

Test Report
No. TPI17.07.5010417467.001

Applicant: Shanghai Star House Co.,Ltd.
No. 2303, Xuanhuang Highway, Huinan Town,
Pudong New Area, Shanghai, China 201300

Manufacturer: Shanghai Star House Co.,Ltd.
No. 2303, Xuanhuang Highway, Huinan Town,
Pudong New Area, Shanghai, China 201300

Inspection body: TÜV SÜD Certification and Testing (China) Co., Ltd
Shanghai Branch, No. 151 Heng Tong Road
Shanghai 200070, P.R. China

Date of application: 2017-06-01

Our order number: 7482138584

Testing laboratory: TÜV SÜD Certification and Testing (China) Co., Ltd
Shanghai Branch, No. 151 Heng Tong Road
Shanghai 200070 P.R. China

Product Module cabin
Type: SH101

Order of examination / Purpose of the examination: Functional test according to the basis of examination

Basis of examination: Relevant clauses from ISO 1496-1, with modification based on the actual products.



China

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Date: 2017-07-27

Our reference:
TUV SUD / SH / RI /LCC /WWJ

Document:
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The test results refer exclusively to the units under test.

HSBC Bank (China) Company Limited
Shanghai Branch
Account No. (RMB): 088-303235-011
Account No. (USD): 001-622349-055
Account No. (EUR): 001-622349-056
SWIFT Code: HSBCCN5H

Managing Director:
Jan Sun

Telephone: +86 21 6141 0123
Tele. fax: +86 21 6140 8600
www.tuv-sud.cn

TUV[®]

TÜV SÜD Certification and Testing
(China) Co., Ltd Shanghai Branch
No. 88 Heng Tong Road
Shanghai 200 070
P.R. China

Wu Weijun



1 Scope of inspection/testing

As required by manufacturer, this report was written based on the structural load test according to ISO 1496-1, with modification based on the actual products. The detail requirements and tests are shown below.

The test product the framework of the module cabin, used as for residential purpose. It can be stacked up, maximal 3 layers. The detail technical specifications are shown as follows:

- Type: SH101
 Technical specifications:

1	Dimensions (L×E×H)	6058mm×2438mm×2791mm	
2	Weight (Frame structure)	1.6t	
3	Rated capacity	2500N / m ² For each model cabin, the rated capacity is: $2500\text{N/m}^2 \times (6058\text{mm} \times 2438\text{mm}) = 36923.51\text{N} = 3763.9 \text{ kg}$, where $g = 9.81$	
4	Other	Floor specification:	
		Material	Made from hot rolled steel, welded steel profile
		Main frame	120x92x4mm Q235B steel C-type profile, 4mm thick corner casts, welded; 7 PCS steel cross members with zinc-coated C-type profiles, thickness 3mm
		Floor covering	20mm cement board, 1.8mm PVC floor covering
		Insulation	100mm thick 40kg/m ³ mineral wool
		Subfloor	0.5mm thick galvanised steel sheet
		Paint	20-30um primer, 50-70um topcoat paint for steel frame, RAL9002
		Roof specification:	
		Material	Made from hot rolled steel, welded steel profile
		Main frame	3mm SPHC steel profile, 4mm thick corner casts, welded; 7 PCS 30x50x1.5mm Q235B steel square tube cross members
		Ceiling	0.5mm steel sheet, 50mm mineral wool sandwich panel, 50mm thick 40kg/m ³ mineral wool
		Roof covering	0.5mm thick galvanised steel sheet
		Paint	20-30um primer, 50-70um topcoat paint for steel frame, RAL9002
		Corner Post with triangle steel plate:	
		Material	Q345B, thickness 4mm, 30mm mineral wool (80kg/m ³)

On-site, 3 samples were prepared by the manufacturer, Shanghai Star House Co.,Ltd.

2 The report is based on following documents

N/A

3 Test procedures

The test was carried out in the following test location:

Shanghai Star House Co.,Ltd.

No. 2303, Xuanhuang Highway, Huinan Town, Pudong New Area, Shanghai, China
201300

The participants of the test:

Miss Ni Jie(Justin)	Shanghai Star House Co.,Ltd.
Mr. Ni Jie	Shanghai Star House Co.,Ltd.
Mr. Wu Weijun	TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch

The test focused on the mechanical strength of the frameworks of the module's cabin, consisting the follows 3 testing items.

3.1 Floor strength

This test shall be carried out to prove the ability of a container floor to withstand both static and dynamic loading imposed by persons' living and working activities.

Based on the design and normal usage, a load of 1.8 times rated capacity shall be placed uniformly on the floor.

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use.

3.2 Roof strength

This test shall be carried out to prove the ability of the rigid roof of a module cabin to withstand the loads imposed by persons working on it.

A load of 300 kg shall be placed on the weakest area of the rigid roof of the module cabin.

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use.

3.3 Stacking

This test shall be carried out to prove the ability of a fully loaded module cabin to support a superimposed mass of module cabins.

The module cabins shall be stacked correctly and firmly.



Each module cabin shall have test loads uniformly distributed over the floor in such a way that the combined mass of the container and the test loads are equal to 1,8 times rated capacity of the module cabin.

Three module cabins are stacked up for testing according to the design.

Upon completion of the test, the module cabin shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use.

4 Findings

The detailed test results are shown below:

4.1 Floor strength

7t test loads were distributed uniformly inside the cabin, which was more than 1.8 times rated capacity of the tested module cabin.

During the test, the floor of the module cabin showed 1.0mm deformation.

After the test load was removed, this deformation recovered and no permanent deformation was found. The module cabin was suitable for further usage.

4.2 Roof strength

360kg test load was placed at the roof center on the module cabin.

During the test, the roof showed a largest 17mm deformation at the roof center, while 3mm deformation on the center of the roof structural beam.

After the test load was removed, these 2 deformations recovered and no permanent deformation was found. The module cabin was suitable for further usage.

4.3 Stacking

6t test loads were distributed uniformly inside the cabin. The combined mass of these test loads and the frame weight was 7.6t, more than 1.8 times rated capacity of each module cabin.

Three modules cabins were stacked up according to the test requirements.

During the test, all three module cabins showed no abnormalities. The roof of the bottom module cabin showed a largest 6mm deformation. The column of the bottom module cabin was measured a maximal 6mm vertical deflection from its original status without loads. The floor of the middle module cabin was measured a deflection of 21mm at the center.

After the test load is removed, all above deformation recovers and no permanent deformation was found. All three test module cabins were suitable for further usage.

5 Result

The mechanical load test on these module cabins show that the module cabin, type:SH101 is mechanically strong enough for residential usage.



6 Notes

This report is based on the state of the art, as documented by the actual standards valid at present.

In case of changes or supplements to these standards, or in case of a development of the state of the art, a revision may become necessary.

This report only may be passed on in its entirety.

TÜV SÜD Certification and Testing
Co., Ltd. Shanghai Branch,
Real Estate and Infrastructure

A handwritten signature in blue ink, appearing to read '吴伟俊'.

The project engineer
Mr. Wu Weijun

TÜV SÜD Certification and Testing
Co., Ltd. Shanghai Branch,
Real Estate and Infrastructure

A handwritten signature in blue ink, appearing to read '王鹏'.

The reviewer
Mr. Wang Peng