

# BUILDING BOOK

## 40m [130 ft] Diameter Tent & Bleachers

### Calculation notes

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**APPENDIX A: FLAME RESISTANCE CERTIFICATES**

## 1. INTRODUCTION

This building book presents global dimensions and analysis of the 40 m [130 ft] Tent & Bleachers as mentioned before, temporary installed on a site. The document has been realized from different sources, such as original design briefs, inspections of the Tent & Bleachers and related elements, manufacturer's specifications and others certificates or official issues. Some verification of the existing structures and reinforcement added to them has been made in order to get a complete story, the ultimate goal of this building book. The verifications and calculations included in this building book are limited to provide and control all structural behavior of the temporary installed 40 m [130 ft] Tent & Bleachers.

This building book is made up of four distinct parts. The first section gives the specifications for the standards and materials used in the design. The second one shows the geometrical characteristics, the loads and the principal analysis results for the Bleachers. The third part shows the geometrical characteristics, the loads and the principal analysis results for the Tent. Finally, the last section gives the certificates and the drawings detailing each part of the structures.

This building book should be read in conjunction with the following drawings:

- o S1 Tent - plan view
- o S2 Tent - sections
- o S3 Tent - details
- o S4 Tent - details
- o S5 Tent stakes - marking plan
- o S6 Bleacher - plan view
- o S7a Bleachers - Seating plan 1628 seats + 19 wheelchairs
- o S7b Bleachers - Seating plan 1729 seats
- o S8 Bleachers - details
- o S9 Bleachers - details
- o S10a Bleachers - assembly (frame)
- o S10b Bleachers - assembly (panels)
- o S11 Bleachers - panels

## 2. STANDARDS & MATERIALS

### 2.1. STANDARDS

1997 UBC	1997 Uniform Building Code
1995 NBC	1995 National Building Code of Canada and supplements
1998 CBC	1998 California Building Code
UFC 97	Uniform Fire Code 1977
NFPA 102-1995	Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures
NFPA 701-96	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films
CAN/CSA-S16.1-94	Limit States Design of Steel Structures
UNI 10011/73	Steel structures. Instructions of design, construction, testing and maintenance
UNI10012/73	Load hypothesis for construction
1086/71 Law	Code for the concrete works, normal or prestressed, and for steel structure
03/03/78 Circular	Code for opening and operation of tent theatres
CTS Rules	Book IV – Applicable dispositions for special buildings (Chapter II – CTS type buildings: tents and big tops)
NV65 Rules	DTU P 06 002 – Rules concerning snow and wind effects on buildings
DIN 53.363	Testing of plastic films and tear strength of fabrics
DIN 1050	Construction supervision: Technical building regulations
DIN 1052	Design of timber structures - General rules and rules for buildings
DIN 1055	Design Load for buildings
DIN 4112	Temporary structures; code of practice for design and construction

