SLOVENSKI STANDARD
SIST EN 13200-6:2020

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SIST EN 13200-6:2013

Prostori za gledalce - 6. del: Razstavljive tribune

Spectator facilities - Part 6: Demountable stands

Zuschaueranlagen - Teil 6: Demontierbare Tribünen

Installations pour spectateurs - Partie 6 : Tribunes démontables

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Ta slovenski standard je istoveten z: EN 13200-6:2020

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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

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ICS 97.200.10; 97.220.10

Supersedes EN 13200-6:2012

English Version

Spectator facilities - Part 6: Demountable stands

Installations pour spectateurs - Partie 6 : Tribunes démontables

Zuschaueranlagen - Teil 6: Demontierbare Tribünen

This European Standard was approved by CEN on 15 June 2020.

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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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 13200-6:2020) 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of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

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.

This document supersedes EN 13200-6:2012.

In comparison with the previous edition EN 13200-6:2012, the present text has been completely revised.

For example a new clause: Clause 5 “Design” has been added in relation to sightlines, basic specifications for seats, deck structure and substructure.

Moreover, 5.4 “Loading” introduces new imposed vertical loads, isolated loads and horizontal loads, in compliance with Eurocodes.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

This document 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 document, minimum and recommended values for dimensions are occasionally presented.

It shall be recognized that these values are to be considered as values that, in part, recognize 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 document specifies product characteristics for demountable stands at permanent or temporary entertainment venues, sports stadiums, sport halls and indoor and outdoor facilities. This document is not applicable to stands of a moveable type where last row of places for spectators is under 1 m height from the ground.

NOTE It is recalled the attention to the fact that demountable stands used in Fairground and amusement park machinery and structures — Safety are covered by EN 13814:2004.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 39, *Loose steel tubes for tube and coupler scaffolds — Technical delivery conditions*

EN 74-1, *Couplers, spigot pins and baseplates for use in falsework and scaffolds — Part 1: Couplers for tubes — Requirements and test procedures*

EN 1090 (series), *Execution of steel structures and aluminium structures*

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

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

EN 12811-1, *Temporary works equipment — Part 1: Scaffolds — Performance requirements and general design*

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EN 12811-2, *Temporary works equipment — Part 2: Information on materials*

EN 13200-1:2019, *Spectator facilities — Part 1: General characteristics for spectator viewing area*

EN 13200-3:2018, *Spectator facilities — Part 3: Separating elements — Requirements*

EN 13200-7, *Spectator facilities — Part 7: Entry and exit elements and routes*

EN 13200-8, *Spectator facilities — Part 8: Safety Management*

EN 13814:2004, *Fairground and amusement park machinery and structures — Safety*

EN 17293, *Temporary works equipment — Execution — Requirements for manufacturing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13200-1:2019 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

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3.1
demountable stand
tiered system constructed from purpose-designed components that can be erected and dismantled, moved from place to place and deployed in various configurations both indoors and outdoors to produce accommodation for spectators passively viewing from designated standing or seating positions

Note 1 to entry: Examples are shown in Figures 1, 2 and 3.

3.2
design documentation
documents provided by the designer of demountable stands that ensures 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 stand or within the seating area in order to protect users from falling

3.4
handrail
rail normally grasped by hand for guidance or support

[SOURCE: EN 13200-3:2018, 3.10]

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3.5
riser
vertical component between one row and another row or landing above or below it

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3.6
row depth
horizontal distance between successive risers (see Figure 1)

3.7
vomitory
element of passage that provides entry to or exit from the viewing area

[SOURCE: EN 13200-1:2019, 3.6]

3.8
stand of movable type for spectator
stand, composed of prefabricated module

3.9
deck structure, seating or standing
upper component of the demountable stand forming the riser height and the row depth, slope and sightline

3.10
substructure
assembly of purpose-designed components supporting the deck structure of the demountable stand

3.11
connector
connection devices between the element composing the demountable stand

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3.12
spigot
male part of a fitting

4 Manufacture

4.1 General

A manufacturer of steel/aluminium building parts shall maintain compliance in accordance with the EN 1090 series.

Steel/aluminium components for permanent used demountable stand shall be manufactured according to the requirements of EN 1090-2, EN 1090-3.

Steel/aluminium components for temporary sub-structures shall be manufactured according to the requirements of EN 17293.

4.2 Materials

Steel alloy shall conform to EN 1090-2.

Aluminium alloy shall conform to EN 1090-3.

All aluminium and steel alloy shall be accompanied by inspection certificates according to the EN 1090 series.

Steel shall be protected by one of the methods given in EN 12811-2.

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The design life, performance, strength and durability of plywood decking shall be specified.

4.3 Inspection

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All products shall be inspected after fabrication to ensure conformity to the design drawings. The manufacturer shall ensure that the product is inspected prior to being placed on the market.

5 Design

5.1 Basic design requirements

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

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

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

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 vertical load to dead load.

The elements of the structure of a stand of movable type shall be lockable and/or non-removable manually without a special tool.

The design shall be carried out following the ultimate limit state (ULS), including load bearing capacity, stability against sliding laterally, lifting and overturning.

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5.2 Sightlines

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

Sightlines for demountable stands shall meet the standards required for permanent installation. In cases where this is not possible the matter shall be addressed by safety management measure as specified in EN 13200-8.

A seating place is required to provide a minimum viewing standard together with a sufficient level of safety for the spectators. 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.

5.3 Basic specification

5.3.1 General

Seats shall be of constant depth throughout the length of a row. Where the seats tip-up automatically the width of the clearway shall be measured between the foremost projection of the tipped-up seat and the back of the seat in front.

With respect to relative lateral positioning, seat centres shall be a minimum of 450 mm and a recommended value of 500 mm.

In tiered seating blocks the riser height of steps in passageways shall 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 shall be uniform throughout the access stairs and preferably be uniform with connecting stairs.

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Closed risers are preferred and shall be designed to minimize any tripping hazard.

5.3.2 Row depth

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Requirements and recommendations are given in EN 13200-1.

5.3.3 Deck structure

The deck structure may include seats, accommodations for people with special needs, protections against falling, platforms, vomitory landings, stairways, passageways and gangways.

It is recommended that for a gangway gradient exceeding 28°, structural elements that manually assist ascending and descending spectators are provided. If the gradient exceeds 28° and the gangway width exceeds 1 800 mm, a central handrail that permits spectator crossover is preferred.

In some cases the deck structure of the demountable stands has an empty riser which entails the danger of objects falling towards the bottom; in these cases the substructures of the stands will be closed to the public.

The protection against falling objects down the separating elements of the stands shall be conform to EN 13200-3.

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5.3.4 Substructure

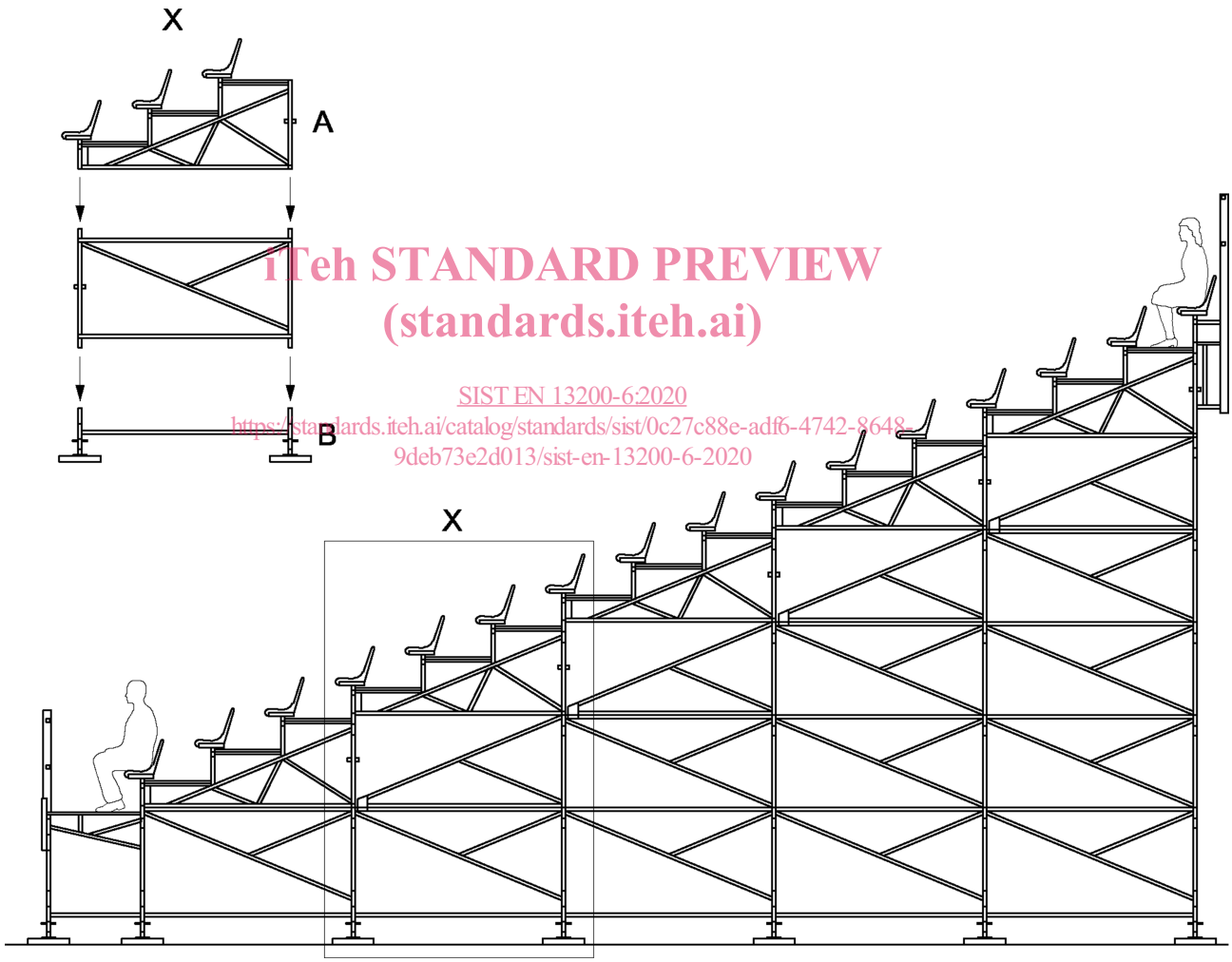
Connectors between the deck structure and the substructure and between all elements of substructure shall provide a continuous transmission of forces.

The substructure can be one of three types:

NOTE It is important to pay attention to Annex A and most particularly to paragraph A.3, A.4 and A.6 that provide essential recommendations regarding safe and secure use of demountable stands.

a) Prefabricated frame:

Stand primarily assembled from welded frame modules that self-lock in a manner that ensures the stability of the stand. (See Figure 1).



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Key

A	deck structure
B	substructure

Figure 1 — Welded prefabricated frame