SLOVENSKI STANDARD
SIST EN 17115:2018

01-november-2018

Razvedrilna tehnologija - Specifikacije za projektiranje in proizvodnjo aluminijevih in jeklenih palic

Entertainment technology - Specifications for design and manufacture of aluminium and steel trusses

Veranstaltungstechnik - Anforderungen an die Bemessung und Herstellung von Aluminium- und Stahltraversen

Technologies du spectacle - Spécification relatives à la conception et la fabrication des armatures en aluminium et acier

Ta slovenski standard je istoveten z: **EN 17115:2018**

ICS:

97.200.10	Gledališka, odrska in studijska oprema ter delovne postaje	Theatre, stage and studio equipment

SIST EN 17115:2018 **en,fr,de**

EUROPEAN STANDARD

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English Version

Entertainment technology - Specifications for design and manufacture of aluminium and steel trusses

Technologies du spectacle - Spécifications relatives à la conception et à la fabrication de poutres en aluminium et en acier

Veranstaltungstechnik - Anforderungen an die Bemessung und Herstellung von Aluminium- und Stahltraversen

This European Standard was approved by CEN on 23 April 2018.

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

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

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European foreword

This document (EN 17115:2018) has been prepared by Technical Committee CEN/TC 433 “Entertainment technology — Machinery, equipment and installations”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2019, and conflicting national standards shall be withdrawn at the latest by February 2019.

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 CWA 15902-2:2008.

In comparison with CWA 15902-2:2008, the following modifications have been made:

a) the document has been evaluated and revised according to new European Standards, directives and regulations;

b) terms and definitions in Clause 3 have been revised, e.g. “frequent use factor” added;

c) a list with examples of significant hazards has been added as Clause 4;

d) subclause 5.3.2 “Frequent use factor” has been added;

e) an updated example of a technical datasheet has been added as informative Annex A, without the examples of possible truss orientation;

f) an example of an inspection report has been added as informative Annex B;

g) the document has been revised editorially.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The object of this European Standard is to achieve a minimum level of quality in the design and manufacture of aluminium and steel trusses in the entertainment industry.

Entertainment technology is an interdisciplinary field with specific technology and unique safety requirements. Entertainment technology is used in places of assembly, staging and production areas for events and theatrical productions. Such locations include but are not limited to theatres, multi-purpose halls, exhibition halls, film-, television-, photography- and radio-studios as well as facilities in concert halls, museums, schools, bars, discotheques, open-air stages and other places for shows and events.

In some cases, atypical non-performance places are also used.

A first attempt for European standardization work was realized in CWA 15902-2.

This European Standard has been drawn up according to past experience and risk analysis.

1 Scope

This document defines the requirements for the design and manufacture of aluminium and steel trusses used in the entertainment industry.

This document does not cover individual, separate rigging hardware like shackles, wire ropes, slings and other lifting accessories.

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 1090-2, *Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures*

EN 1090-3, *Execution of steel structures and aluminium structures - Part 3: Technical requirements for aluminium structures*

EN 1990, *Eurocode - Basis of structural design*

EN 1991 (all parts), *Eurocode 1: Actions on structures*

EN 1993 (all parts), *Eurocode 3: Design of steel structures*

EN 1999 (all parts), *Eurocode 9: Design of aluminium structures*

EN 82079-1, *Preparation of instructions for use - Structuring, content and presentation - Part 1: General principles and detailed requirements*

EN ISO 3834 (all parts), *Quality requirements for fusion welding of metallic materials (ISO 3834)*

EN ISO 9606-1, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1)*

EN ISO 9606-2, *Qualification test of welders - Fusion welding - Part 2: Aluminium and aluminium alloys (ISO 9606-2)*

3 Terms and definitions

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

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

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

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

3.1
Uniformly Distributed Load
UDL
<entertainment technology> load evenly applied over the length of a single-span truss

3.2
Centre Point Load
CPL
<entertainment technology> single load applied at the centre of a single-span truss

3.3
Third Point Load
TPL
<entertainment technology> two single loads applied to a single-span truss, dividing the span into thirds

3.4
Quarter Point Load
QPL
<entertainment technology> three single loads applied to a single-span truss, dividing the span into quarters

3.5
End Point Load
EPL
<entertainment technology> single load applied at the unsupported end of a cantilever

3.6
main chord
<entertainment technology> longitudinal member of a truss module

3.7
connection
<entertainment technology> combination of connection elements and connectors needed to connect truss modules and associated structural components

3.8
connection element
<entertainment technology> loose parts for assembling truss modules and associated structural components

3.9
connector
<entertainment technology> permanently fixed connection component of truss modules and associated structural components

EXAMPLE Endplates, forkends, conical receivers, etc.

3.10
associated structural component
<entertainment technology> corner module, sleeve module or any accessory designed to be connected to trusses by means of connectors and connecting elements

3.11
corner module
<entertainment technology> associated structural component intended to be used to connect truss modules in different directions

3.12
frequent use factor
<entertainment technology> reduction factor that can be taken into account when generating the loading tables of a type of truss

3.13
member
<entertainment technology> individual section to form the lattice structure of a truss module or associated structural component if applicable

3.14
truss module
<entertainment technology> lattice structure intended to be used on its own or in combination with other modules

3.15
sleeve module
<entertainment technology> associated structural component intended to be used to connect truss modules to tower-systems which could be moved along the tower

Note 1 to entry: An old term is “sleeve block”.

3.16
tower system
<entertainment technology> combination of truss-modules and associated structural components, intended to move and hold truss-modules and other loads

4 List of significant hazards

Table 1 contains some examples of typical hazards associated with the application of truss.

Table 1 — List of significant hazards

	Hazards	relevant clause(s) in this European Standard
1	**Mechanical hazards due to:**	
1.1	Inadequate mechanical strength	5.2, 5.3, 6.2 and 6.3
1.2	Instability	5.2, 5.3, 6.2 and 6.3
1.3	Gravity and stability	5.2 and 5.3
1.4	Height from the ground	5.2 and 5.3
1.5	Approach of moving elements to fixed parts	5.2 and Clause 7
1.6	Slippery surface	5.2, 6.2 and Clause 7
1.7	Surface geometry	5.2 and Clause 7
1.8	Potential energy	Clause 7
1.9	Sharp edges	5.2, 6.2 and 6.3
2	**Additional hazards and hazardous event due to lifting procedures, falling loads, collisions due to:**	
2.1	Gravity and stability	5.2, 5.3 and Clause 7