



PSB Singapore

# CERTIFICATE OF PACKAGING PERFORMANCE

## UN Marking Certification Scheme

Certification Serial No.: UN 109961 0027 Rev. 00

Initial No.: UN12-1111

Test Report Ref: 7191329488-EEC24/04-NKH

Issue To: **Yung Hsin Contain Industry Co., Ltd.**  
No. 22, Wen Hua Road,  
Hsinchu Industrial Park,  
Hu Kou Hsiang,  
30352 Hsinchu Hsien,  
TAIWAN

UN Packing Type Code: 31HA1 Packing Group II (Y)

Description Of Sample: Composite Bottle IBC with Rigid Plastic Inner Receptacle and outer casing of steel tubes for liquid substance GNX1000 CS  
Model of nominal capacity 1000Ltr with pallet - CS  
Type Designation: Model of nominal capacity 1000Ltr with pallet - CS  
Size of IBC: Drawing no: 2 10 15 0202 dated 14.05.2015 on page 6 of test report 7191329488-EEC24/04-NKH  
Material of IBC: Inner Container-PE-HD; Outer casing-Steel tube; Pallet- CS  
Nominal capacity: 1000 litres  
Brimful capacity: 1957KG  
Weight of IBC: 57kg  
Measured thickness: Top(3.0-3.5)mm, Body(2.0-2.5)mm, Bottom(3.0-3.5)mm

Packaging of the design type described above may bear the following marking:



31HA1/Y/\*\*  
SGP/YHC 007/5000/1960/  
57kg/1050L/100kPa



\*\* To be replaced by the last two digits of the month and year of manufacture

Date of Original Issue: 2012-08-01

Date of Expiry: 2027-07-31

Page 1 of 2  
Date of Last Revision: 2024-05-30

( KHEE HENG HOW )  
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PSB Singapore

# CERTIFICATE OF PACKAGING PERFORMANCE

## UN Marking Certification Scheme

**Certification Serial No.: UN 109961 0027 Rev. 00**

Initial No.: UN12-1111

It is certified that the samples of the design type described above has been tested in accordance with the provisions of the United Nations Recommendations on the Transport of Dangerous Goods (21<sup>st</sup> Revised Edition: 2019) Chapter 6, International Marine Dangerous Goods (IMDG) – (2020 Edition), International Civil Aviation Organisation (ICAO) – (2009-2016 Edition), International Air Transport Authority (IATA) – (58th Edition), Road Transport (ADR) – (2015 Edition), Railway Transport (RID) – (2015 Edition) and successfully met the criteria described in paragraphs 6.5.6.4 to 6.5.6.9 and 6.5.6.13 as shown below:

Test		Intensity
Bottom Lift Test to Clause	6.5.6.4	2450kg
Top Lift Test to Clause	6.5.6.5	3920kg
Stacking Test to Clause	6.5.6.6	24 hours at 4056kg
Leakproofness Test to Clause	6.5.6.7	20kPa for 10 minutes
Hydraulic Pressure Test to Clause	6.5.6.8	100kPa for 10 minutes
Drop Test to Clause	6.5.6.9	1.9m
Vibration Test to Clause	6.5.6.13	1 hour at 25mm

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Date of Last 2024-05-30

Revision:

( KHEE HENG HOW )  
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**Test Report No. 7191329488-EEC24/04-NKH**  
dated 17 May 2024



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**Note:** This report is issued subject to the Testing, Certification, Validation and Verification Regulations (TCVVR) of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

**SUBJECT:**

Testing of Composite Intermediate Bulk Containers IBC GNX 1000 CS for YUNG HSIN CONTAIN INDUSTRY CO., LTD submitted on 02 April 2024

**TESTED FOR:**

YUNG HSIN CONTAIN INDUSTRY CO., LTD  
No. 22, Wen Hua Road, Hsinchu Industrial Park,  
Hu Kou Hsiang, Hsinchu Hsien, Taiwan. 30352

Attn: Mr. Rajagopal Parthan

**DATE OF TEST:**

02 Apr 2024 – 17 May 2024

**SAMPLE APPLICATION REFERENCE:**

UN 109961 0008 Rev. 00

**DESCRIPTION OF SAMPLE:**

5 IBC with the following descriptions were submitted for testing:

Manufacturer : YUNG HSIN CONTAIN INDUSTRY CO., LTD

Packaging Description : Composite Bottle IBC with Rigid Plastic Inner Receptacle and outer casing of steel tubes for liquid substance GNX1000 CS Model of nominal capacity 1000Ltr with pallet - CS

Type Designation : Model of nominal capacity 1000Ltr with pallet - CS  
Size Of IBC : Refer to attached drawing no: 2 10 15 0202 date: 14.05.2015  
Material Of IBC : Inner Container-PE-HD;Outer casing-Steel tube; Pallet- CS  
Nominal Capacity : 1000 litres  
Brimful capacity : 1957kg  
Weight of IBC : 57kg  
Measured thickness : Top(3.0-3.5)mm, Body(2.0-2.5)mm, Bottom(3.0-3.5)mm  
UN Code No : 31HA1/Y/\*\*/SGP/YHC 007/4056/1960/57kg/1957kg/100kPa  
IBC colour : White / Black  
Stamp emboss on IBC top : Refer to attached drawing  
Stamp emboss on IBC body : Refer to attached drawing  
Packing Group : II



TÜV SÜD PSB

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15 International Business Park  
TUV SUD @ IBP  
Singapore 609937  
TUV®

**METHOD OF TEST:**

UN Recommendation for Transport of Dangerous Goods – Model Regulations (21<sup>st</sup> Revised Edition : 2019)  
International Marine Dangerous Goods (IMDG) – (2020 Edition)  
International Civil Aviation Organisation (ICAO) – (2009-2016 Edition)  
International Air Transport Authority (IATA) – (58<sup>th</sup> Edition)  
Road Transport (ADR) – (2015 Edition)  
Railway Transport (RID) – (2015 Edition)

1. Bottom Lift Test – Clause 6.5.6.4
2. Top Lift Test – Clause 6.5.6.5
3. Stacking Test – Clause 6.5.6.6
4. Leakproofness Test – Clause 6.5.6.7
5. Hydraulic Pressure Test – Clause 6.5.6.8
6. Drop Test – Clause 6.5.6.9
7. Vibration Test – Clause 6.5.6.13



**Photo of test sample**





**TEST RESULTS:**

**Table 1: Bottom Lift Test**

Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model		
Type of Test	Results	Requirements
Bottom Lifted with gross mass of 2450kg	Passed	No permanent deformation which renders the IBC, including the base pallet, if any, unsafe for transport and no loss of contents

**Table 2: Top Lift Test**

Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model		
Type of Test	Results	Requirements
Top Lifted with gross mass of 3920kg	Passed	No permanent deformation which renders the IBC, including the base pallet, if any, unsafe for transport and no loss of contents

**Table 3: Stacking Load Test**

Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model		
Type of Test	Results	Requirements
Stacking Load Test 24 hours at 4056kg	Passed	No permanent deformation which renders the IBC, including the base pallet, if any, unsafe for transport and no loss of contents



**Table 4: Leakproofness Test**

<b>Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model</b>		
<b>Type of Test</b>	<b>Results</b>	<b>Requirements</b>
Internal air pressure (0.2bar) or 20kPa for 10 min	Passed	No leakage of air

**Table 5: Hydraulic Pressure Test**

<b>Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model</b>		
<b>Type of Test</b>	<b>Results</b>	<b>Requirements</b>
Pressure test (1bar) 100kPa for 10min	Passed	Neither permanent deformation which render the IBC unsafe for transport, nor leakage

**Table 6: Drop Test**

<b>Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model</b>		
<b>Type of Test</b>	<b>Results</b>	<b>Requirements</b>
Drop height (m)		1.9m
Drop Test	On base of the IBC	Passed No loss of content – a slight discharge from a closures upon impact shall not considered to be a failure of the IBC provided that no further leakage occurs

Remarks: Test is performed with propylene glycol at -18 degreeC



**Table 7: Vibration Test**

Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000 CS) model		
Type of Test	Results	Requirements
Peak to peak displacement : 25mm Time : 1 hour Metal shim : minimum 1.6mm thick, 50mm wide Metal shim inserted between IBC & test platform : minimum 100mm	Passed	No leakage or rupture shall be observed. In addition, no breakage or failure of structural components, such as broken welds or failed fastenings, shall be observed

**CONCLUSION:**

The tested samples comply to the requirements of UN Recommendation for Transport of Dangerous Goods clause 6 for packaging content density not exceeding 1.9SG

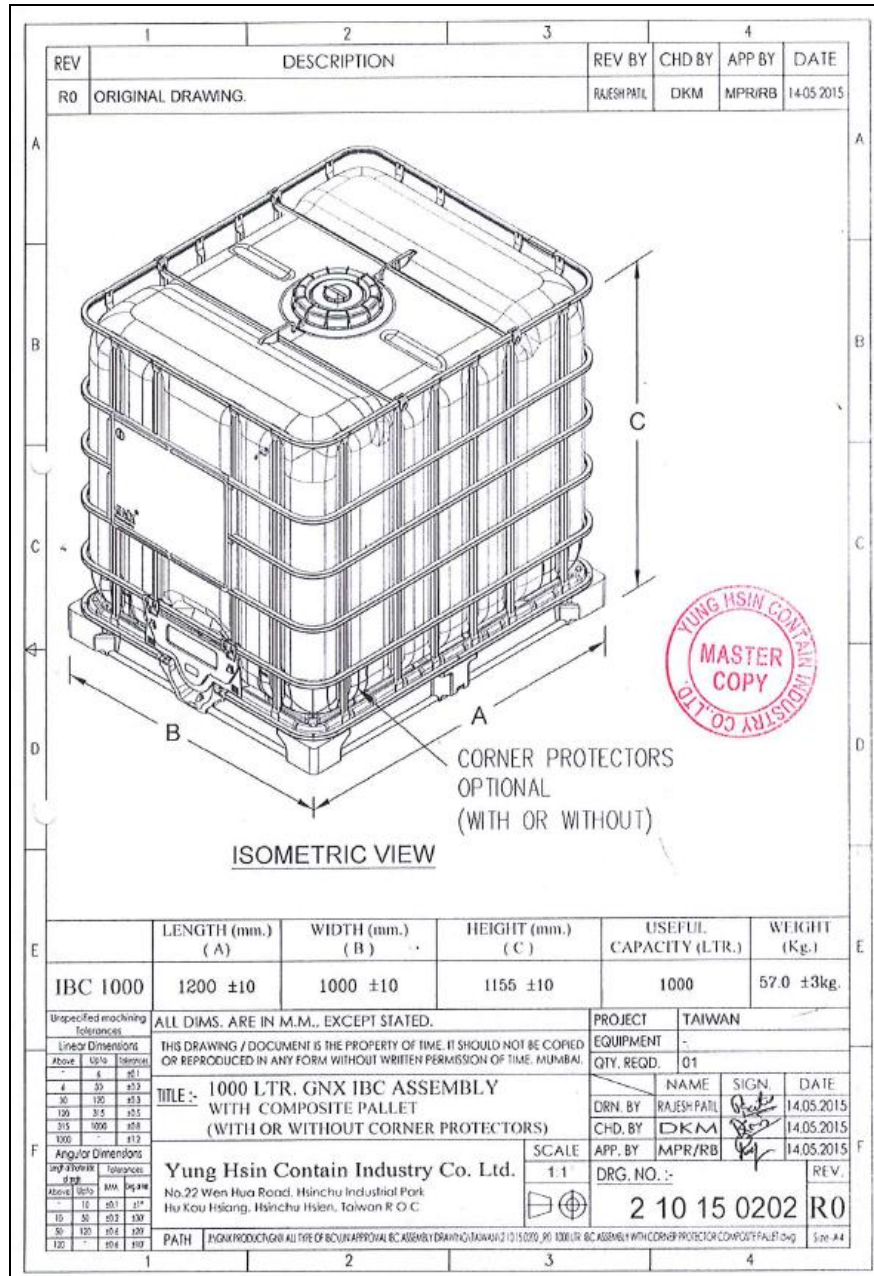
Ng Kian Hock  
Testing Officer

Teo Eng Hua Vincent  
Product Manager  
Product Service (EEC)

**Test Report No. 7191329488-EEC24/04-NKH**  
 dated 17 May 2024



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**Technical drawing of test sample**

**Test Report No. 7191329488-EEC24/04-NKH**  
**dated 17 May 2024**



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Please note that this Report is issued under the following terms :

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Effective 27 March 2024

