



PSB Singapore

CERTIFICATE OF PACKAGING PERFORMANCE

UN Marking Certification Scheme

Certification Serial No.: UN 109961 0025 Rev. 01

Initial No.: UN 109961 0004 Rev. 00

Test Report Ref: 7191323313-EEC23/01-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 IBC with Rigid Plastic Inner Receptacle (with or without discharge valve option) and outer casing of steel tubes for liquid substance GNX 1000-SP Model of normal capacity 1000Ltr with pallet - Steel

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

Size of IBC: Drawing no: 2 10 20 0310 dated 07-10-2020 on page 06 of test report 7191323313-EEC23/01-NKH

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

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 030/4056/1960/
 57kg/1050L/100kPa



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

Date of Original Issue: 2021-01-14

Date of Expiry: 2027-01-13

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

(KHEE HENG HOW)
 TÜV SÜD PSB

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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 (21st 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

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Date of Last 2024-02-20

Revision:

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Test Report No.7191323313-EEC23/01-NKH
dated 19 December 2023

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.



PSB Singapore

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SUBJECT:

Testing of Composite Intermediate Bulk Containers GNX-1000SP for YUNG HSIN CONTAIN INDUSTRY CO., LTD submitted on 01 December 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:

01 Dec 2023 – 19 Dec 2023

SAMPLE APPLICATION REFERENCE:

UN 109961 0004 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 IBC with Rigid Plastic Inner Receptacle (with or without discharge valve option) and outer casing of steel tubes for liquid substance GNX 1000-SP Model of normal capacity 1000Ltr with pallet - Steel

Type Designation : Model GNX-1000SP of nominal capacity 1000Lit with pallet-SP
Size Of IBC : Refer to attached drawing no: 2 10 20 0310 date: 07-10-2020
Material Of IBC : Inner Container-PE-HD;Outer Casing-Steel tube; Pallet-Steel
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 030/4056/1960/57kg/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



Laboratory:
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Co. Reg : 199002667R

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 (21st Revised Edition : 2019)
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)

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 (GNX-1000SP) 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 (GNX-1000SP) 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 (GNX-1000SP) 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 (GNX-1000SP) 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 (GNX-1000SP) 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 (GNX-1000SP) 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 (GNX-1000SP) 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

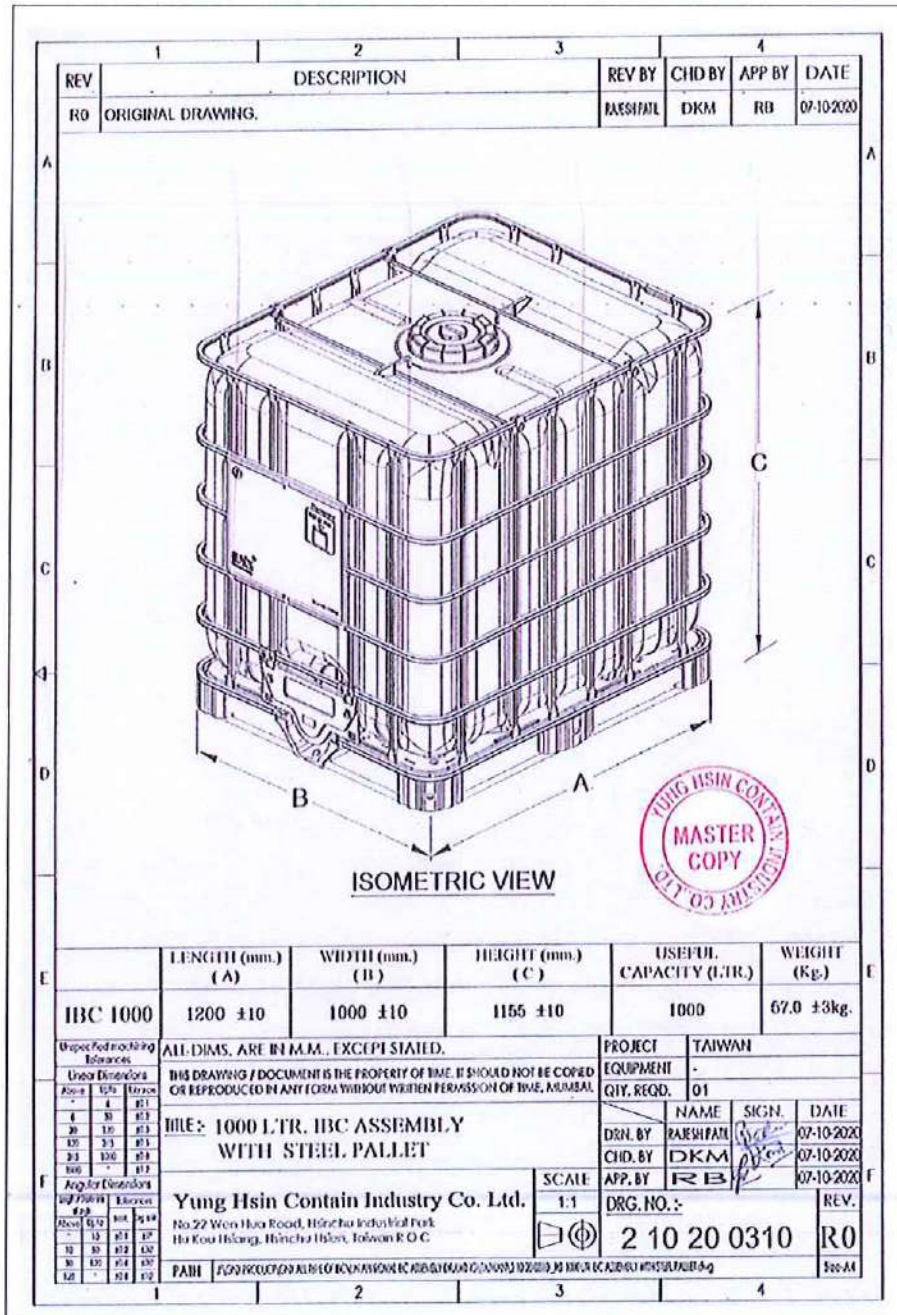
Ng Kian Hock
Testing Officer

Teo Eng Hua Vincent
Product Manager
Product Service (EEC)

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dated 19 December 2023



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Technical drawing of test sample

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Effective 26 January 2021

