

Testing and Technical Service Office

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March 06, 2018

UN/DOT DESIGN TYPE CERTIFICATION

Report No: P-2249-XX-022218

Test Date: 2/22/2018

Expiration Date: 2/22/2019

Attached are our laboratory test result sheets of the UN/DOT Performance Test on the Plastic drums that were sent to the Greif - Alsip, IL Technical Center.

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

1H2/X150/S/YR

1H2/Y150/S/YR

1H2/Z150/S/YR

Thank you and best regards.

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

Jordan Brodsky

Director Product Technical and Regulatory Support

JB:ch

Attachments: Performance Test Result Sheets (2)
Closure Notifications (1)

TESTING and TECHNICAL SERVICE OFFICE

UNITED NATION/IMO/DOT
PERFORMANCE TEST



Date Tested: 2/22/2018
Report #: P-2249-XX-022218
Closure Notification: 001-P

DESIGN TYPE RESULT SHEET

Drum Style: Plastic Opentop Straight UN Code: 1H2 Packing Group: I
GBC Code / Drum Type: PSO55ABBAVFAAKLA / OS55 / OPENHEAD
Dimensions: O.D.: 581.660 MM / 22.9 In. O.H.: 934.720 MM / 36.8 In.

UN Certified Markings: 1H2/X150/S/YR USA/GBC 1H2/Y150/S/YR USA/GBC 1H2/Z150/S/Y USA/GBC

Maximum Capacity: 213.5 Litres / 56.4 Gallons
Capacity: 208.2 Litres / 55 Gallons
Test Mass - Gross: 150.0 KG / 330.8 Lbs.
Tare (min.nominal): 9.6 KG / 21.1 Lbs.
Net: 140.5 KG / 309.7 Lbs.

Package Preparation: Drums filled with sand and sawdust (min grain size 125micrometers) to a minimum of 95%.
Conditioning: Container and contents at -18°C (0°F)

Drop Tests (49 CFR 178.603)

Drop Height: 1.80 Metres / 70.9 Inches
Results Diagonal Top Drop: **3 Drums Passed**
Results Flat Drop: **3 Drums Passed**

Vibration Test (49 CFR 178.608)

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

Leakproofness Test (49 CFR 178.604)

Air Pressure Applied: _____ kPa
Results after 5 minutes: **Not Applicable**

Hydraulic (Hydrostatic) Test (49 CFR 178.605)

Internal (Hydraulic) Pressure: _____ kPa for a period of _____ minutes
Results: **Not Applicable**

Static Compression Test (49 CFR 178.606)

Total Mass: 345.1 KG (2.3 Drums x 150.0 KG each)
Duration: 24 Hours
Results: **3 Drums Passed**

TEST RESULTS CERTIFIED BY: **GREIF**
TESTING and TECHNICAL SERVICES

Jordan Brodsky
Director, Product Technical
and Regulatory Support

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.

TESTING and TECHNICAL SERVICE OFFICE

UNITED NATION/IMO/DOT

PERFORMANCE TEST



VARIATION TO DESIGN TYPE RESULT SHEET

Report #: P-2249-XX-022218

Drum Style: Plastic Opentop Straight UN Code: 1H2 Packing Group: I

GBC Code / Drum Type: PSO55ABBAVFAAKLA / OS55 / OPENHEAD

Dimensions: O.D.: 581.66 MM / 22.9 In. O.H.: 934.72 MM / 36.8 In.

UN Certified Markings: 1H2/X150/S/YR USA/GBC 1H2/Y150/S/YR USA/GBC 1H2/Z150/S/YR USA/GBC

For package preparation, weights and capacity information, consult the Original Design Type Result Sheet.

The following variations have undergone DOT qualification testing as described in the Original Design Type Result Sheet using the same conditions and procedures, and meet the requirements of §178.601(g)(5):

FITTINGS

<u>Var #</u>	<u>LockBand</u>	<u>Cover</u>	<u>Size</u>	<u>Thread</u>	<u>Flange</u>	<u>Plug</u>
Orig	SLL	Ribbed	(2) 2"	NPS	Poly	Poly
1	SLL	Ribbed	(2) 2"	NPS with 3/4" NPS Vented	Poly	Poly
2	SLL	Ribbed	2"	NPS with 3/4" NPS	Poly	Poly
	SLL	Ribbed	2"	NPS	Poly	Poly
3	SLL	Ribbed	PLAIN			
4	BR	Ribbed	PLAIN			
5	BR	Ribbed	(2) 2"	NPS	Poly	Poly

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Director, Product Technical and Regulatory Support

GREIF CLOSURE INSTRUCTIONS

Pursuant to the requirements of the Department of Transportation in CFR 49 Part 178.2(c)(1), 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. If there is any question regarding proper closing methods, contact your local Greif salesperson or manufacturing facility. "Effective until further notice".

To Close:

- 1) Covers supplied with the drums must be attached to the drums with Lever-Action or Bolt Ring locking bands, as supplied with the drums.
 - 2) For the steel or plastic Lever-Action locking band, the plastic cover is placed onto the top of the open-head plastic drum and the channel shaped locking band is drawn around the cover by the lever closing device. For steel lock bands, the lever closing device is secured in place with a latching device that pivots which locks the handle in place. For plastic lock bands, the lever closing device is secured in place with the locking tab that protrudes through a slot in the handle. Snap the latch into the lever until it locks, then apply a sealing wire or other sealing device through the holes on the latch lever.
 - 3) For the Bolt-Ring locking band, the plastic cover is placed onto the top of the open-head plastic drum and the channel shaped Bolt Ring locking band is drawn by the bolt closing device and secured in place with a nut device. Tighten the bolt & nut until the gap between the ends of the locking band is no more than 1/2", and verify that the cover and ring do not spin.
 - 4) For covers with fittings: 2" fittings bearing NPS thread must be tightened to a torque level of 9 FT-LBS, and 3/4" fittings bearing NPS threads must be tightened to a torque level of 3 FT-LBS.
 - 5) Drums closed in this manner have met the UN performance test requirements as specified in the container markings.
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REV-KF-06/26/03

Drum Code: PSO55ABBAVFAAKLA / OS55

Report #: P-2249

Date Tested: 2/22/2018

Technician: TK (Sample drums were closed exactly as described above.)

This UN test certification report form is a sample of the closure notification form. The data on this form reflect the components of the tested sample drums; it details the closing methods followed at the lab.

The closure notification form should be completed using information from the actual customer specification. These values may differ from the sample closing instructions supplied with the UN test certification report.

To obtain this form for your customer service use, contact:

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