

Event structures - Safety requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17879:2023 sisaldab Euroopa standardi EN 17879:2023 ingliskeelset teksti. Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.12.2023. Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	This Estonian standard EVS-EN 17879:2023 consists of the English text of the European standard EN 17879:2023. This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 20.12.2023. The standard is available from the Estonian Centre for Standardisation and Accreditation.
---	---

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 91.040.99, 97.200.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis-ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Event structures - Safety requirements

Structures événementielles - Exigences de sécurité

Event-Strukturen - Sicherheit

This European Standard was approved by CEN on 27 November 2023.

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, 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, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	3
Introduction	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	6
4 General requirements for design, analysis, documentation and verification	9
5 Design actions	11
6 Verification of strength and stability.....	19
7 Structural requirements	24
8 Manufacture and supply.....	28
9 Operation, ground conditions and site conditions	28
10 Inspection and maintenance.....	30
Annex A (informative) Example of the determination of peak velocity pressure for one-off event structures	32
Annex B (informative) Technical documentation.....	39
Annex C (informative) Operational management plan	41
Annex D (informative) Examination and approval.....	44
Bibliography.....	45

European foreword

This document (EN 17879:2023) has been prepared by Technical Committee CEN/TC 152 “Fairground and amusement park machinery and structures – Safety”, 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 2024, and conflicting national standards shall be withdrawn at the latest by June 2024.

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.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

Introduction

The object of this document is to provide safety requirements for event structures. Examples of event structures covered by this standard are, but not limited to, stage roofs, stage walls, stage platforms, support structures for entertainment technology equipment, technical accommodations, raised platforms for public and bespoke structures. These safety requirements are aimed to safe-guard persons and objects against damage caused by design, manufacturing and operation of these structures.

These safety requirements have been drawn up according to past experience and risk analysis. Existing national rules concerning health and safety of workers remain untouched.

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

1 Scope

This document specifies the minimum requirements necessary to ensure the safe design, calculation, manufacture, assembly, operation, disassembly, inspection and maintenance of the following, but not limited to:

- structures e.g. stage roofs, stage floors, follow spot towers, PA towers,
- LED support structures,
- one-off event structures,
- hospitality structures,
- temporary spectator facilities.

The above hereafter called event structures are structures intended to be installed and dismantled specifically for an event.

This document does not cover:

- Spectator facilities – EN 13200-series,
- Temporary structure – Tents – safety by EN 13782,
- Fairground and amusement park machinery and structures as per EN 13814 series,
- Temporary works equipment covered by CEN/TC 53,
- Inflatable play equipment-safety requirements and test methods as per EN 14960,
- Entertainment Technology as described by CEN TC 433.

NOTE This document is not applicable to event structures which are designed, manufactured, placed on the market or put in service before the date of publication of this document by CEN.

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 1090, (all parts) *Execution of steel structures and aluminium structures*

EN 1990:2023, *Eurocode - Basis of structural and geotechnical design*

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 1-4: General actions - Wind actions*

EN 1993-1-1:2022, *Eurocode 3 - Design of steel structures - Part 1-1: General rules and rules for buildings*

EN 1993-1-8, *Eurocode 3: Design of steel structures - Part 1-8: Design of joints*

EN 1995-1-1, *Eurocode 5: Design of timber structures - Part 1-1: General - Common rules and rules for buildings*

EN 1997-1,¹ *Eurocode 7: Geotechnical design – Part 1: General rules*

EN 1999-1-1:2023, *Eurocode 9 - Design of aluminium structures - Part 1-1: General rules*

EN 13200-6, *Spectator facilities - Part 6: Demountable stands*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire test*

EN 13782, *Temporary structure - Tents - Safety*

EN 15619, *Rubber or plastic coated fabrics - Safety of temporary structures (tents) - Specification for coated fabrics intended for tents and related structures*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

active viewing zone

part of the viewing platform where a crowd can congregate and has a clear line of sight to the external focus point

Note 1 to entry: The minimum depth of an active viewing zone is 1 m.

3.2

analysis of use

documented assessment of the use of a structure or a part of it in order to determine the necessary safety requirements, maximum loads, etc

Note 1 to entry: Examples are, but not limited to; extremely heavy scenery, excessive point loads, moving objects, performance areas with guaranteed low loads, etc.

3.3

approval

confirmation by a qualified person that the examination has been carried out with a positive result

3.4

competent person

competent person is a person who has sufficient training and experience to take responsibility for an identified task

3.5

depending action

action that cannot be considered without the presence of another action

¹ Under preparation. Stage at the time of publication prEN 1997-1.