TEST REPORT

APPLICANT	:	Xindao B.V.
ADDRESS	:	P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands
SAMPLE DESCRIPTION	:	3W large CREE torch
ITEM NO.	:	P513.46
COUNTRY OF ORIGIN	:	China
COUNTRY OF DESTINATION	:	EUROPE
SAMPLE RECEIVED DATE	:	13-Aug-2018
TURN AROUND TIME	:	13-Aug-2018 to 21-Aug-2018
TEST SPECIFICATION	:	Total concentration of Lead, Cadmium, Mercury, Chromium VI, Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) in Electrical and Electronic Equipment in accordance with EC Directive 2011/65/EU (RoHS)
CONCLUSION	:	Based on the analysis on the submitted sample(s), the test results do comply with the concentration limits as specified in Annex II to Directive 2011/65/EU.

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

Signed for and on behalf of
Eurofins Product Testing Service (Shanghai) Co., Ltd

Joyce Liu
Lab Manager

SAMPLE PHOTO

EFSH18080179-CG-01

TO BE CONTINUED

COMPONENT PHOTO(S)


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TO BE CONTINUED

COMPONENT PHOTO(S)

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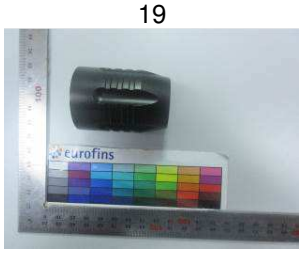

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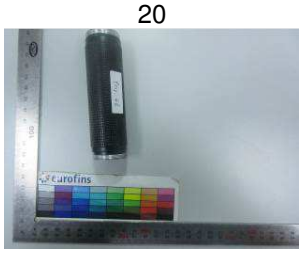

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TO BE CONTINUED

TEST RESULT

A. Screening Test by XRF Spectroscopy

As specified by client, to analyze the contents of Lead, Cadmium, Mercury, Chromium, Bromine in the submitted sample by XRF. Screening limits in mg/kg for regulated elements in various matrices according to IEC 62321-3-1:2013 Ed.1

No.	Component	Test Results (mg/kg)				
		Cd	Pb	Hg	Cr	Br
		Limit (mg/kg)				
		100	1000	1000	Cr(VI): 1000	PBB:1000 PBDE:1000
1	White plastic block 1	ND	ND	ND	201	ND
2	White plastic block 2	ND	ND	ND	ND	ND
3	White plastic block 3	ND	ND	ND	ND	ND
4	White plastic block 4	ND	ND	ND	ND	ND
5	Black plastic block	ND	ND	ND	ND	ND
6	Silver plastic block	ND	ND	ND	ND	ND
7	Black rope	ND	ND	ND	119	ND
8	Black string	ND	ND	ND	334	ND
9	Black rubber ring 1	ND	ND	ND	ND	ND
10	Black rubber ring 2	ND	ND	ND	258	ND
11	White rubber wire sheath	ND	ND	ND	ND	ND
12	Black rubber block	ND	ND	ND	ND	ND
13	Transparent plastic block	ND	ND	ND	ND	ND
14	Circuit board	25	ND	ND	ND	NC
15	Silver metal soldering tin	ND	ND	ND	NC	NA
16	Silver metal block 1	ND	ND	ND	NC	NA
17	Silver metal block 2	ND	ND	ND	NC	NA
18	Silver metal block 3	ND	ND	ND	NC	NA
19	Golden metal block	ND	ND	ND	NC	NA
20	Silver metal spring 1	ND	ND	ND	NC	NA
21	Silver metal spring 2	ND	ND	ND	NC	NA
22	Black metal block 1	ND	ND	ND	NC	NA
23	Black metal block 2	ND	ND	ND	NC	NA
24	Black metal block 3	ND	ND	ND	NC	NA
25	Black metal block 4	ND	ND	ND	NC	NA
26	Copper metal wire	16	273	ND	NC	NA

TO BE CONTINUED

TEST RESULT

Abbreviation:	Pb	denotes Lead
	Cd	denotes Cadmium
	Hg	denotes Mercury
	Cr	denotes Chromium
	Cr(VI)	denotes Chromium(VI)
	Br	denotes Bromine
	PBBs	denotes Total Polybrominated Biphenyls
	PBDEs	denotes Total Polybrominated Diphenyl Ethers
	NA	denotes Not Applicable
	ND	denotes Not Detected (Cd<10mg/kg, Pb/ Hg/ Cr<100mg/kg, Br<300mg/kg)
	NC	denotes Not Conclusive

XRF Screening limits for different materials:

Element	Polymers	Metals	Composite Material
Cd	BL ≤(70-3σ) ＜X ＜ (130+3σ) ≤ OL	BL ≤ (70-3σ) ＜ X ＜ (130+3σ) ≤OL	LOD＜X＜ (150+3σ) ≤OL
Pb	BL ≤ (700-3σ) ＜X ＜ (1300+3σ) ≤OL	BL ≤ (700-3σ) ＜ X ＜ (1300+3σ) ≤ OL	BL ≤ (500-3σ) ＜ X ＜ (1500+3σ) ≤ OL
Hg	BL ≤ (700-3σ) ＜ X ＜ (1300+3σ) ≤ OL	BL ≤ (700-3σ) ＜ X ＜ (1300+3σ) ≤ OL	BL ≤ (500-3σ) ＜X ＜ (1500+3σ) ≤OL
Br	BL ≤(300-3σ) ＜ X	/	BL ≤ (250-3σ) ＜ X
Cr	BL ≤ (700-3σ) ＜X	BL ≤ (700-3σ) ＜X	BL≤(500-3σ) ＜X

Note:
BL= Below limit
X = The region where further investigation is necessary
OL = Over limit
3σ = The repeatability of the analyzer at the action level
LOD = Limit of detection
XRF testing results are only used for reference.

TO BE CONTINUED

TEST RESULT

B. Confirmation Test by Wet Chemistry

Tested Item(s)	Test Method	Measured Equipment	MDL
Lead (Pb) /Cadmium (Cd)	IEC 62321-5:2013 Ed.1	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed.1	ICP-OES	2 mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015 Ed.1	UV-Vis	0.01μg/cm^2
	IEC62321-7-2:2017		2 mg/kg
Polybrominated Biphenyls （PBBs）	IEC 62321-6: 2015 Ed.1	GC-MS	50 mg/kg
Polybrominated DiphenylEthers (PBDEs)			

Component No.	Boiling-water-extraction for Cr(VI) (*1)
15	Negative
16	Negative
17	Negative
18	Negative
19	Negative
20	Negative
21	Negative
22	Negative
23	Negative
24	Negative
25	Negative
26	Negative

Remark:

(*1) The screening result of Chromium(VI) was found in the inconclusive region, Thus the Chromium(VI) content in surface layer have been confirmed with reference to IEC 62321-7-1:2015.
Negative – The Cr(VI) concentration is below 0.10μg/cm^2.The coating is considered a non-Cr(VI) based coating.

TO BE CONTINUED

TEST RESULT

Component No.	Test Results (mg/kg)					
	Cd	Pb	Hg	Cr (VI)	PBBs	PBDEs
	Limit (mg/kg)					
	100	1000	1000	1000	1000	1000
14	-	-	-	-	ND	ND

Note:

The sample had been dissolved totally tested for Lead, Cadmium, Mercury.
MDL = method detection limit
ND = not detected (<MDL)
mg/kg = ppm = parts per million
$\mu g/cm^2$ = micrograms per square centimeter

*** END OF THE REPORT ***