

English Version

Temporary structure - Tents - Safety

Structure temporaire - Tentes - Sécurité

Fliegende Bauten - Zelte - Sicherheit

This European Standard was approved by CEN on 5 March 2015.

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.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 General requirements for design, analysis and examination	8
4.1 Design documents.....	8
4.2 Description of construction and operation.....	8
4.3 Construction drawings.....	8
5 Selection of materials.....	9
5.1 General.....	9
5.2 Selection of covering materials.....	9
5.3 Joining of covering materials.....	9
6 Principles of numerical analysis	10
6.1 General.....	10
6.2 Verification	10
7 Design actions	10
7.1 General.....	10
7.2 Permanent actions.....	11
7.3 Equivalent load	11
7.4 Variable actions	11
7.4.1 Live loads	11
7.4.2 Wind loads.....	12
7.4.3 Snow loads	15
7.4.4 Seismic forces.....	16
7.5 Load combinations	16
8 Verification of stability and equilibrium	16
8.1 General.....	16
8.2 Verification against overturning, sliding and lifting.....	17
8.2.1 Safety against overturning	18
8.2.2 Safety against sliding.....	18
8.2.3 Safety against lifting.....	19
8.3 Dead load for tent covers.....	19
8.4 Structures with primary load bearing structure	19
8.4.1 Ballast mountings for protection against wind suction loads.....	19
8.4.2 Wind bracings	19
8.4.3 Cladding forces on the structure due to wind	20
8.5 Membrane and pole tent	20
8.5.1 General.....	20
8.5.2 Pre-stressing.....	20
8.5.3 Design and construction details on membrane	21
8.6 Verification of load bearing capacity of technical textiles and their connections.....	21
8.7 Safety margin, safeguards.....	22
8.8 Post tensioning.....	23
9 Ground anchorages.....	23
9.1 General.....	23

9.2	Load bearing capacity of weight anchors.....	23
9.3	Load bearing capacity of rod anchors	23
9.4	Test loadings on site.....	26
9.5	Calculation of loading capacities	26
9.6	Further requirements	26
9.7	Ground support for packing.....	27
10	Other structural components	27
10.1	General	27
10.2	Design resistance.....	28
10.3	Synthetic fibre ropes.....	28
10.4	Ratchets.....	29
11	Manufacture and supply	29
11.1	General	29
11.2	Certificates	29
11.3	Observation of the design specification	29
11.4	Description of installation and operation procedures.....	30
12	Special design and manufacture criteria	30
Annex A (informative) Pressure coefficients for closed tents of round shape		31
Annex B (informative) Special design and manufacture criteria and operation.....		33
B.1	General	33
B.2	Escape routes	33
B.2.1	Common recommendations	33
B.2.2	Design of emergency exits	33
B.2.3	Layout of escape routes	33
B.3	Stairs.....	34
B.4	Burning behaviour.....	34
B.5	Textile connection	34
B.6	Heating and cooking systems.....	34
B.7	Electrical equipment	35
B.8	Fire extinguishers.....	35
Annex C (informative) Examination and approval		36
C.1	Examination	36
C.1.1	General	36
C.1.2	Qualification	36
C.2	Procedures for examination, test and approval	36
C.2.1	General	36
C.2.2	Identification	36
C.2.3	Initial approval of tents	37
C.2.3.1	General	37
C.2.3.2	Review of design and construction documents.....	37
C.2.3.3	Inspection of construction work.....	37
C.2.4	Inspection after repair, modification and accidents	37