

• Our References

Report N°: VIL/12/60884312
Contract Ref: -
Contact: Mr. Jan Liesmons

• Your References

Rff.:
Contact: Mrs Lara Alegria Mia

• Intervention data

place: Brussels
Date: 10/11/2021
Performed by: Jan Liesmons

KONLIGO

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Final report of conformity examination
Temporary structure « FasTival »

Report N° VIL/12/60884312

Structure

Make	Konligo
Type	FasTival
Serial N°	-
Particularity	Temporary structure that can be set up quickly

Manufacturer

Name	KONLIGO
Adresse	Bergensesteenweg 95 1070 Bruxelles Belgium

CONCLUSION

Our technical examination has not given rise to any remarks that could pose a safety problem during use. The structure can be used safely, taking into account the limits defined in the load bearing sheet.



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Print date: 08/12/2021
Number of pages : 4
Enclosure(s): 1
Distribution: or.
cc.

INTRODUCTION

This report concerns the technical examination of a temporary "FasTival" structure that can be erected and dismantled very quickly. The structure consists of a folding scissor-shaped structure made of aluminium tubes covered with a textile membrane. The structure can be used in an open (top membrane only) or semi-closed (top membrane + back) configuration.

1. SPECIFICATIONS OF THE STRUCTURE

The structure of FasTival consists of several parts:

- Aluminium tubes
- Aluminium joints
- Dyneema bracing cables
- Dyneema safety cable
- Textile membrane
- Wheels
- Foot plates
- Ballast weights

Characteristics	
Manufacturer	Konligo
Usable area	+/-25m ²
Main dimensions	Length: 7.27m Width: 3.68m Height: 3.72m
Capacity	9-12 people (seated) 18-22 people (standing)
Installation time	+/- 10 min with 2 people
Maximum wind speed	up to 80km/h (wind gust), depending on the configuration

2. EXAMINATION CRITERIA

- NBN EN 1990 : Eurocode 0 : - Basis of structural design
- NBN EN 1993-1-1: Eurocode 3: Design of steel structures – Part 1-1 : General rules and rules for buildings
- NBN EN 13782: Temporary structure – tents – safety
- NBN EN 1991-1-4: Eurocode 1: Actions on structures - Part 1-4: General actions - Wind actions
- NBN EN 1993-1-8 : Eurocode 3: Design of steel structures - Part 1-8: Design of joints
- NBN EN 1999-1-1 : Eurocode 9: Design of aluminium structures - Part 1-1: General structural rules

3. CONTENT OF THE TECHNICAL FILE

Construction drawings	-Plan : Fastbeam1700_pol_M8sleevenuts (28/05/2021) -Plan : Foottube (24/08/2020) -Plan : Plate modular feet : (04/06/2020) -Plan : joint connector nuts (14/07/2014) -Plan : multiconnect LB : 09/07/2020 -Technical specifications Alu Alloy EN AW-6060 T66
User's manual	-Installation manual FasTival/Arko V3 with high quality membrane -FasTival V3 with PVC premium membrane: Instructions for storage, installation, use and maintenance.
Risk analysis	Risk assessment when installing FasTival
Resistance calculation	Semi-open configuration: -20kph_250kg_aluminium unity check -20kph_250kg_N force dyneema -20kph_250kg_reactions wind lift -20kph_250kg_resultant of reactions -20kph_250kg_stress beam -45kph_150kg_aluminium unity check -45kph_150kg_N force dyneema -45kph_150kg_reactions wind lift -45kph_150kg_resultant of reactions -45kph_150kg_stress beam -60kph_aluminium unity check -60kph_N force dyneema -60kph_reactions wind lift -60kph_resultant of reactions -60kph_stress beam Open configuration: -45kph_250kg_aluminium unity check -45kph_250kg_N force dyneema -45kph_250kg_reactions wind lift -45kph_250kg_resultant of reactions -45kph_250kg_stress beam -60kph_150kg_aluminium unity check -60kph_150kg_N force dyneema -60kph_150kg_reactions wind lift -60kph_150kg_resultant of reactions -60kph_150kg_stress beam -80kph_75kg_aluminium unity check -80kph_75kg_N force dyneema -80kph_75kg_reactions wind lift -80kph_75kg_resultant of reactions -80kph_75kg_stress beam -Study of the influence of wind loads and anchoring of lightweight scissor structures: final report lab tests for certification - Test report nodes
Other documents	- Technical data sheet FasTival - Anchoring Sheet - Load bearing sheet -Technical Specification for Construction Components (version 19-11-2021)

4. EXAMINATIONS

4.1 Examination of the technical file

- | | |
|--|-------------------|
| - Construction drawings | <i>Acceptable</i> |
| - User's manual | <i>Acceptable</i> |
| - Risk Assessment | <i>Acceptable</i> |
| - Calculations | <i>Acceptable</i> |
| -Calculation hypotheses | |
| -Pression coefficients | |
| -Load combinations -Ponderation coefficients | |
| -Results of the calculations : | |
| -Resistance of the structure | |
| -Verification against overturning, sliding and lifting | |

4.2 Examination of the structure FasTival

At the manufacturer (Konligo) on 12/10/2021

- | | |
|--------------------------------------|-------------------|
| - Compliance with the technical file | <i>Acceptable</i> |
| -Visual examination of the structure | <i>Acceptable</i> |

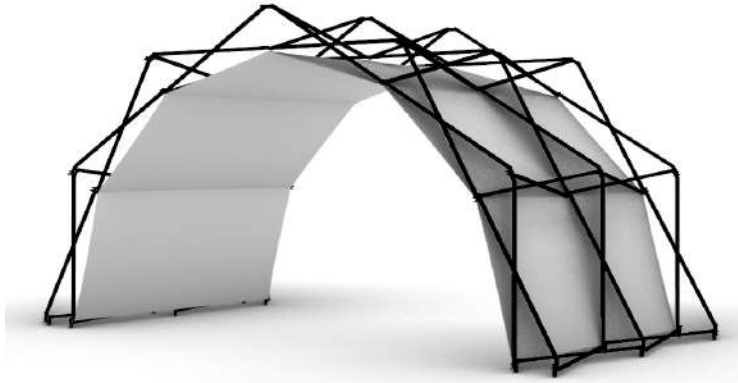
5. CONCLUSIONS

Although this structure is outside the scope of EN 13782, we have used the principles of this standard as much as possible in our assessment of the strength, stability and safety of this structure.

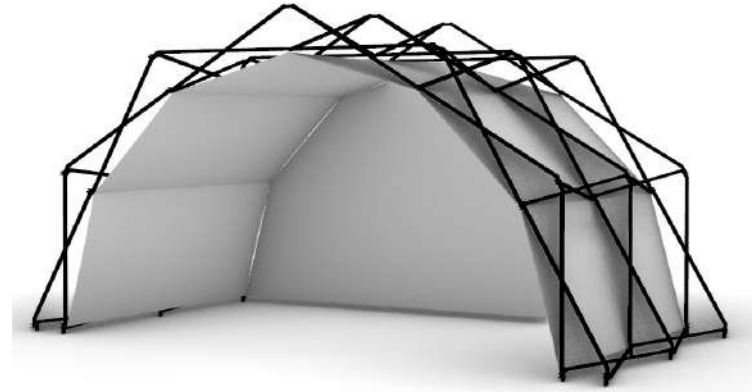
The structure cannot withstand the minimum wind pressures given in EN 13782. This does not pose a problem for safe use, as the structure can be assembled and disassembled very quickly.

The structure can be used safely provided that the limitations (maximum wind speed - ballast) indicated in the manufacturer's load bearing sheet and included in this report are taken into account (see annex).

Load bearing



Open covering (only top membrane)



Half closed covering (top membrane + backdrop)



45km/h*



250kg
(max 125kg on 1 point)



330 or
4 weights of 15kg per foot plate

60km/h*

150kg
(max 75kg on 1 point)

570 or
7 weights of 15kg per foot plate

80km/h*

75kg
(max 37 kg on 1 point)

1020 or
12 weights of 15kg per foot plate



indoors
or no wind



250kg
(max 125kg on 1 point)



90 or
1 weight of 15 kg per foot plate

45km/h*

150kg
(max 75kg on 1 point)

450 or
5 weights of 15kg per foot plate

60km/h*

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840 or
10 weights of 15kg per foot plate



* The mentioned wind speeds are the **maximum wind peaks** (not averaged values).

If **unexpected weather conditions** arise (higher wind peaks than foreseen): handle quickly by safeguarding people from underneath the structure and detach the backdrop and/or the top membrane.



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Anchoring sheet



In order to anchor the structure properly, enough **ballast weights** should be used. Check the load bearing sheet for the exact amount of ballast.

These weights need to be put **on the foot plates**: either you stack the weights in one pile in the middle, if too many, you stack the weights in two piles (in the middle and at the end of the foot plate).



If the structure is on grass or soil you can also use **ground anchors**.

It is the **responsibility of the user** to check if the anchors can withstand the tensile force corresponding with the ballast weight. For this **test loadings** should be conducted **on site**, consisting of at least 3 tests. In order to determine the capacity of the anchor in the soil, a safety factor of 1,6 is applied on the lowest value of the test loadings.

Contact Konligo for more information.