

**Canon**

**Business Ink Jet Printer**

**Ink Performance Comparison Test**

**TEST REPORT**

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**Canon Business Inkjet Printer Ink Comparison Test**

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**1 Introduction**

Starting in June 2007 with a gas resistance comparison test, which used a triple-gas test between genuine ink and refillable ink for inkjet printers, our company, Allion Japan Inc., had been conducting comparison tests of ink cartridges, toner cartridges, and ink cassettes sold in Japan and in overseas markets from 2007 to 2016. These comparison tests included tests for the number of printable sheets, actual environment exposure tests, and usability tests carried out from the user's viewpoint and under the user's conditions.

As a new experiment, we focused on the ink bottles for business ink jet printers, and examined the effect on the printer itself and on the printed matter from various angles, from unpacking/installation. The purpose of this test is to confirm the degree of quality difference between genuine ink bottles and counterfeit ink bottles from overseas by conducting the test fairly as a third party testing organization.

In the following text, each ink bottle is described as follows. (Table 1)

(Table 1)

Target Products	Notation in this text	
Genuine product manufactured by Canon Ink bottle Made in Japan	Canon genuine product	Canon genuine product
Counterfeit product Ink bottle Procured from Peru	Counterfeit product from Peru	Counterfeit product from overseas
Counterfeit product Ink bottle Procured from Brazil	Counterfeit product from Brazil	
Counterfeit product Ink bottle Procured from Indonesia	Counterfeit product from Indonesia	

**2 Conclusion**

The results of the print comparison test are as follows.

As for the Canon genuine product, no defects were found in each item.

As for the counterfeit products, it was confirmed that defects had occurred in each test item in comparison with the Canon genuine product.

The following is a summary of the defects. (Table 2-1)

(Table 2-1)

Evaluation item	Canon genuine product	Counterfeit product from Peru	Counterfeit product from Brazil	Counterfeit product from Indonesia
3-1. Bottle Status	OK	NG	NG	OK
	1. (Counterfeit product from Peru) Foreign matter was found in the ink bottle. 2. (Counterfeit product from Peru) Ink leaked from the bottle in the pack. 3. (Counterfeit products from Peru/Brazil) The bottle was damaged by reclosing the ink bottle to store the remaining ink after filling.			
3-2. Print Quality	OK	NG	OK	OK
	(Counterfeit product from Peru) Magenta had a strange color and was not reproducible. (Counterfeit product from Peru) Unevenness occurred in places with large printed areas of black.			
3-3. Water Resistance	OK	OK	NG	NG
	(Counterfeit product from Brazil/Indonesia) The black dissolved in water when water droplets were deposited on the printed matter.			

The details of each item are described in the test results from the next page.

**3 Test Result**

**3.1 Bottle Status**

**3.1.1 Bottle Status (Initial State)**

The box containing the ink bottle was unpacked to check the inside.

- There were three cases of problems detected in two counterfeit products from Peru. (Table 3-1-1)
  1. Foreign matter was found inside the ink bottle. (1 case)
  2. The ink leaked from the ink bottle inside the vinyl pack and was spread inside the vinyl pack. (2 cases)

(Table 3-1-1)





Counterfeit product from Peru		
Ink	Yellow 1	Magenta 2, Magenta 3
Status	Foreign matter was found inside the bottle ink.	The ink was leaking from the bottle inside the pack.
		

**3.1.2 State of the Ink Bottle After Filling**

At the first print check, the black was consumed and the printer was in need of replenishment, and according to the alert content on the printing PC, the black and the three colors were additionally filled.

- Each color other than the black has a different amount of residual consumption, resulting in a remaining amount after filling.
- After the completion of ink filling, the ink bottle was capped and stored again in order to save the bottle with the remaining amount of ink. However, it was confirmed that the bottle cracked and broke due to the load during the closing operation when the cap was reattached, causing liquid leakage from the bottle. (Table 3-1-2)

(Table 3-1-2)


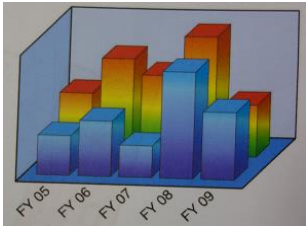

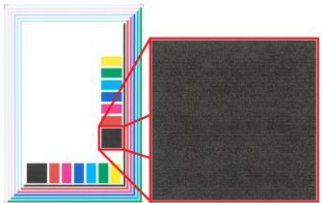

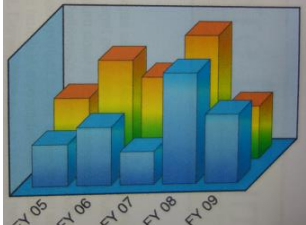

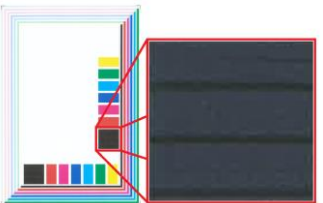
Counterfeit product from Peru			
Ink	Magenta 4	Ink	Cyan 2
Phenomenon	In the process of removing and returning the cap, cracks and separation occurred in the spout and the main body, causing liquid leakage.	Phenomenon	In the process of removing and returning the cap, cracks and separation occurred in the spout and the main body, causing liquid leakage.
			
Counterfeit product from Brazil			
Ink	Magenta 2	Ink	Yellow 2
Phenomenon	In the process of removing and returning the cap, cracks and separation occurred in the spout and the main body, causing liquid leakage.	Phenomenon	In the process of removing and returning the cap, cracks occurred in the spout, causing liquid leakage.
			

### 3.2 Print Quality

Print quality of the output printed matter was checked visually.

- As for the counterfeit product from Peru, the color of the magenta was lighter and brighter than that of the Canon genuine products, and when compared to the Canon genuine product, the color did not appear to be printing normally. (Table 3-2)
- As for the counterfeit product from Peru, unevenness was identified in places where there were large printed areas of black. (Table 3-2)

(Table 3-2)

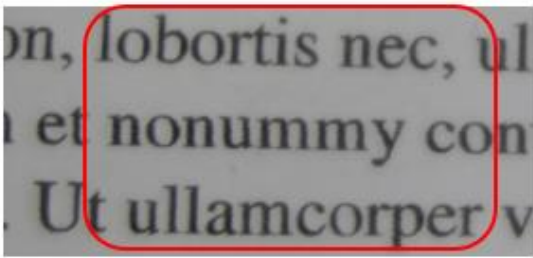
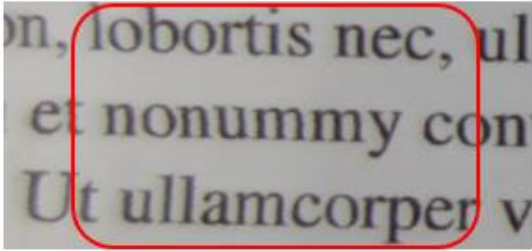
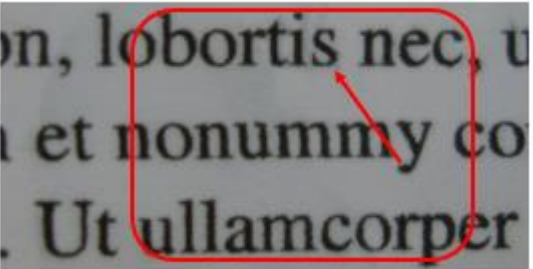
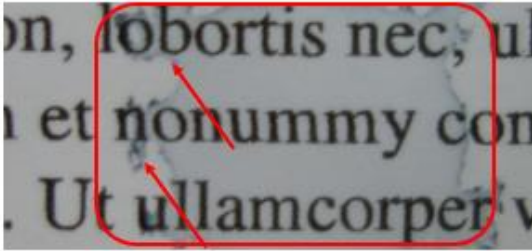
Canon genuine product			
Coloration			Unevenness
			
Counterfeit product from Peru			
Coloration			Unevenness
			

**3.3 Water Resistance Check (Black)**

Water droplets were dripped onto the area where black was printed, and the subsequent condition was observed.

- As a result, the phenomenon of the black dissolving into water was confirmed in the counterfeit product from Brazil and in the counterfeit product from Indonesia. (Table 3-3)

(Table 3-3)

Ink	Canon genuine product	Ink	Counterfeit product from Peru
State	No particular bleeding was observed.	State	No particular bleeding was observed.
			
Ink	Counterfeit product from Brazil	Ink	Counterfeit product from Indonesia
State	Black bleeding was confirmed.	State	Black bleeding was widely observed.
			



4 Test Outline

4.1 Equipment Used

Ink Bottle (Black, Magenta, Yellow, Cyan)

- Canon Genuine Products (for Japan) (GI-390 BK/M/Y/C)



- Counterfeit Products Acquired from Peru (Counterfeit Model No. GI-190 BK/M/Y/C)



- Counterfeit Products Acquired from Brazil (Counterfeit Model No. GI-190-BK/M/Y/C)



- Counterfeit Products Acquired from Indonesia (Counterfeit Model No. GI-790 BK/M/Y/C)



- Canon Genuine Products (for the Philippines) (for comparison of appearance) (GI-790 BK/Y)



- Printers (4 units)  
Canon Business Inkjet Printer G1310  
(Serial Nos.: KMAT04284, KMAT04294, KMAT04296, KMAT04297)
- Personal computers (4 models)
  1. Dell XPS 15z (CPU: Intel Core i5-2410M)
  2. HP dv6a (CPU: AMD Sempron M100)
  3. HP ProBook 4430s/CT (CPU: Intel Core i3-2350M)
  4. Sony VAIO VPCF11AFJ (CPU: Intel Core i3-330M)

## 4.2 Print Conditions

### Software and Configuration Requirements

Condition Items	Reference Values and Details
OS Type and Version	Microsoft Windows 7 Home Premium x64 SP1 (Japanese Version)
Application Version	Adobe Acrobat Reader DC Version 2019.021.20061
Printer Driver Version	Ver. 3.20
Printer Driver and Application Configuration Requirements	Paper Type: Plain Paper Print Quality: Standard Output Paper Size: A4 Color/Density: Automatic Page Layout: Same Size Printing Applications: Adobe Acrobat Reader DC

### 4.3 Test Procedure

#### 4.3.1 Checking Packing and Unpacking States (3.1.1 Bottle Status)

1. Check the state of the outer packing box of the ink bottle.
2. Remove the ink bottle from the packing box and take photographs when unpacking (Front, Back, Top, Bottom, Right, Left).

#### 4.3.2 Print Confirmation

1. The following inks are filled in the G1310.
  - Canon genuine product (for Japan)
  - Counterfeit product from Peru
  - Counterfeit product from Brazil
  - Counterfeit product from Indonesia
2. Check the state of the ink bottle after filling. **(3.1.2 State of the Ink Bottle After Filling)**
3. Connect the PC to the G1310 via USB and print the PDF file "A4 Color Documentation ISO/IEC 24712" from the PC.
4. Complete the first order of the printing operation in accordance with the alert relating to the ink remaining amount detection function of the G1310.
5. Compare the character quality of the printed matter.
  - Print Quality **(3.2 Print Quality)**
  - Water resistance **(3.3 Water Resistance Durability)**

## 5 Notes on This Report

This report was prepared by Allion Japan Inc. (Shinagawa Ward, Tokyo), a specialist IT equipment testing company, in order to introduce our product benchmark tests. Our company is responsible for the truth of the above test results.

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