

**UNITED NATIONS
PERFORMANCE CERTIFICATION**

4G PERIODIC RETEST

**Corrugated fibreboard box (200 x 190 x 275 mm)
containing 6 x Carded Packaging with product
PACKAGE ID: "BX7 250 ml Cleaning Liquid"**

TEST REPORT: 18-16001



4G / Y2 / S / *
ZA / +AA6017

* Insert Year the packaging is Manufactured
(last two digits)

TESTING PERFORMED FOR:



Parrot Products (Pty) Ltd
22 Cleveland Road, Cleveland, Johannesburg
PO Box 40745, Cleveland, 2049

Attention: Mrs. Sherise Antonio

TESTING PERFORMED BY:

TEN-E Packaging Services, SA (Pty) Ltd
138 Edison Crescent, Hennospark, Centurion
PO Box 11544
Wierdapark South, South Africa 0057
Phone: (012) 653 8897
Fax: (012) 653 8308

23 January 2018

TEN-E Packaging Services SA (Pty) Ltd
138 Edison Crescent, Hennospark, Centurion
P.O. Box 11544, Wierdapark South, 0057

phone: 012 653 8897, cell 083 336 3365
e-mail: info@ten-e.co.za

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REPORT & SAMPLE INFORMATION

DATE LAST SAMPLES RECEIVED: 16 January 2018

TEST COMPLETED ON: 22 January 2018

SAMPLES:

- The samples tested arrived in good condition at TEN-E Packaging Services, SA (Pty) Ltd.
- The following results are based solely on the product samples provided by the manufacturer.

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN PERMISSION OF TEN-E PACKAGING SERVICES, SA (PTY) LTD.

OBJECTIVE

To certify the **Corrugated fibreboard box (200 x 190 x 275 mm) containing 6 x Carded Packaging with product** to the Periodic Retest performance requirements outlined in Chapter 6 of the UN Recommendations on the Transport of Dangerous Goods; 20th Revised Edition.

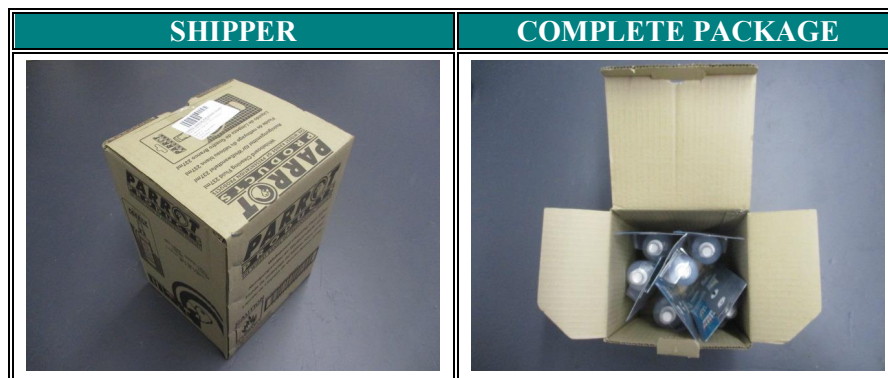
PACKAGING CODE DESIGNATION	PACKING GROUP	GROSS MASS	INTERNAL PRESSURE
4G Fibreboard Boxes	II Medium Danger Hazardous Materials	Not Exceeding 2 kg	95 kPa

This package is also certified for shipment under the International Regulatory Codes referenced in Appendix I. However, it is the responsibility of the shipper (end user) to determine package authorization for use under these Dangerous Goods Regulations. Appendix I also references Industry Standard used in conducting this certification.

TEST SAMPLE DESCRIPTION / QUALITY CONTROL AUDIT RESULTS

Corrugated fibreboard box (200 x 190 x 275 mm) containing 6 x Carded Packaging with product

CLIENT SPECIFICATION INFORMATION		QC AUDIT RESULTS
OUTER PACKAGING (SHIPPER)		
Style:	RSC	Corrugated fibreboard box FEFCO 0215
Material Basis Mass or Grammage		
• Outer Facing:	140 g/m ² Nominal	135 g/m ² Recycled
• Fluting:	125 g/m ² Nominal	142 g/m ²
• Center Liner (DWB):	N/A	N/A
• Fluting:	N/A	N/A
• Inner Facing	140 g/m ² Nominal	136 g/m ² Recycled
Combined grammage:	Not supplied	469 g/m ²
Flute Contour:	B-Flute	B-Flute
Tare Mass:	Not supplied	165 g
Board Caliper:	3 mm	3,04 mm
Box/Shipper Dimensions:	(I.D.) 200 x 180 x 265 mm	(O.D.) 205 x 185 x 272 mm
Manufacturer's Joint:	Stapled	29 mm 5 x Staples
Sealing Mechanism:		
• Top:	48 mm Self-Adhesive Eurocell Sellotape	48 mm Self-Adhesive Eurocell Sellotape
• Bottom:	Lock Bottom	Folded-in bottom
Supplier / Markings:	Sino Path Enterprises Ltd	Parrot Products/Handling sign /Breakage sign /Flammable sign/ Re-order code/ BX07/ Microset/ Corroflex/ 6 Units

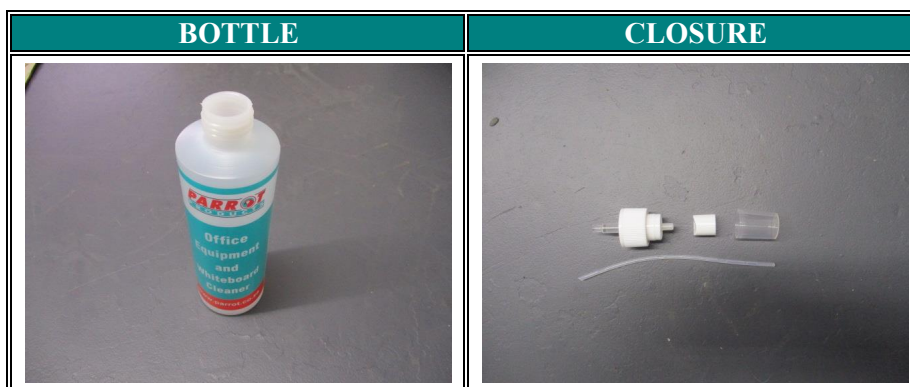


TEST SAMPLE DESCRIPTION / QUALITY CONTROL AUDIT RESULTS

Corrugated fibreboard box (200 x 190 x 275 mm) containing 6 x Carded Packaging with product

CLIENT SPECIFICATION INFORMATION		QC AUDIT RESULTS
INNER PACKAGING – PLASTICS BOTTLE		
Description:	250 ml Plastics Bottle	237 ml Plastics Bottle
Material/Grade/Pigment:	HDPE/F7650/Natural	Plastics/ Natural
Tare Mass:	24 g	30 g
Capacity		
• Overflow (Brimful):	255 ml	0,200 kg
• 98% of Overflow:	250 ml	0,1995 kg
Overall Dimensions:		
• Height:	158 mm	158 mm
• Diameter:	51 mm	50 mm
Supplier/Markings:	Premier Packaging	Premier Packaging/Flammable/ Parrot Products

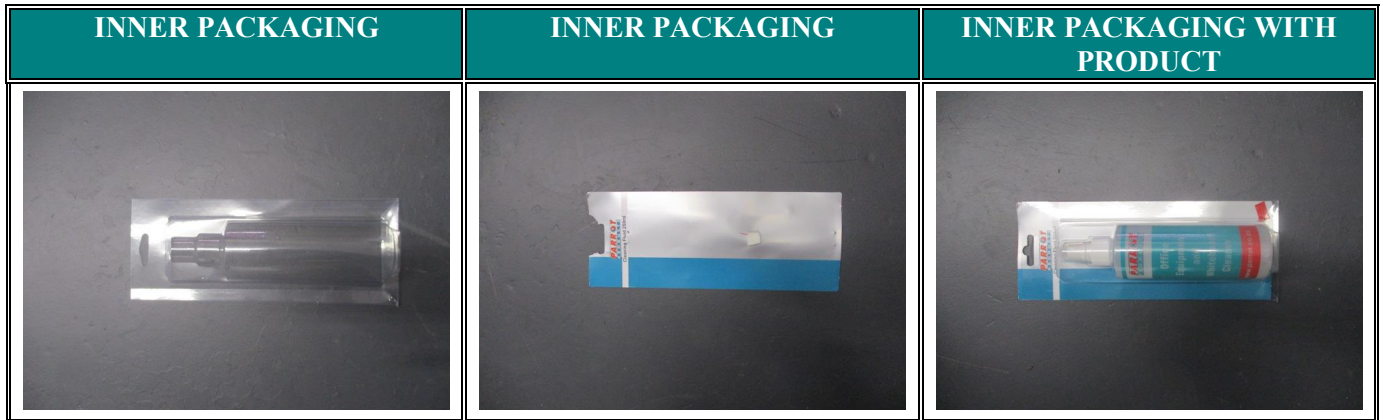
CLOSURE		
Description:	Screw cap with spray nozzle CD-PZ02-0150	Screw cap with spray nozzle
Material/Grade/Pigment:	HDPE/F7650/White	Plastics/White
Tare Mass:	Not supplied	10 g
Overall Dimensions		
• Height:	41,16 mm	42,55 mm
• Diameter:	Ø27,71 mm	Ø28,02 mm
Finish Dimensions:		
• T:	21,85 mm	22,28 mm
• E:	24,17 mm	25,01 mm
Closure Tape:	N/A	N/A
Markings:	None	None
Liner:		None
• Material:	N/A	N/A
• Tare Mass:	N/A	N/A
• Thickness:	N/A	N/A
Supplier/Markings:	Premier Packaging	None



TEST SAMPLE DESCRIPTION / QUALITY CONTROL AUDIT RESULTS

Corrugated fibreboard box (200 x 190 x 275 mm) containing 6 x Carded Packaging with product

CLIENT SPECIFICATION INFORMATION		QC AUDIT RESULTS
INNER PACKAGING		
Description:	Carded packaging	Carded display with product
Quantity or Number:	6	6
Material:	Solid fibreboard	Solid fibreboard
Tare Mass:	Not supplied	25 kg
Overall Dimensions:	Not supplied	255 x 100 x 25 mm
Supplier / Markings:	Parrot Products	Parrot Products, Flammable/ Cleaning Fluid 237 ml



SAMPLE PREPARATION

Corrugated fibreboard box (200 x 190 x 275 mm) containing 6 x Carded Packaging with product

SAMPLE PREPARATION AND PACKAGE MASS INFORMATION

OVERALL PACKAGE TARE MASS:	• 0,795 kg		
OVERFLOW (BRIMFUL) CAPACITY:	• 0,200 kg		
FILLED CAPACITY: (98% OF MAXIMUM CAPACITY)	• 0,196 kg		
PACKAGE TEST MASS:	• 1,805 kg		
AUTHORIZED PACKAGE GROSS MASS: (Based on 1.3 Specific Gravity)	• 2 kg		
INNER PACKAGING CLOSING/SEALING METHOD:	• Screw cap with spray nozzle, Hand tight		
TEST	SAMPLE ID:	FILLING SUBSTANCE:	CONDITIONING:
Drop	1,2,3,4,5	Water/Glycol	-18°C
Stack	6,7,8	Empty	23°C and 50% RH
Pressure Differential	9,10,11	Water	Ambient

TEST PROCEDURES AND RESULTS – DROP TESTS

SAMPLE PREPARATION/CONDITIONING:

- Refer to Sample Preparation Page

DROP HEIGHT:

- 1.3 meters

REGULATORY REFERENCES:

- Refer to Appendix I

DROP TEST EQUIPMENT:

- Hoist Drop Tester



DROP HEIGHT CALCULATION:

- Packing Group II Materials

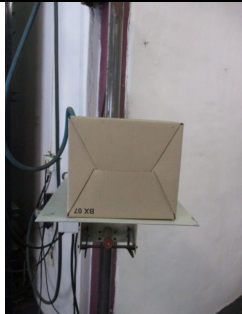


INDUSTRY STANDARD REFERENCE:

- Refer to Appendix I

DROP TEST RESULTS

*Sample # 1: Flat on Bottom		Sample # 2: Flat on Top		Sample #3: Flat on Long Side	
	<p>Result: Pass</p> <p>Comments: No leakage or damage.</p>		<p>Result: Pass</p> <p>Comments: No leakage or damage.</p>		<p>Result: Pass</p> <p>Comments: No leakage or damage.</p>

DROP TEST RESULTS

Sample #4: Flat on Short Side		Sample # 5: Bottom Corner		*Sample #1: Top Corner	
	<p>Result: Pass</p> <p>Comments: No leakage or damage.</p>		<p>Result: Pass</p> <p>Comments: No leakage, slight case deformation at impact corner.</p>		<p>Result: Pass</p> <p>Comments: No leakage, slight case deformation at impact corner.</p>

CRITERIA FOR PASSING THE TEST

There can be no damage to the outer packaging likely to adversely affect safety during transport. Momentary leakage, which is slight and ceases immediately after impact with no further leakage is acceptable. No rupture is permitted in packaging for goods of Class 1 which would permit the spillage of loose explosive substances or articles from the outer packaging.

*Sample used for Flat on Bottom Drop is also used for the Top Corner Drop

TEST PROCEDURES AND RESULTS – STACK TESTS

SAMPLE PREPARATION/CONDITIONING:

- Refer to Sample Preparation Page

STACK TEST EQUIPMENT:

- Pressure Test Apparatus

STACK TEST DURATION:

- 24 Hours

TEST LOAD APPLIED:

- 20 kg

REGULATORY REFERENCES:

- Refer to Appendix I

INDUSTRY STANDARD REFERENCE:

- Refer to Appendix I


STACK TEST LOAD CALCULATION

- Height of one package: 275 mm
- Number of packages in a 3 meter high stack (-1): 9,9 Packages
- Package gross mass: (Specific Gravity: 1.3) 2 kg

of Packages in 3m High Stack (-1) x Package Gross Mass = Minimum Required Load Per Case
 $9,9 \times 2 \text{ kg} = 19,8 \text{ kg}$

Each sample tested individually using the unguided method
20 kg Total Minimum Load Required

STACK & STABILITY TEST RESULTS

24-Hour Stack Test Setup				One-Hour Stack Stability Test Setup
	Sample #	Maximum Deflection After 24 Hours	Results	Not conducted- Unguided method
	6	3 mm	Pass	
	7	5 mm	Pass	
	8	2 mm	Pass	

CRITERIA FOR PASSING THE TEST

No test sample may leak from the inner packaging(s). There can be no deterioration that could adversely affect transport safety or any distortion liable to reduce the package's strength or cause instability in stacks of packages. In guided load tests, stacking stability must be assessed after completion of the test; two filled packagings of the same type must be placed on the test sample. The stacked packages must maintain their position for 1 hour.

ICAO – PRESSURE DIFERENTIAL TESTS

SAMPLE PREPARATION/CONDITIONING:

- Refer to Sample Preparation Page

TEST PRESSURE:

- 95 kPa

PRESSURE TEST EQUIPMENT:

- Hydraulic Pressure Tester
- Hydraulic Pressure Gauge

REGULATORY REFERENCES:

- Refer to Appendix I

AREA OF PRESSURIZATION:

- Through Bottom

CLOSURE APPLICATION TORQUE:

- Hand tight


TEST DURATION:

- 30 minutes

INDUSTRY STANDARD REFERENCE:

- Refer to Appendix I

PRESSURE DIFFERENTIAL TEST SET-UP & RESULTS

	Sample #	Results	Comments / Observations
	1	Pass	All three samples maintained the 95 kPa test pressure for 30 minutes without leakage.
	2	Pass	
	3	Pass	

CRITERIA FOR PASSING THE TEST

Packaging for which retention of liquid is a basic function must be able to withstand, without leakage, the prescribed test pressure.

TEST PROCEDURES AND RESULTS – COBB WATER ABSORPTION TESTS

SAMPLE SIZE:

(5) 130 x 130 mm Outside Container Surfaces

WATER APPLIED:

- 100 ml / Sample

TEST EQUIPMENT:

- Cobb Tester
- Sartorius Scale A200S

REGULATORY REFERENCES:

- Refer to Appendix I

CONDITIONING:

- 23 °C ± 2 and 50 % R.H. ± 5

TEST DURATION:

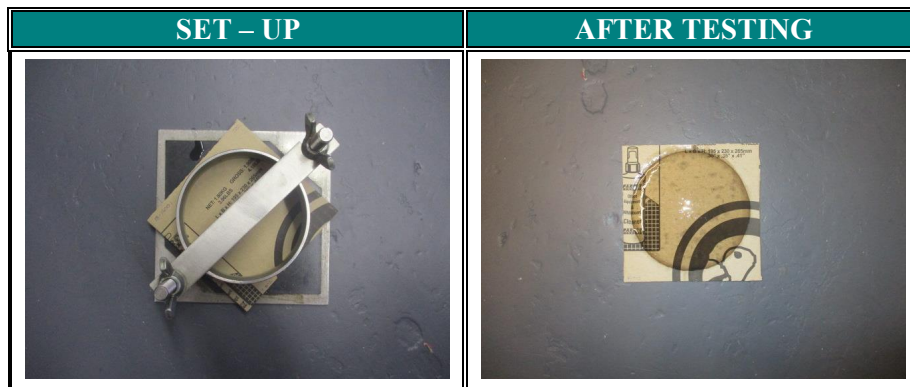
- 30 Minutes / Sample

INDUSTRY STANDARD REFERENCE:

- Refer to Appendix I

COBB WATER ABSORPTION TEST RESULTS

Sample #	Water Absorbed (g/m ²)	Results
1	108,6	Pass
2	108,7	Pass
3	107,4	Pass
4	106,1	Pass
5	113,3	Pass



CRITERIA FOR PASSING THE TEST


An increase in mass greater than 155 g/m² over the 30 minute duration represents an unacceptable level of water resistance.

**UN PACKAGING CERTIFICATION
PERIODIC RETEST**

PACKAGE DESCRIPTION: Corrugated fibreboard box (200 x 190 x 275 mm) containing 6 x Carded Packaging with product PACKAGE ID: "BX7 250 ml Cleaning Liquid"

TEN-E PACKAGING SERVICES, SA (PTY) LTD certifies that the **Parrot Products (Pty) Ltd** packaging referenced above has passed the Performance Oriented Packaging Standards outlined in the UN Recommendations on the Transport of Dangerous Goods. This package is also certified under IMDG, ICAO and IATA Regulations. It is the responsibility of the end user to determine authorization for use under these regulations. The use of other packaging methods or components other than those documented in this report may render this certification invalid.

SUMMARY OF PERFORMANCE TESTS

UN / TEST	UN REFERENCE	TEST LEVEL	TEST CONTENTS	TEST DATE	TEST RESULTS
Drop	6.1.5.3	1.3 m	Water/Glycol	19 January 2018	PASS
Stack	6.1.5.6	20 kg ó 24 Hrs.	Empty	23 January 2018	PASS
Pressure Differential	3.1.1.6.1 (ICAO)	95 kPa	Water	22 January 2018	PASS
Cobb	6.1.4.12	30 minutes	---	22 January 2018	PASS
TEST REPORT NUMBER:			18-16001		
UN MARKING:				4G/ Y2 / S / * ZA / +AA6017	
PACKAGING IDENTIFICATION CODE:			4G - Fiberboard Box		
PERFORMANCE STANDARD:			Packaging meet Group II (Y) and III (Z) tests		
AUTHORIZED GROSS MASS:			2 kg		
"S" DESIGNATION:			Denotes Inner Packagings		
YEAR OF MANUFACTURE: (Apply to packaging manufactured while this certificate is valid)			* Insert Year the packaging is Manufactured (last two digits)		
COUNTRY AUTHORIZING ALLOCATION OF THE MARK:			South Africa (ZA)		
THIRD PARTY PACKAGE IDENTIFICATION:			+AA6017		
PACKAGING CERTIFICATION AGENCY:			TEN-E Packaging Services, SA (Pty) Ltd		
PERIODIC RETEST DATE:			19 February 2019		

ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY THAT THE PACKAGING TESTED IS MERCHANTABLE OR FIT FOR A PARTICULAR PURPOSE, ARE DISCLAIMED. In no event shall TEN-E Packaging Services, SA (Pty) Ltd liability exceed the total amount paid by **Parrot Products (Pty) Ltd** for services rendered. In the event of future changes to the above referenced test standard, it is the responsibility of **Parrot Products (Pty) Ltd** to determine whether additional testing or updating of past testing is necessary to verify that the packaging we have tested remains in compliance with those standards.

APPLICANT: Mrs. Sherise Antonio
Parrot Products (Pty) Ltd
22 Cleveland Road, Cleveland, Johannesburg
PO Box 40745, Cleveland, 2049

Issie Erlank
SANAS Approved Signatory
Managing Director
TEN-E Packaging Services, SA (Pty) Ltd
138 Edison Crescent, Hennospark, Centurion
PO Box 11544
Wierdapark South, 0057, South Africa

TEN-E Packaging Services SA (Pty) Ltd
138 Edison Crescent, Hennospark, Centurion
P.O. Box 11544, Wierdapark South, 0057

phone: 012 653 8897, cell 083 336 3365
e-mail: info@ten-e.co.za

Reg no. 1997/003087/07 Directors: R.J. TenEyck. I.E. Erlank

APPENDIX I: REGULATORY AND INDUSTRY STANDARD REFERENCES

REGULATORY REFERENCES					
TEST	UN ^① 20 th Edition	IMDG ^② 2016 Edition	ICAO ^③ 17-18 Edition	IATA ^④ 59 th Edition	SANS 10229-1 ^⑤ 2010 Edition
Drop:	6.1.5.3	6.1.5.3	6; 4.3	6; 6.3.3	12.3.1
Stack:	6.1.5.6	6.1.5.6	6; 4.6	6; 6.3.6	12.3.5
Vibration:	---	---	---	---	---

① The United Nations Recommendations on the Transport of Dangerous Goods ó Model Regulations (UN ó Orange Book)

② International Maritime Dangerous Goods Code (IMDG)

③ Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO)

④ International Air Transport Association (IATA) Dangerous Goods Regulations

⑤ South African Bureau of Standards Code of Practice ó SANS 10229-1:2010

INDUSTRY STANDARD REFERENCES	
Drop:	ASTM ^⑥ D5276: Standard Test Method for Drop Test of Loaded Containers by Free Fall
	ISO ^⑦ 2248: Packaging ó Complete, Filled Transport Packages ó Vertical Impact Test By Dropping
Stack:	ASTM ^⑥ D4577: Standard Test Method for Compression Resistance of a Container Under Constant Load
	ISO ^⑦ 2234: Packaging ó Complete, Filled Transport Packages ó Stacking Tests using Static Load
Vibration:	ASTM ^⑥ D999: Standard Test Method for Vibration Testing of Shipping Containers
	ISO ^⑦ 2247: Packaging ó Complete, Filled transport Packages ó Vibration Test at Fixed Low Frequency

⑥ American Society For Testing and Materials (ASTM)

⑦ International Organization For Standardization (ISO)