



PSB Singapore

# CERTIFICATE OF PACKAGING PERFORMANCE

## UN Marking Certification Scheme

**Certification Serial No.: UN 109961 0023 Rev. 01**

Initial No.: UN14-1440

Test Report Ref: 7191317017-EEC23/03-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 PP Model of normal capacity 1000Ltr with pallet – Plastic

Type Designation: Model GNX-1000PP of nominal capacity 1000Lit with pallet-PP

Size of IBC: Refer to drawing no. 2 10 20 0335  
 date: 07.10.2020

Material of IBC: Inner Container-PE-HD;Outer casing-Steel tube; Pallet-Plastic

Nominal capacity: 1000 litres

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 024/  
 4056/1960/57kg/1050L/100kPa



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

Date of Original Issue: 2014-10-17

Date of Expiry: 2026-10-16

Page 1 of 2  
 Date of Last Revision: 2024-02-20

( KHEE HENG HOW )  
 TÜV SÜD PSB

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# CERTIFICATE OF PACKAGING PERFORMANCE

## UN Marking Certification Scheme

**Certification Serial No.: UN 109961 0023 Rev. 01**

Initial No.: UN14-1440

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	2446kg
Top Lift Test to Clause	6.5.6.5	3914kg
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

Page 2 of 2

Date of Last 2024-02-20

Revision:

(KHEE HENG HOW)  
TÜV SÜD PSB

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**Test Report No. 7191317017-EEC23/03-NKH**  
dated 22 September 2023



PSB Singapore

Add value.  
Inspire trust.

Note: This report is issued subject to the Testing and Certification Regulations 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 10 August 2023

**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. Joseph Akkara

**DATE OF TEST:**

10 Aug 2023 – 22 Sep 2023

**SAMPLE APPLICATION REFERENCE:**

UN 109961 0001 Rev. 03

**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 PP Model of nominal capacity 1000Ltr with pallet - plastic

Type Designation : Model GNX-1000PP of nominal capacity 1000Ltr with pallet - PP

Size Of IBC : Refer to attached drawing no: 2 10 20 0335 date: 07.10.2020

Material Of IBC : Inner Container-PE-HD;Outer casing-Steel tube; Pallet- plastic

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/\*\* /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

Laboratory:  
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Regional Head Office:  
TÜV SÜD Asia Pacific Pte. Ltd.  
TÜV SÜD @ IBP  
15 International Business Park  
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 1000PP) model		
Type of Test	Results	Requirements
Bottom Lifted with gross mass of 2446kg	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 1000PP) model		
Type of Test	Results	Requirements
Top Lifted with gross mass of 3914kg	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 1000PP) 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**

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

**Table 5: Hydraulic Pressure Test**

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

**Table 6: Drop Test**

Sample Reference: Composite Intermediate Bulk Containers (IBC GNX 1000PP) model		
Type of Test	Results	Requirements
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 1000PP) 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. 7191317017-EEC23/03-NKH  
dated 22 September 2023



PSB Singapore

REV	DESCRIPTION	REV BY	CHD BY	APP BY	DATE
R0	ORIGINAL DRAWING.	RAKSHAN	DKM	RB	07-10-2023

  

**ISOMETRIC VIEW**

YUNG HSIEN CONTAIN  
**MASTER COPY**  
 YUNG HSIEN CONTAIN INDUSTRY CO. LTD.

	LENGTH (mm.) (A)	WIDTH (mm.) (B)	HEIGHT (mm.) (C)	USEFUL CAPACITY (LTR.)	WEIGHT (Kg.)
<b>IBC 1000</b>	1200 ±10	1000 ±10	1176 ±10	1000	67.0 ±3kg.

ALL DIMS. ARE IN MM., EXCEPT STATED.

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PROJECT	TAINWAN	
EQUIPMENT	-	
QTY. REQD.	01	
NAME	SIGN.	DATE
DRN. BY	RAKSHAN	07-10-2023
CHD. BY	DKM	07-10-2023
APP. BY	RB	07-10-2023

**TITLE: 1000 LTR. GNX IBC ASSEMBLY WITH PLASTIC PALLET**

Yung Hsien Contain Industry Co. Ltd.  
No. 22 Wen Hua Road, Hsinchu Industrial Park  
Hu Kou Hsinchu, Hsinchu Hsien, Taiwan R.O.C.

SCALE: 1:1

DRG. NO.: 2 10 20 0335

REV: R0

Technical drawing of test sample

**Test Report No. 7191317017-EEC23/03-NKH**  
dated 22 September 2023



PSB Singapore

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Effective 01 January 2021

