



**CONTAINER OWNERS  
ASSOCIATION**

# 2024 CONFIRMATION OF MEMBERSHIP PAYMENT

This is to confirm that

**Qingdao Shuangfan Packaging Co.,Ltd**

is an Associate Member of The Container Owners Association in 2024

Membership is valid from 1 January 2024 to 31 January 2025

**Katarzyna Marszalek**  
Financial Director

**Patrick Hicks**  
Secretary General

Reference Number: COA7755/2024





# CERTIFICATE OF CONFORMITY QUALITY MANAGEMENT SYSTEM CERTIFICATION

NO. 10423Q00737R0S

This is to certify that the Quality Management System of

**QINGDAO SHUANGFAN PACKAGING CO.,LTD.**

(Registered Address: Dazhou Village Industrial Park, Chengyang District, Qingdao City, Shandong Province

Audit Address: 42 Meters East Of Intersection Of Rentong Road And Xida Road, Chengyang District, Qingdao City, Shandong Province

Unity Social Credit Code:91370214MA3P59U16X Postal Code:266000)

is in conformity with:

**GB/T 19001-2016/ISO 9001:2015**

This system is valid to:

**\* PRODUCTION OF CONTAINER LIQUID BAGS \***

Further clarifications regarding the scope of this certificate and the applicability of GB/T 19001-2016/ISO 9001:2015 requirements may be obtained by this body organization. Certificate in the state regulations administrative license, qualification, mandatory product certification received within the validity period, the regular supervision review of the case effectively. This certificate information is available on the official website of the agency and Certification & Accreditation Administration of the People's Republic of China (www.cnca.gov.cn).

Issue date :05-05-2023

Term of validity: 05-05-2023 TO 05-04-2026

Change date :05-20-2024

Representative of the company (Director):

*S. p. chua*

SHANDONG SEATONE  
INTERNATIONAL CERTIFICATION  
CO.,LTD.



中国认可  
国际互认  
管理体系  
MANAGEMENT SYSTEM  
CNAS C104-M



Wechat certificate query

first inspection

labeling place

second inspection

labeling place

The certified organization shall accept supervision and audit in accordance with the regulations,

and the certificate shall remain valid after being verified as qualified

Address: NO.2 Zhuyuan Road, High-tech Zone, Qingdao City, China

Tel: 400-675-8617

Web: www.seatone.net.cn



# CERTIFICATE OF CONFORMITY ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION

NO. 10423E01328R0S

This is to certify that the Environmental Management System of

**QINGDAO SHUANGFAN PACKAGING CO.,LTD.**

(Registered Address: Dazhou Village Industrial Park, Chengyang District, Qingdao City, Shandong Province

Audit Address: 42 Meters East Of Intersection Of Rentong Road And Xida Road, Chengyang District, Qingdao City, Shandong Province

Unity Social Credit Code:91370214MA3P59U16X Postal Code:266000)

is in conformity with:

**GB/T 24001-2016/ISO 14001:2015**

This system is valid to:

**\* PRODUCTION OF CONTAINER LIQUID BAGS AND RELATED EMS MANAGEMENT ACTIVITIES BY QINGDAO SHUANGFAN PACKAGING CO., LTD. LOCATED AT 42 METERS EAST OF INTERSECTION OF RENTONG ROAD AND XIDA ROAD, CHENGYANG DISTRICT, QINGDAO CITY, SHANDONG PROVINCE \***

Further clarifications regarding the scope of this certificate and the applicability of GB/T 24001-2016/ISO 14001:2015 requirements may be obtained by this body organization. Certificate in the state regulations administrative license, qualification, mandatory product certification received within the validity period, the regular supervision review of the case effectively. This certificate information is available on the official website of the agency and Certification & Accreditation Administration of the People's Republic of China (www.cnca.gov.cn).

Issue date :10-28-2023

Term of validity: 10-28-2023 TO 10-27-2026

Change date :05-20-2024

Representative of the company (Director):

*S. p. chuan*

SHANDONG SEATONE  
INTERNATIONAL CERTIFICATION  
CO.,LTD.



中国认可  
国际互认  
管理体系  
MANAGEMENT SYSTEM  
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北京交通大学

BEIJING JIAOTONG UNIVERSITY

**RAIL IMPACT TEST REPORT OF RAILWAY GOODS LOADING AND  
SECURING RESEARCH AND CONSULTATION CENTER OF  
BEIJING JIAOTONG UNIVERSITY**

***Impact Test Report***

*Single-use Flexitank Bulk Packaging System for Non-  
Hazardous Liquid in a 20ft GP Freight Container—*

*Qingdao Shuangfan Packaging Co., Ltd*

**Test Report No.: JGZX-FL-2020-0901**

**Test Report Method: PAS 1008:2016**

**Test Date: 2020.09.03**

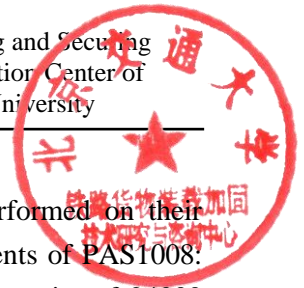
**Report Date: 2020.09.18**

Railway Goods Loading and Securing Research and Consultation Center of  
Beijing Jiaotong University





No.	JGZX-FL-2020-0901	Date	2020.09.18
Report Name: Single-use Flexitank Bulk Packaging System for Non-Hazardous Liquid in a 20ft GP Freight Container- Qingdao Shuangfan Packaging Co., Ltd			
Client Name: Qingdao Shuangfan Packaging Co., Ltd			
Report Summary: An impact test was conducted to evaluate the performance of a Single-use Flexitank Bulk Packaging System (Serial number: SFFQG24200830001) which was manufactured by Qingdao Shuangfan Packaging Co., Ltd. The test method is in accordance with PAS1008: 2016, Annex B: Flexitank system rail impact test. Staff from Qingdao Shuangfan Packaging Co., Ltd., CRRC Co., Ltd. and BJTU joined the test. The result showed that the flexitank and bulkhead system (Serial number: SFFQG24200830001) was successful in meeting the rail impact test requirements.			
Reported by (Signature)	Checked by (Signature)	Approved by (Signature)	
Assistant Professor <i>Han Yanhui</i>	Associate Professor <i>Chen Chao</i>	Professor <i>Han Mei</i>	
Address: Railway Goods Loading and Securing Research and Consultation Center School of Traffic and Transportation Beijing Jiaotong University Beijing, 100044 PR. China Email: <a href="mailto:chenchao@bjtu.edu.cn">chenchao@bjtu.edu.cn</a> Tel: +86-10-51688354			



## 1. Introduction

Qingdao Shuangfan Packaging Co., Ltd. requested a rail impact test be performed on their Single-use Flexitank Bulk Packaging System to determine if it meets the requirements of PAS1008: 2016. Qingdao Shuangfan Packaging Co., Ltd. flexitank system has a maximum capacity of 24000 liters and consists of four layers of PE an outer layer of Woven PP.

Rail impact test was conducted on September 3, 2020 at CRRC Co., Ltd. in Beijing. Railway Goods Loading and Securing Research and Consultation Center of Beijing Jiaotong University organized the test.

In attendance during the test were:

Mr. Wang Lianguang, Manager, Qingdao Shuangfan Packaging Co., Ltd.

Mr. Fan Hongchao, Director, CRRC Co., Ltd.

Ms. Han Mei, Professor, BJTU

Ms. Han Yanhui, Assistant Professor, BJTU

Mr. Mi Xiwei, Associate Professor, BJTU

## 2. General information

Qingdao Shuangfan Packaging Co., Ltd. is a professional manufacturer of flexitanks, located in Qingdao, China. The test flexitank is Shuangfan Flexitank. The test method is in accordance with PAS 1008: 2016, Annex B.

## 3. Load description

The test container is KKTU 738684-0, a standard 20-foot long GP freight container, manufactured by Yang Zhou Tong Yun Container Co. LTD. During the test, the container was loaded onto the container pedestals on a flat car with MT-2 cushion units. The flexitank was fitted into the container by Qingdao Shuangfan Packaging Co., Ltd. 6 steel bulkhead bars were fabricated from 50\*50mm section bars, with a thickness of 3.0mm. The material type is Q235, and the length of each bar is 2400mm. Between the bulkhead steel bars and flexitank is two layers of 8mm corrugated paperboard sheet sticking together (see Pic.1). The container floor, end and side walls were lined with corrugated paperboard(238g/m<sup>2</sup>) for flexitank protection (see Pic.2). No other reinforcement bars at the end and side walls.

The flexitank was filled with 24004 liters of water. The serial number of the flexitank was SFFQG24200830001.



Pic.1 Bulkhead installation



Pic.2 Interior of container before flexitank installation



Pic.3 Flexitank installation

#### 4. Impact test parameters

The 21.3 tons impact car was released from a predetermined height/grade to reach the appropriate target speed on a certain height/grade track to get the impact speed. The test car stopped at the impact point on a horizontal track. The airbrakes and the handbrakes of the test car were set free. The test car was stopped by brake shoes set on the rail after the test car. A speedmeter was used for impact speed measurement. See Illustration 1.

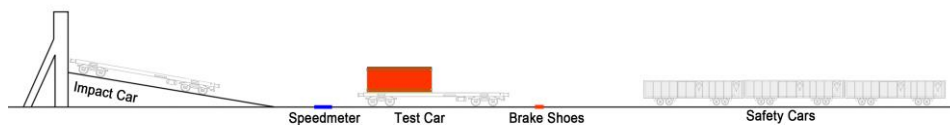


Illustration 1 Rail impact test configuration

#### 5. Results

1st impact is 6.2km/h towards the container door. The acceleration amplitude is 1.97g. System performing was good. No signs of stress to the flexitank, no leakage and no contact.

2nd impact is 6.3km/h towards the container end wall. The acceleration amplitude is 1.96g. System performing was good. No signs of stress to the flexitank, no leakage and no contact (see Pic.4 and Pic.5).

After discharge, there was no detectable leakage in the container (see Pic.6).





Pic.4 Bottom valve no door contact



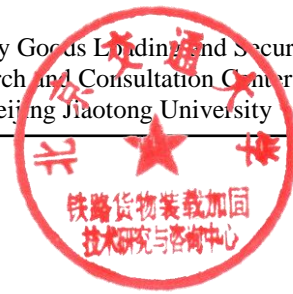
Pic.5 Bulkhead steel bars no door contact



Pic.6 Interior of container after discharge

## 6. Conclusion

The test results were within the maximum allowable deformation criteria. At no time did the bulkhead and bottom valve come in contact with the container doors. There was no detectable leakage during test and after discharge. The flexitank was successful in meeting the rail impact test requirements.



## Attachment

### Flexitank system standard rail impact test report

#### General information

Name and address of flexitank manufacturer	Qingdao Shuangfan Packaging Co., Ltd Dazhou Village Industrial Park, Chengyang District, Qingdao, 266109, China
Name and address of company commissioning the test	Qingdao Shuangfan Packaging Co., Ltd Dazhou Village Industrial Park, Chengyang District, Qingdao, 266109, China
Manufacturing address	Dazhou Village Industrial Park, Chengyang District, Qingdao, 266109, China
Test reference number	JGZX-FL-2020-0901
Flexitank type (e.g. single-layer, single-layer with woven sleeve, multilayer with woven sleeve)	Multilayer with woven sleeve
Test method	PAS 1008: 2016, Annex B

#### Test location and conditions

Name and address of testing facility	Beijing Jiaotong University No.3 Shangyuancun Haidian District Beijing
Date	2020.09.03
Temperature and humidity	33.1°C, RH 30.3%
Manager in charge of testing	Han Mei
Name, position and signature of test manager	Han Mei Professor <i>Han Mei</i>

GP freight container supplied by	KAWASAKI KISEN KAISHA, LTD.
Unique GP freight container number	KKTU 738684-0
Tare mass (kg)	2350

PAS 1008:2016 Annex C Rail Impact

Test Report No: JGZX-FL-2020-0901 Report Date: 2020.09.18



**Container safety convention (CSC) plate information**

<b>Photograph of CSC plate (to capture information) <sup>A)</sup></b>	
GP freight container manufacturer	YANG ZHOU TONG YUN CONTAINER CO., LTD. CHINA
Date of manufacture	07/2003
Current examination (Yes/no)	Yes
Maximum gross mass (kg)	30,480
Allowable stackable load for 1.8g (kg)	240,000
Racking test load value (kg)	20,000
End wall test load <sup>B)</sup> (N)	—
Side wall test load <sup>B)</sup> (N)	—
Allowable stackable weight (one-door off) <sup>B)</sup> (kg)	120,000
Racking test load value (one-door off) <sup>B)</sup> (kg)	11,430
End wall strength (one-door off) <sup>B)</sup> (N)	—
<sup>A)</sup> The CSC plate information shall be provided as either a photograph or in the form.	
<sup>B)</sup> Where provided on the CSC plate, the information shall be captured.	



**Test container panel thicknesses**

Section	Panel section measurement (in mm)																
	A1	A2	A3	A4	A5												
Side wall A – LH <sup>A)</sup>	1.948	1.946	1.946	1.932	1.892												
Material type <sup>B)</sup>	SPA-H	SPA-H	SPA-H	SPA-H	SPA-H												
	B1	B2	B3	B4	B5												
Side wall B - RH <sup>A)</sup>	1.932	1.932	1.928	1.944	1.956												
Material type <sup>B)</sup>	SPA-H	SPA-H	SPA-H	SPA-H	SPA-H												
	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>End wall</td> <td>1.804</td> <td>1.852</td> </tr> <tr> <td>Material type<sup>B)</sup></td> <td>SPA-H</td> <td>SPA-H</td> </tr> </tbody> </table>			A	B	End wall	1.804	1.852	Material type <sup>B)</sup>	SPA-H	SPA-H						
	A	B															
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	<table border="1"> <thead> <tr> <th></th> <th>A</th> </tr> </thead> <tbody> <tr> <td>Door panel A - RH</td> <td>1.922</td> </tr> <tr> <td>Material type<sup>B)</sup></td> <td>SPA-H</td> </tr> </tbody> </table>			A	Door panel A - RH	1.922	Material type <sup>B)</sup>	SPA-H	<table border="1"> <thead> <tr> <th></th> <th>B</th> </tr> </thead> <tbody> <tr> <td>Door panel B – LH</td> <td>1.934</td> </tr> <tr> <td>Material type<sup>B)</sup></td> <td>SPA-H</td> </tr> </tbody> </table>			B	Door panel B – LH	1.934	Material type <sup>B)</sup>	SPA-H	
	A																
Door panel A - RH	1.922																
Material type <sup>B)</sup>	SPA-H																
	B																
Door panel B – LH	1.934																
Material type <sup>B)</sup>	SPA-H																
<sup>A)</sup> For 20 ft test container, panels 1 to 5; for a 40 ft container, panels 1 to 11. <sup>B)</sup> For material type, the type of steel and grade of steel (e.g. ASTM A588) is recorded. NOTE See <b>B.2.1</b> and <b>B.3.1</b> .																	

**Flexitank information**

Flexitank serial number	SFFQG24200830001
Flexitank model/name	ShuangFan Flexitank

**Flexitank specifications**

Volume – nominal capacity (L)	24000
Volume – when tested (L)	24004
Number of layers (excluding sleeve)	4
Sleeve (Yes/no)	Yes
Tare mass (empty)(kg)	42



	Material	Thickness	Mass/square metre
		(mm)	(kg·m <sup>-2</sup> )
Layer 1 <sup>A)</sup>	PE	0.115	0.116
Layer 2	PE	0.115	0.116
Layer 3	PE	0.115	0.116
Layer 4	PE	0.115	0.116
Layer 5	—	—	—
Layer 6	—	—	—
Sleeve 1	Woven PP	—	0.176
Sleeve 2 (if used)	—	—	—

<sup>A)</sup> Layer 1 is the layer that is in contact with the commodity.

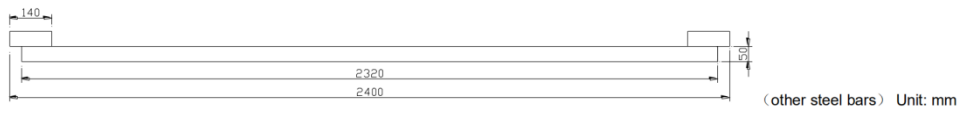
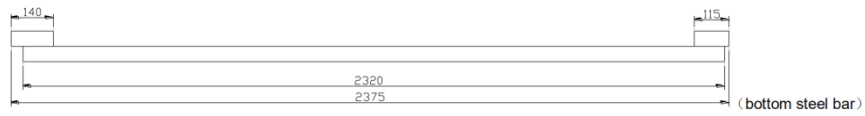
**Valve configuration**

Valve type	Manufacturer	Model number	Design	Size
Top	—	—	—	—
Bottom	ShuangFan	3" Ball valve	ShuangFan	3"
Air vent/relief	—	—	—	—
Other	—	—	—	—



Restraining system

Technical drawing of restraining system



Photograph to be taken with left-hand door closed and the right-hand door open, from an angle of 45° to the rear of the test container



Restraining system type	6 steel bars
Including materials used	Q235
Dimensions and thickness (mm)	2400*50*50*3.0
Mass of restraining system (kg)	89

PAS 1008:2016 Annex C Rail Impact

Test Report No: JGZX-FL-2020-0901

Report Date: 2020.09.18



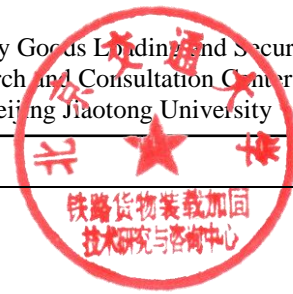
Test results

	Prior to filling	After filling (see B.4.6 and Table 4)	After first 2g impact (see B.4.9 and Table 4)	After second 2g impact (see B.4.11 and Table 4)	After discharge (see B.4.12 and Table 5)
Acceleration			2.12g	2.13g	
Minimum requirement for acceleration			2g towards doors	2g towards end wall	
Visually detectable leakage	-	NO	NO	NO	NO
Requirement		None	None	None	None
Contact with doors	NO	NO	NO	NO	NO
Restraining system	NO	NO	NO	NO	NO
Requirement		No contact	No contact	No contact	No contact
Valve	NO	NO	NO	NO	NO
Requirement		No contact	No contact	No contact	No contact
End wall <sup>A)</sup>	-	12.82mm	11.86mm	13.53mm	2.27mm
Maximum deflection permitted		40 mm	40 mm	40 mm	7 mm
Side wall A <sup>A)</sup>	-	24.48mm	24.79mm	25.12mm	3.14mm
Maximum deflection permitted		40 mm	40 mm	40 mm	8 mm
Side wall B <sup>A)</sup>	-	29.08mm	30.47mm	30.48mm	4.57mm
Maximum deflection permitted		40 mm	40 mm	40 mm	8 mm
Flexitank touching doors (Yes/no)			NO		
Valve touching roof (Yes/no)			—		
The test results are within the maximum allowable deformation criteria (Yes/no)					YES
Detectable leakage during testing (Yes/no)					NO
Test passed overall (Pass/fail)					PASS

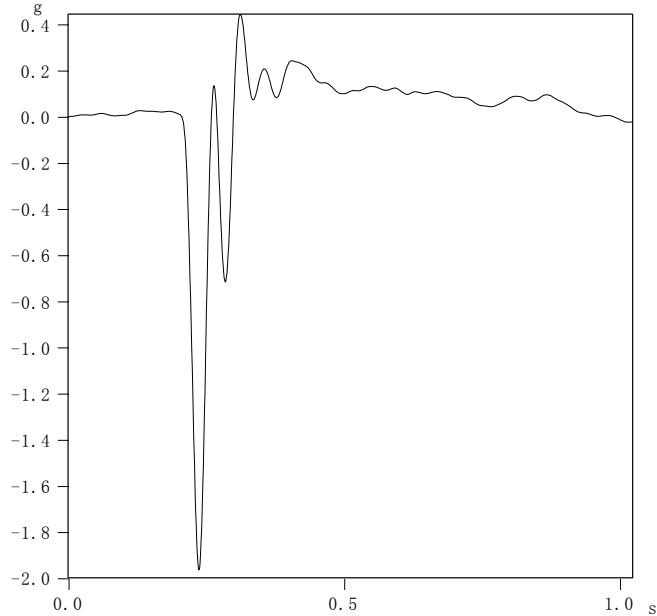
PAS 1008:2016 Annex C Rail Impact

Test Report No: JGZX-FL-2020-0901

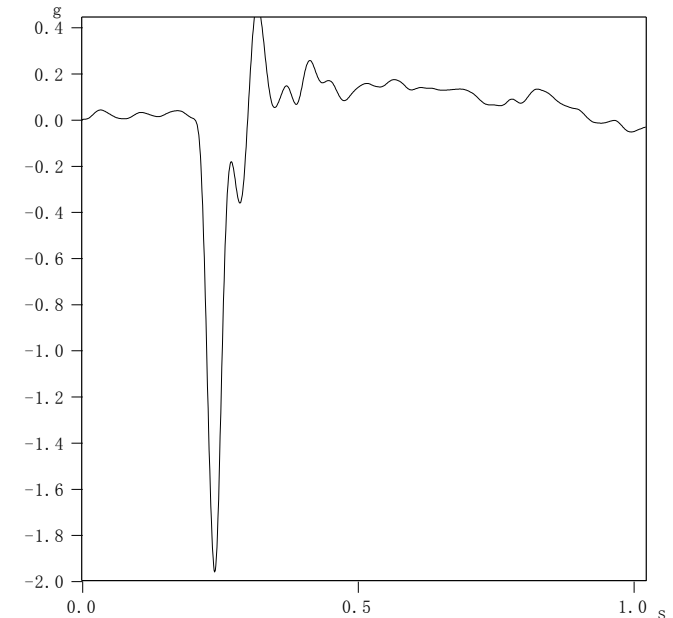
Report Date: 2020.09.18



Acceleration curves



Acceleration time history —2.12g towards doors



Acceleration time history —2.13g towards end wall





**Further comments**

- (1) The deformations of the test container were all within the maximum deflection permitted.
  - (2) At no time did the bulkhead and bottom valve come in contact with the container doors.
  - (3) No leakage or damage during test and after discharge.
- The results show that the flexitank and bulkhead system meets COA rail impact test requirements.