

Viking Packing Specialist

1578A North 105th East Avenue • Tulsa, OK 74116

Phone: (800) 788-8525 • Fax: (918) 252-5518

UNITED NATIONS PERFORMANCE ORIENTED PACKAGING TEST RESULTS

Test Document No.: VPS-K-006
Requested by: Viking Packing Specialist
Performed by: Viking Packing Specialist
Date: 8-25-22

1. Product Tested:

Packaging Nomenclature: Combination Packaging
Outer Package: 4G Fiberboard Box (see Appendix A)
Dimensions: 11" x 11" x 14" (I.D.)
Inner Package: See appendix B
Maximum gross wt. (kg): 10 Kg
Viking Part No.: VPS-K-006
Customer Part No.: N/A

2. Object of Test:

Determine performance of package design according to PASS/FAIL criteria set forth by the United States Code of Federal Regulations Title 49 sections 178.603, 178.606, and 178.608 to Packing Group I and 178.601 (Variation 2) standards.

3. Tests Performed:

TEST	SPEC	INTENSITY	RESULTS
Drop	49 CFR 178.603	10 kg	PASS
Stacking	49 CFR 178.606	90 kg	PASS
Vibration	49 CFR 178.608	1 HOUR	PASS
Cobb	49 CFR 178.516	Available on request	PASS

Viking Packing Specialist certifies that samples of the package described in this report were tested as described above and met all testing requirements. This package is also certified under IMDG, ICAO, IATA, and the UN Recommendations on the Transport of Dangerous Goods. It is the responsibility of the end user to determine authorization of use under these regulations. The use of other packaging methods or components other than those documented in this report may render this certification invalid.



Certified By: _____
Special Projects & DG Manager
Eric Curtis



Approved By: _____
President
David Weilert

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TEST METHODS & RESULTS

1. DROP TEST- 49 CFR 178.603 (178.601 (2))

Five (5) filled packages, closed as for shipment, were subjected to a free fall drop from a height of 1.8 m (5.9 ft) onto a solid concrete floor as follows:

Containers	Point of Impact	Result
#1	Flat onto the bottom panel	PASS
#2	Flat onto the top panel	PASS
#3	Flat onto the long side panel	PASS
#4	Flat onto the short side panel	PASS
#5	Onto the bottom manufacturer's joint corner	PASS

2. STACKING TEST- 49 CFR 178.606 (178.601 (2))

Three (3) empty containers were closed as for shipment and subjected to a static compression load of 90 kg, equivalent to a 3-meter-high stack of identical packages, continuously for 24 hours.

Containers	Actual Load	Result
#1	90 kg	PASS
#2	90 kg	PASS
#3	90 kg	PASS

3. VIBRATION STANDARD- 49 CFR 178.608

Three (3) filled samples, closed as for shipment, were placed on a vibration platform having 25.4 mm peak-to-peak displacement and vibrated in normal shipping orientation for one (1) hour such that a 1.6 mm thick piece of material could be passed between the bottom of the samples and the platform. Immediately thereafter, the packages were removed from the platform and examined for leakage.

Containers	Vibration	Result
#1	1 HOUR	PASS
#2	1 HOUR	PASS
#3	1 HOUR	PASS

4. 4G STANDARD- 49 CFR 178.516

The outer fiberboard box was tested for water resistance at the paper manufacturer's facility, in accordance with ISO International Standard 535. The increase in mass as determined over a thirty (30) minute period by the Cobb method was determined to be less than or equal to (\leq) 155 g/sq m as follows:

Container Outer	Water Absorption	Result
Surface	Available upon request	PASS

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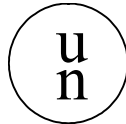
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5. HYDROSTATIC PRESSURE REQUIREMENT- 49 CFR 173.27

Hydrostatic pressure test results for inner packages provided by Viking Packing Specialist are on file, and available upon request. It is the responsibility of the party offering the completed package for shipment to determine whether inner packages meet required specifications otherwise. This requirement affects packages shipped under this report only when liquids are contained in inner packages, and offered for transport via air.

6. Packagings tested, certified, and provided by Viking Packing Specialist bear the marking:



4GV/X10/S/**

USA/M4563

**Denotes two digit year of manufacture

THIS BOX IS DUAL SPEC MARKED SEE VPS-F-006 FOR OTHER MARK

See appendices for additional information regarding this report. Information is included as follows.

- Appendix A – Specific outer package detail.
- Appendix B – Inner and supplementary packaging/configurations tested in this outer package
- Appendix C – Packing/Closure Instructions.

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Appendix A – Outer Package Detail

Designated Packaging Code:	4G
Dimensions:	11" x 11" x 14" (I.D.)
Marked max. gross wt. (kg):	10
Closure:	3" Hot melt tape MFG: Shurtape MFG P/N: HP200)

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Appendix B – Inner Package Detail

The package referenced in this report was tested with inner packages as listed below.

Style	Glass bottle
Weight	4 kg, SG 1.3
Closure	Screw top closure
Qty.	2: .5 L, 4: .25 L, 8: .125 L

Supplemental Inner packages are placed inside a 5-quart round metal paint-type can with a friction fit lid, and a ring lock safety closure. All void space within the can must be filled with absorbent material. The can is placed inside a 2-mil minimum thickness polybag. The bagged can is placed into a corrugated divider (PN VPS-F-048). Bubble wrap or other suitable cushioning material may be substituted when refrigeration is not required.

NOTE: Additional absorbent material may be required for air transport

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Appendix C – Packing/Closure Instructions






1. Inspect outside, and inside of container for damage. If container is undamaged, proceed to step 2. Damaged containers must not be loaded with hazardous materials.
2. Fold short bottom flaps toward center, followed by long bottom flaps. Place two strips of the specified tape across the long seam on the bottom of the container. Place two strips of tape created at the two bottom short side seams.
3. Set up and place corrugated sleeve within container.
4. Place inner packages into 5 quart can and fill all void space with suitable cushioning/absorbent material.
5. Close can with friction fit lid, and ring lock safety closure.
6. Place 5 quart can into polybag, and close bag with a hand tied knot.
7. Place bagged can into corrugated sleeve and fold inner flaps of sleeve inward to secure can.
8. Close top of container as specified for bottom in step 2.
9. Ensure package net and gross quantities and weight are acceptable under this report.

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Testing Photos

Bottom Drop	Top Drop
	
End Drop	Wall Drop
	
Mfg. Corner	
	

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Stack Weight	Vibration
	