

# RoHS TEST REPORT

NO.: B-R180618005

Date: Jun. 14, 2018

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**Customer:** GROSS COMPANY LIMITED

**Address:** Unit B, 9/F, Lockhart Centre 301-307 Lockhart Road, Wan Chai, Hong Kong

**Client No.:** 00216651

**Report on the submitted sample said to be:**

**Sample name:** Toner Cartridge

**Trademark:** ColorWay

**Model No.:** CB435/CB436/285A,Q7115A/2613A/2624A,CE505A/CF280A,CF217A,CF230A,CRG-045,BK/C/M/Y,MLT-D111S,MLT-D203U,MLT-D101S,EPSON M2300/2400,EPSON M300,MINOLTA 1300W,MINOLTA 1600W,TN420/450,TN2410/2420,PTDR1000/1020/1030/1040/1060,TN880,TN720/750/780,TN436 BK/C/M/Y,KX-FAD93A Drum Unit,KX-FAD472 Toner Unit,KX-FAT411/413 Toner Unit, MS/MX310/410/510/610,E260/E360/E460,Xerox 3140,Xerox 3325,DELL 1720,DELL 1130/1133/1135,DELL 1600,OKI C710/711,OKI B411,OKI B431, SP310/311,SP4510, SP3500/3510,TK-137,TK1150,TK3160,TK-5135,TK8305

**Sample Model:** Q7115A/2613A/2624A

**Manufacturer:** GROSS COMPANY LIMITED

**Address:** Unit B, 9/F, Lockhart Centre 301-307 Lockhart Road, Wan Chai, Hong Kong

**Sample received date:** Jun. 06, 2018

**Testing period:** From Jun. 06, 2018 to Jun. 14, 2018

**Testing method:**

With reference to IEC 62321:2008 Ed 1.0, IEC 62321:2013 Ed 1.0

- (1) Section 6: Screening by X-ray Fluorescence Spectrometry (XRF)
- (2) Chemical test:



Company No. 07113834

Testing Item	Pretreatment method	Measuring instrument	MQL
Lead (Pb)	IEC 62321-5:2013 Ed 1.0, section 7.3	ICP-OES	2mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed 1.0, section 7.3	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed 1.0, section 7.2	ICP-OES	2 mg/kg
Chromium (Cr VI)	IEC 62321:2008 Ed 1.0, Annex C	UV-VIS	2 mg/kg 0.02 mg/kg*
PBBs/ PBDEs	IEC 62321:2008 Ed 1.0, Annex A	GC-MS	5 mg/kg

**Note:**\*0.02mg/kg refers to the MQL of sample extraction liquid.

**Conclusion**

Tested samples .....: Screening components of submitted samples

Standard.....: Screening by XRF spectroscopy and chemical confirmation test for RoHS directive (2011/65/EU)

Result.....: Pass

\*\*\*\*\*FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)\*\*\*\*\*

Written by: Anna  
(Anna)

Inspected by: Joseph  
(Joseph)

Approved by: Robert  
(Robert)

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**Test Results:**

Part No.	Sample Name	XRF Results(mg/kg)		Chemical Confirmation Result(mg/kg)
		Element	Value	
1	Light blue cylinder	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
2	Screw	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	208.8568	
		Br	N.A.	
3	Silver white cylinder	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
4	Gray white metal strip	Pb	N.D.	---
		Cd	13.582	
		Hg	N.D.	
		Cr	389.6907	
		Br	N.A.	
5	Light yellow transparent soft strip	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	13.8713	
		Br	2.0343	
6	Black rubber sleeve	Pb	8.7203	---
		Cd	10.238	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	

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Part No.	Sample Name	XRF Results(mg/kg)		Chemical Confirmation Result(mg/kg)
		Element	Value	
7	Black plastic sleeve	Pb	2.3724	---
		Cd	4.3595	
		Hg	11.9917	
		Cr	10.9763	
		Br	N.D.	
8	Black shell	Pb	N.D.	---
		Cd	3.2872	
		Hg	N.D.	
		Cr	3.7811	
		Br	N.D.	
9	Positioning pin	Pb	990.2834	---
		Cd	14.4121	
		Hg	N.D.	
		Cr	35.7371	
		Br	N.A.	
10	Spring	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
11	White gear	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
12	Occlusion	Pb	9.3695	---
		Cd	N.D.	
		Hg	960.9418	
		Cr	N.D.	
		Br	230.0767	

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**Remark:**

N.D. = Not Detected

N.A. = Not Applicable

-Specimens, which requested to determine Cadmium, Mercury and Lead Content by chemical test, have been dissolved completely.

- mg/kg = ppm

(#1) = The screening result was found in the region of inconclusive (See Table B) and further chemical tests were suggested.

(#2) = Cr or Br were detected above the screening Limit (See Table B) and further chemical tests were suggested.

(#3) = Exceeded Screening Limit but if sample is electronic component. The lead content in glass of electronic components is exempted from the requirement of RoHS Directive (2011/65/EU)

(#4) = Exceeded Screening Limit but if sample is copper alloy. The lead content which is under 4% (40000ppm) is exempted from the requirement of RoHS Directive (2011/65/EU)

OL= OVER LIMIT

BL=BELOW LIMIT

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**Remark:**

(A) "BELOW LIMIT" (BL) or "OVER LIMIT" (OL) determination will be set at 30 % (50 % for composite materials) less than or greater than the limit, respectively. The margins of safety have been agreed upon based on the experience of many experts and practitioners in the industry. Further explanation for this approach to estimating uncertainty.

-The symbol "X" marks the region, where further investigation is necessary.

-LOD means Limit of Detection.

-The term "3σ" expresses the repeatability of the analyzer at the action level.

(B) XRF Screening Limit in mg/kg for regulated elements in various matrices.

Polymer materials	Metallic materials	Composite materials
$BL \leq (70 - 3\sigma) < X < (130 + 3\sigma) \leq OL$	$BL \leq (70 - 3\sigma) < X < (70 + 3\sigma) \leq OL$	$LOD < X < (150 + 3\sigma) \leq OL$
$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (500 - 3\sigma) < X < (1500 + 3\sigma) \leq OL$
$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (500 - 3\sigma) < X < (1500 + 3\sigma) \leq OL$
$BL \leq (700 - 3\sigma) < X$	$BL \leq (700 - 3\sigma) < X$	$BL \leq (500 - 3\sigma) < X$
$BL \leq (300 - 3\sigma) < X$	Not Applicable	$BL \leq (250 - 3\sigma) < X$

(C) RoHS Requirement

Restricted substances	Limits
Lead (Pb)	0.1% (1000 ppm)
Cadmium (Cd)	0.01% (100 ppm)
Mercury (Hg)	0.1% (1000 ppm)
Chromium(VI) (Cr <sup>6+</sup> )	0.1% (1000 ppm)
Polybrominated biphenyls (PBBs)	0.1% (1000 ppm)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 ppm)

The above limits were quoted from 2011/65/EU.

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**Remark:**

-Chemical confirmation tests were conducted to verify the inconclusive results, Chromium (VI )( $\text{Cr}^{6+}$ ), Polybrominated biphenyls(PBBs) and Polybrominated diphenyl ethers(PBDEs) content.

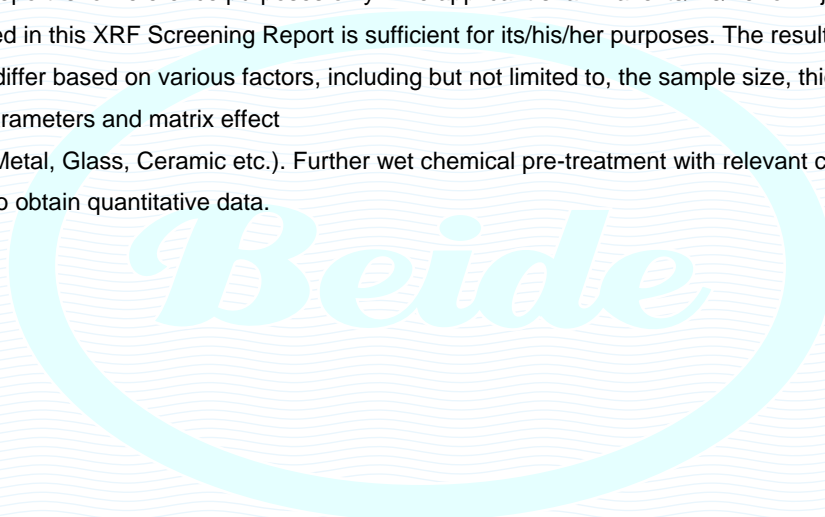
-As requested by the applicant, only components shown in this report were screened by XRF spectroscopy for 2011/65/EU, other components were not screened included in this report.

**Disclaimers:**

This XRF Screening Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening Report is sufficient for its/his/her purposes. The results shown in this XRF Screening Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect

(e.g. Plastic, Rubber, Metal, Glass, Ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

- Photos are included.



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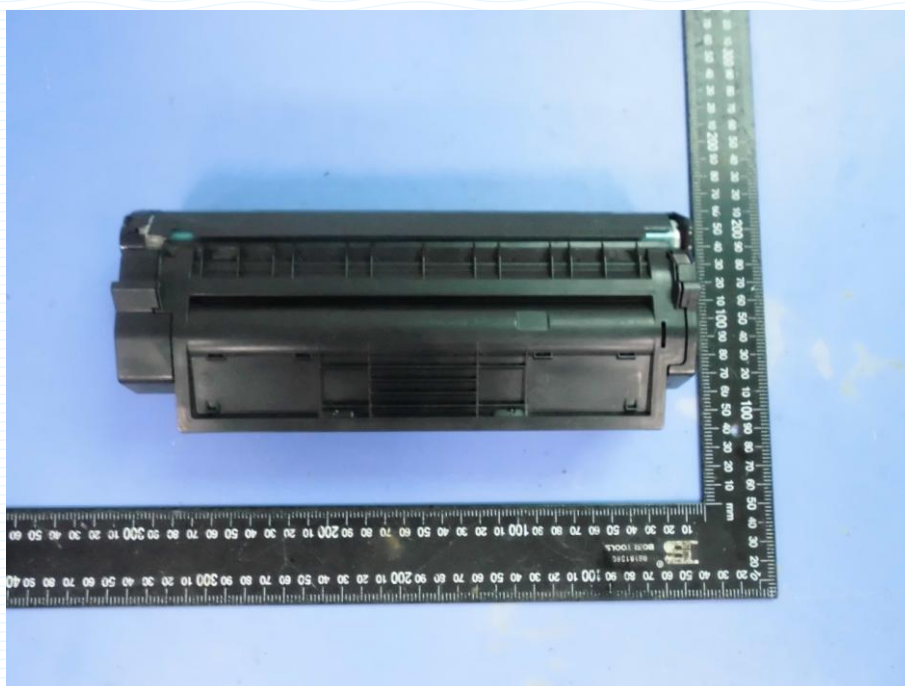
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## Photographs of Samples



\*\*\*End of Report\*\*\*

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