

Quality Assurance and Regulatory Affairs
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February 14, 2023

UN/DOT Design Type Certification

Report No:	F-1595-230210	Test Type:	New Certification
Test Date:	February 10, 2023	Expiration Date:	February 10, 2024
Test Facility:	Greif – Alsip, IL Technical Center 4300 W 10th Street Alsip, IL 60803		

Attached are our laboratory test result sheets of the UN/DOT Performance Test on the fibre drums that were conducted at the above test facility location.

This design is manufactured under the registered symbol GBC at the following locations: Naperville.

These sample containers, that were made with the proper components, passed the required tests for the following UN Marking(s):

1G/Y60/S 1G/Z60/S

Thank you and best regards.

A handwritten signature in black ink, appearing to read "P. Zamperin", written over a horizontal line.

Phil Zamperin
Sr. Director, Quality Assurance and Regulatory Affairs

This test report is the property of Greif. The know-how, methods and techniques disclosed in this report are confidential information which can only be used by those persons with specific written authorization from Greif.

**Quality Assurance and Regulatory Affairs
United Nations/IMO/DOT
Performance Test**



DESIGN TYPE Details

Report No: F-1595-230210
Date Tested: February 10, 2023
Qualification Date: May 3, 2018
Drum Style: RTBag
Drum Type: Ro-Con Transport Fibre Drum w/Bag
UN Certified Marking(s):



1G/Y60/S





1G/Z60/S

Diameter: 12.125 inches
Overall Height: 8.625 inches
Tare Weight: 2.6 lbs
Gallon Capacity: 5 - 5
Cap Material: Kraft
Cap Material Weight: 56#
Cap No of Lams: 5 lams
Cap Liner/Barrier: None
Body/Btm Cap Material: Kraft
Body/Btm Cap Weight: 56#
Body/Btm Cap No of Lams: 5 lams
Body/Btm Cap Liner / Barrier: None
Insert Material: N/A
Insert Material Weight: N/A
Insert Material No of Lams: N/A
Insert Liner / Barrier: N/A
Top Element Min: .140
Bottom Element Min: .140
Poly Bag: 2mil Bag
Bag Application: Drop-In

Drum Construction:

Shell/Tube is constructed of convolutely wound kraft or barrier (if applicable) paper using adhesive to bind individual layers. The bottom of the tube is attached to a head and facer by folding the bottom tube end inward and joining between the bottom header and bottom facer. Top shell/chime remains a straight cut that allows for attachment of a slip on All-Fi cover with no locking ring. All Fibre component end is constructed by manufacture of a larger diameter tube, folding the tube end inward and attaching a header and facer, which is bound together with adhesive. Drum shall be sealed with or without tape, according to closing instructions.

NEW DESIGN RESULT SHEET

Report No: F-1595-230210
Date Test: February 10, 2023
Qualification Date: May 3, 2018
Drum Style: Ro-Con Transport Fibre Drum w/Bag
UN Certified Marking(s):  1G/Y60/S  1G/Z60/S

Maximum Capacity: 18.6 Litres 4.9 Gallons
Capacity: 19.0 Litres 5 Gallons
Test Mass - Gross: 60.0 KG 132.3 Lbs
Tare: 1.2 KG 2.6 Lbs
Net: 58.8 KG 129.7 Lbs

Static Compression Test (49 CFR 178.606)

Package Preparation: Drums filled to 95% minimum capacity, with a mixture of materials including sand, metallic dust, sawdust, steel slugs/shot, resin with similar in density sufficient to represent the gross mass package weight indicated in the certification, min grain size 125 micrometers
Conditioning: 24 hours at 23°C, ±2°C temperature and 50%, ±2% relative humidity.
Total Mass: 769 KG (12.8 Units x 60.0 KG each)
Duration: 24 Hours
Results: 3 Units Passed

Drop Test (49 CFR 178.603)

Package Preparation: Drums filled to 95% minimum capacity, with a mixture of materials including sand, metallic dust, sawdust, steel slugs/shot, resin with similar in density sufficient to represent the gross mass package weight indicated in the certification, min grain size 125 micrometers
Conditioning: 24 Hours a 23°, +/- 2°C Temperature and 50%, +/- 2% Relative Humidity
Drop Height: 1.2 Metres / 47.3 Inches
Diagonal Top Drop | Closure/ Handle @ Impact Point: 3 Units Passed
Diagonal Btm Drop | On bottom edge: 3 Units Passed

Vibration Test (49 CFR 178.608)

Capable of withstanding, without rupture or leakage, the vibration test procedure In 49 CFR 178.608.

Leakproofness (49 CFR 178.604)

Not Applicable

Hydraulic (Hydrostatic) (49 CFR 178.605)

Not Applicable

TEST RESULTS CERTIFIED BY:

Quality Assurance and Regulatory Affairs

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Phil Zamperin
Sr. Director, Quality Assurance and Regulatory Affairs

ALL-FI, ALL-FI TRANSPORT, ROCON, ROCON TRANSPORT CLOSURE NOTIFICATION
**** REQUIRES 2 MIL OR THICKER POLYETHYLENE BAG AND TWO WRAPS OF TAPE ****

Product Type: F52

Country: USA

Pursuant to the requirement of the Department of Transportation in CFR 49 Part 178.2(c)(1), this is your notification of the closing method used for the containers sold to you. This method of closure should be used to ensure that your containers have been closed in the same manner as when they were initially tested.

Your product may adversely affect container materials, bung threads, or closing devices. Product compatibility with the container is the shipper's responsibility.

These instructions for closure are based upon the closure methods used to enable these containers to pass the United Nations test requirements as outlined by the UN marking on the package.

The closure recommendations do not take into account any hazards present in your facility, or the handling, filling or shipping of your product.

Any containers used for packaging hazardous materials should be inspected prior to filling and shipment. Containers with obvious damage or deterioration should not be filled or shipped.

To Close:

1. This drum must be used with a 2 mil or thicker polyethylene bag. Fill product into the bag. Twist neck of bag and fold in half. Tie neck of bag with wire or plastic tie.
2. Telescoping cover must fit securely on drum. Cover must be pushed onto drum until the top edge of the drum body touches the inside top of the cover.
3. If drums contain slotted handles on the cap and body, slotted handles are to be offset approximately 90 degrees from one another prior to closure.
4. The cover must be secured to the drum body using tape with the following properties:
 - a. Hot flow adhesive type
 - b. ≥ 3 " width
 - c. ≥ 5 mil total tape thickness (ASTM D3652)
 - d. ≥ 170 lb/in, 297.7 N/cm tensile strength (ASTM D3759)
 - e. ≥ 5.5 N/cm, 50 oz/in peel adhesion (ASTM D3330)
 - f. $\geq 4\%$ elongation at break (ASTM D3759)

An equivalent tape can be purchased from Uline (part # S-11787 as of 10/25/22).

5. The tape must wrap around the drum body two (2) times. With one continuous strand, start wrapping the drum from the top, approximately 1-1/2" above where the cover meets the body of the drum. Continue wrapping around and down the drum with approximately 1-1/2" of tape on the cover and 1-1/2" of tape on the body of the drum, with even distribution. Press and rub the tape firmly into place around the entire drum.
6. Drums closed in this manner have met the UN performance test requirements as specified in the container markings.