

Technical Construction Files



Aluminum Box Truss

Model:



SZAT01, SZAT02, SZAT03, SZAT04, SZAT05, SZAT06

According to

305/2011/EU Construction products Directive

Jiangsu Shizhan Group Co., Ltd.

Shicun Village, Xibei Town, Xishan District, Wuxi City, Jiangsu Province, China

Technical File No.:	Issue Date:	Prepared by:	Approved by:
SZ-2017-07-11	2017-07-31		

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1.0 EC Declaration of Conformity

EC Declaration of conformity

Council Directive
305/2011/EU Construction products Directive

Applicant: Jiangsu Shizhan Group Co., Ltd.
Address: Shicun Village, Xibei Town, Xishan District, Wuxi City, Jiangsu
Province, China
Tel: +86-510-83790831 Fax: +86-510-83790831

Manufacturer: Jiangsu Shizhan Group Co., Ltd.
Address: Shicun Village, Xibei Town, Xishan District, Wuxi City, Jiangsu
Province, China
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Certify that the product described is in conformity with the Directive
305/2011/EU as amended

Product Name:

Aluminum Box Truss

Model:

SZAT01, SZAT02, SZAT03, SZAT04, SZAT05, SZAT06

The product has been assessed by the application of the following standards:

EN 15088:2005

Company stamp and Signature of authorized personnel:


Date: 2017/09/31

2.0 Product General Description

Aluminum box truss is very stable and durable because of the extra chords, firm and strong enough to support heavy lighting, speaker or billboard, it is commonly used for concert, exhibition or outdoor display.

In order to ensure the conformity for CE marking for these products, some main European and/or International standards have been used for the assessment of conformity, they are:

—EN 15088:2005 Aluminium and aluminium alloys - Structural products for construction works - Technical conditions for inspection and delivery.

The test reports for these applicable standards in detail have been included in the relevant sub-clauses of this technical construction file.

To present the conformity of this series product with Construction Products Regulation, we discuss the conformity systematically with the relative Directive and standards.

3.0 Quality Control System

In order to ensure the conformity of the series production, our company has taken the related procedures mentioned below:

1) The complete technical construction file (TCF) has been established before applying for the CE marking certificate.

2) Carry out the inspection for parts and components according to the TCF

Before the assemblies of the series production, the QC engineers of our company have to check and inspect the technical specifications and intended functions of parts and components to ensure the correct use of them according to the contents of TCF and principle described in the related technical information.

3) Carry out the inspection & testing for the products before packing

Before packing the products, the QC engineers of our company have to do the necessary inspection and testing to ensure the conformity of related requirements.

4) Carry out the inspection for the packing

5) Provision for the change of design

6) Provision for the Quality Assurance

4.0 Product Pictures and Technical Data

SZAT01





5.0 Name Plate Sample

Aluminum Box Truss

SZAT01



Material: 6061-T6

Average loading: 500kg

Service life: > 10 years

Size of main tube: 50*3 mm

Serial No.:

Date: 2017/07/24

Jiangsu Shizhan Group Co., Ltd.

Shicun Village, Xibei Town, Xishan District, Wuxi City, Jiangsu Province, China

OPERATION INSTRUCTIONS



Box Aluminum Truss, or square truss, has a square profile. Square truss consists of 4 outer tubes/chords (the larger tubes) with smaller tubes/webs in-between for triangulation and durability. With this structure, it can effectively support and share capacity after construction of the stand is completed.

The most common sizes for square aluminum truss are 6" wide truss, 10" wide truss, and 12" wide truss, each section is connected with spigot and pin. It is very easy to assemble and disassemble, resisting damage or scratch, can be repeatedly used.

Square truss is very stable and durable because of the extra chords, firm and strong enough to support heavy lighting, speaker or billboard, it is commonly used for concert, exhibition or outdoor display.

7.0 List of The Applied Norms

Norms number	Description
EN 15088:2005	Aluminium and aluminium alloys - Structural products for construction works - Technical conditions for inspection and delivery

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8.0 General Test Report

INFORMATION

Applicant Name:	Jiangsu Shizhan Group Co., Ltd.
Address:	Shicun Village, Xibei Town, Xishan District, Wuxi City, Jiangsu Province, China
Manufacturer Name:	Jiangsu Shizhan Group Co., Ltd.
Address:	Shicun Village, Xibei Town, Xishan District, Wuxi City, Jiangsu Province, China

PROJECT INFORMATION

Product name:	Aluminum Box Truss
Model(s)	SZAT01, SZAT02, SZAT03, SZAT04, SZAT05, SZAT06
Standard/Edition	EN 15088:2005
Requested Service	<input checked="" type="checkbox"/> Full or partial pre-test for the following certification []CE- MD []CE- LVD []CE- EMC <input checked="" type="checkbox"/> Others <u>CPR</u>

SAMPLE RECORDS

Sample	Quantity	Description
SZAT01	1	Complete, Well for testing

Conclusion:

The sample(s) were tested according to the standard(s) specified above and found COMPLIANCE with the applicable requirements.
Jul. 31, 2017

Testing Introduction



Test item particulars:
Equipment mobility.....movable
1 Practical tests for Type Testing Procedure
2 Practical tests for fitness for purpose test when SZAT01 has been type tested

Test case verdicts

Test case does not apply to the test object.....: N/A
Test item does meet the requirement.....: P(Pass)
Test item does not meet the requirement.....: F(Fail)

General remarks

The test results presented in this report relate only to the object tested.
This report shall not be reproduced except in full without the written approval of the testing laboratory.
The test results presented in this report relate only to the item(s) tested,
"(see remark #)" refers to a remark appended to the report,
"(see Annex #)" refers to an annex appended to the report.
Throughout this report a comma is used as the decimal separator.

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Standard: EN 15088			
Clause	Requirement-Test	Result	Verdict

EN 15088			
4	Requirements		
4.1	Ordering Information		
	The following information shall be obtained by the manufacturer at the time of the order: a) description of the product in accordance with Table 1, column "Product"; b) reference to this European Standard; c) designation of the aluminium alloy and temper shall be as given in EN 573-3 and EN 515 for wrought products and as given in EN 1706 for castings; d) reference to the European product Standard for the relevant wrought product or castings (see Table 1, column "General provisions / Assessment and test methods"); e) any information required by the referenced European product Standard; f) classification required by this European Standard (see 4.3.2.2.2); g) any additional requirements to those specified in this clause such as: -extrusion seams; -surface condition;	P	
4.2	Selection of alloy and temper		
	Alloy and temper shall conform to the required function and use for the fabrication of aluminium structures, as outlined in the scope. The selection of material, including the durability aspects, shall be carried out in accordance with the appropriate parts of EN pr1999 and prEN 1090-3.	P	6061-T6
4.3	Product requirements		
4.3.1	General		
	The characteristics for structural material shall be determined and expressed in accordance with 4.3.2 to 4.3.5. The conformity with the requirements in this European Standard shall be reported and recorded in a specific test report in accordance with EN 10204.	P	
4.3.2	Mechanical properties and tolerances on dimensions and form		
4.3.2.1	General		
	The requirements and test methods on structural material for construction works shall be as specified in the standards given in Table 1.	P	
4.3.2.2	Mechanical properties		
4.3.2.2.1	General		
	The mechanical properties shall conform to those specified in the European Standards given in Table 1 and achieve the minimum values for: -elongation; -tensile strength; -yield strength; -fatigue strength (where required); -bendability (where required).	P	
4.3.2.2.2	Mechanical properties of products under cyclic loading/fatigue strength		
	The material shall be classified on a case-by-case base in accordance with the intended use as follows: -Class I The product is not subject to fatigue. -Class II The product is subject to fatigue and fatigue properties are specified in prEN 1999-1-3.	P	Class II

Standard: EN 15088			
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	<p>-Class III The product is subject to fatigue, but fatigue properties are not specified in prEN 1999-1-3.</p> <p>For Class III, the fatigue testing shall be carried out according to:</p> <p>-requirements on fatigue testing of extruded, rolled or forged products as specified in Annex A.</p> <p>If no Class is specified in the ordering information, the manufacturer shall obtain the requirements in accordance with this European Standard from the purchaser.</p>		
4.3.2.2.3	Bendability		
	<p>The structural material shall be classified as specified in Annex B.</p> <p>Bendability of new alloys may be established with the use of application rules or extended application rules developed for the purpose.</p>	P	
4.3.3	Weldability		
	<p>The weldability of aluminium and aluminium alloys shall be declared according to Table C.1 and Table C.2 of Annex C of prEN 1999-1-1.</p>	P	
4.3.4	Restrictions to avoid regulated substances		
	<p>The manufacturer shall ensure that there are no emissions of any substances hazardous to health or to the environment in excess of the legally permitted level in the member state of destination.</p>	P	
4.3.5	Durability		
	<p>Durability for a reasonable economic working lifetime is generally assured by the inherent corrosion resistance of aluminium and its alloys. Under exceptional atmospheric conditions or demanding use, the selection of the material shall take into account all relevant requirements.</p>	P	
5	Evaluation of conformity		
5.1	General		
	<p>The conformity of the products to the requirements of this European Standard and with the stated values (including classes) shall be demonstrated by:</p> <p>-Initial Type Testing (ITT) ; and</p> <p>-Factory Production Control (FPC) by the manufacturer, including product assessment.</p> <p>For the purposes of testing, the products may be grouped into families, where it is considered that the selected property/properties is/are common to all the products within that family.</p>	P	
5.2	Testing		
5.2.1	Initial type testing (ITT)		
5.2.1.1	General		
	<p>An initial type test is the complete set of tests or other procedures, determining the performance of samples of products representative of the product type.</p> <p>Initial type testing shall be performed to show conformity with this European Standard on first use of this European Standard for products being put onto the market and:</p> <p>-the beginning of the production with changes in new or modified product design, new raw material or supplier of the materials, if such a change is likely to alter the performance of the product;</p> <p>-the beginning of a new or modified method of production.</p>	P	
5.2.1.2	Characteristics		
	<p>All characteristics in 4.3 shall be subject to initial type testing with the following exceptions :</p> <p>-release of regulated substances may be assessed indirectly by controlling the content of the substances concerned;</p> <p>-prescriptive requirement on corrosion protection.</p>	P	
5.2.1.3	"Deemed to satisfy" provisions and use of reference tabulated data		

Standard: EN 15088			
Clause	Requirement-Test	Result	Verdict
	In those cases where conformity with this European Standard is based on "deemed to satisfy" provisions or tabulated values, type testing shall be limited to the verification of whether the products meet the requirements to use those values, classes or levels, unless better values, classes or levels are being claimed.	N	
5.2.1.4	Treatment of calculated values and design		
	In some cases, the manufacturer will produce products in accordance with a design and/or calculations provided by a third party. In this case, verification will not be of the design or calculations themselves, but only of the fact that the products comply with the assumptions of the design and/or calculations.	N	
5.2.1.5	Additional conformity procedure		
	If required for special uses, the need for any additional requirements for conformity testing shall be specified at the time of order. If required by the order, conformity tests for additional characteristics (given in 4.1 g) shall be performed by the manufacturer.	N	
5.2.2	Sampling, testing and conformity criteria		
5.2.2.1	Sampling		
	Initial type testing shall be performed on samples of products representative for the manufactured product type. The sampling shall be performed in accordance with the European Standards in Table 1.	P	
5.2.2.2	Testing and conformity criteria		
	The number of samples to be assessed shall be in accordance with Table 2.	P	
5.3	Factory production control (FPC)		
5.3.1	General		
	The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform to the declared performance characteristics. The FPC system shall consist of written procedures (works' manual), regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, the equipment, the production process and the product. Records shall remain legible, readily identifiable and retrievable.	P	
5.3.2	General requirements		
	The FPC system may be part of a Quality Management system, e.g. in accordance with EN ISO 9001.	P	
5.3.3	Manufacturer FPC system requirements		
5.3.3.1	Product testing and evaluation		
	The manufacturer shall establish procedures to ensure that the production tolerances allow for the product performances to be in conformity with the declared values, derived from initial type testing. The characteristics, and the means of verification, are given in the Table 2. The manufacturer shall record the results of the tests specified. These records shall at least include the following information: -identification of the product tested; -date of sampling and testing; -test methods performed (including reference standard); -test results.	P	
5.3.3.2	Personnel		
	The responsibility, authority and the relationship between personnel that manages, performs or	P	

Standard: EN 15088			
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	verifies work affecting product conformity, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-conformities from occurring, actions in case of non-conformities and to identify and register product conformity problems. Personnel performing work affecting product conformity shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.		
5.3.3.3	Equipment		
	<p>All weighing, measuring and testing equipment necessary to achieve, or produce evidence of, conformity shall be calibrated or verified and regularly inspected according to written procedures, frequencies and criteria.</p> <p>Control of monitoring and measuring devices shall comply with EN ISO 9001:2000, 7.6.</p> <p>All equipment used in the manufacturing process shall be regularly inspected in accordance with the manufacturer's written procedures and maintained to ensure that use, wear or failure does not cause inconsistency in the manufacturing process.</p> <p>Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.</p>	P	
5.3.3.4	Verification of purchased products		
	The specifications of all purchased products which influence the required performance of the building products, as well as the inspection scheme for ensuring their conformity, shall be documented. The control of purchased products shall be in accordance with EN ISO 9001:2000, 7.4.3.	P	
5.3.3.5	In-process control		
	The manufacturer shall plan and carry out production under controlled conditions. Compliance with EN ISO 9001:2000, 7.5.1 and 7.5.2 shall be deemed to satisfy the requirements of this clause.	P	
5.3.3.6	Traceability and marking		
	Individual product or batches shall be identifiable and traceable with regard to their production origin. The manufacturer shall have written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly. Compliance with EN ISO 9001:2000, 7.5.3 shall be deemed to satisfy the requirements of this clause.	P	
5.3.3.7	Non-conformity products and complaints of non-conformity		
	The manufacturer shall have written procedures, which specify how non-conforming products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures. Compliance with EN ISO 9001:2000, 8.3 shall be deemed to satisfy the requirements of this clause.	P	
5.3.3.8	Corrective action		
	The manufacturer shall have written procedures to investigate and document action to eliminate the cause of non-conformities in order to prevent recurrence. Compliance with EN ISO 9001:2000, 8.5.2 shall be deemed to satisfy the requirements of this clause.	P	
5.3.3.9	Handling, storage, packaging		
	The manufacturer shall have appropriate equipment for handling and shall provide suitable storage areas preventing damages or deterioration.	P	
5.3.3.10	Documentation		
	The result of the FPC shall be recorded and evaluated, as shall any action taken. Test reports shall comply with relevant requirements of 5.2.2 or 5.3.3 and shall in addition include at least the date	P	

Standard: EN 15088			
Clause	Requirement-Test	Result	Verdict
	and the name of the manufacturer. Records shall be signed by an authorized person. The records shall be retained by the manufacturer for five years and shall be made available for authorized examination as required.		
5.4	One-off products, prototypes and products produced in very small quantities		
5.4.1	General		
	Products produced as a one-off, prototypes assessed before full production is established, and products produced in very small quantities (less than 20 pieces per year) shall be assessed in accordance with 5.4.2. The FPC system of one-off products and products produced in very small quantities shall ensure that purchased products satisfy these product performance requirements. The manufacturer shall maintain records allowing traceability of the products. For prototypes where the intention is to move to series production, initial inspection of the production facilities and procedures and FPC shall be carried out before the series production is already running and/or before the FPC is already in practice. Once series production is fully established, the provisions of 5.3 shall apply.	N	
5.4.2	Initial assessment		
	For initial type assessment, the provisions of Table 2 apply, with the following exceptions : -mechanical properties, when tested, shall be of a single product, with the result stated as a manufacturer's limiting value. The following shall be assessed: -FPC-documentation; and -production facilities and procedures. In the initial assessment the following shall be verified: a) that all resources necessary for the achievement of the product characteristics required by this European Standard is available; and b) that the FPC-procedures in accordance with the FPC-documentation is implemented and followed in practice; and c) that the product made in very small quantities afterwards complies with the initial type testing samples, for which compliance with this European Standard has been verified.	N	
6	Marking, labelling and packaging		
	The manufacturer shall provide sufficient information to ensure the traceability of this product, e.g. by means of product codes giving the link between the product, the manufacturer and the production. This information may be labelled on the product or in accompanying papers.	P	

Photos of the sample



Picture 1



Picture 2