by the contracted provider of the installation.

5.3 Basic specification**5.3.1 General**

Where demountable stands are used outdoors and in the absence of applicable national standards, the spectator body should be able to reach a place of relative safety in eight minutes.

Where demountable stands are used in enclosed areas, relevant national fire requirements will normally specify maximum travel distances for a user of the stand. A travel distance shall be measured along the route defined by rows and passageways.

Seats are to be of constant depth throughout the length of a row. Where the seats tip-up automatically the width of the clearway should be measured between the back of one seat unit and the maximum projection of the seat unit behind when the seat is in the upright position.

With respect to relative lateral positioning, seat centres should be a minimum of 450 mm apart for seats without arms and a minimum of 500 mm for seats with arms.

In tiered seating blocks, the riser height of steps in passageways should not exceed 200 mm. The recommended maximum riser height is 170 mm.

The minimum riser height or step height is 100 mm. The riser height should be uniform throughout the access stairs and preferably be uniform with connecting stairs.

Closed risers are preferred and should be designed to minimise any tripping hazard.

5.3.2 Row depth

Requirements and recommendations are given in EN 13200-1.

5.4 Loading

5.4.1 Self weight

Self-weight is calculated from the unit weights given in EN 1991-1-1 or from the actual known weights of the material used.

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5.4.2 Imposed vertical loads

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EN 1991-1-1 considers various categories of loading appropriate to the type of activity/occupancy for the part of a building or structure.

Loading ranges are given in EN 1991-1-1. The following recommended loading values are given in **bold number**.

Category C concerns **Areas where people may congregate**.

Category C2 concerns areas with fixed seats. The imposed loading range is:

Uniformly distributed load 3,0 kN/m² to **4,0** kN/m².

Category C5 concerns areas susceptible to overcrowding and includes stands. The imposed loading range is:

Uniformly distributed load **5,0** kN/m² to 7,5 kN/m².

All floors should be designed to carry the uniformly distributed load derived using appropriate load factors.

Vertical imposed loads shall be taken into account as quasi-static actions (see EN 1990). The load models may include dynamic effects if there is no risk of resonance or other significant dynamic response of the structure (see Eurocodes Standards).

Overcrowding is considered to be greater spectator occupancy of a space than would arise during expected use.