

# TEST REPORT

**APPLICANT** : Xindao B.V.

**ADDRESS** : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

**SAMPLE DESCRIPTION** : 10W Heavy duty CREE torch

**ITEM NO.** : P513.43

**COUNTRY OF ORIGIN** : China

**COUNTRY OF DESTINATION** : Europe

**SAMPLE RECEIVED DATE** : 20-Aug-2018

**TURN AROUND TIME** : 20-Aug-2018 to 05-Sep-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.

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

\*\*\*\*\* 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

*Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins Product Testing Service (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to [info.sh@eurofins.com](mailto:info.sh@eurofins.com) and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins Product Testing Service (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to [china.complaint@eurofins.com](mailto:china.complaint@eurofins.com) and referring to this report number.*

**SAMPLE PHOTO**



**EFSH18081555-CG-01**

\*\*\*TO BE CONTINUED\*\*\*

## COMPONENT PHOTO(S)



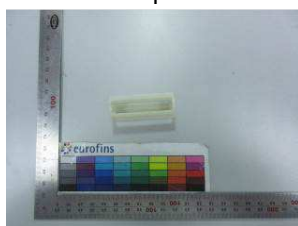
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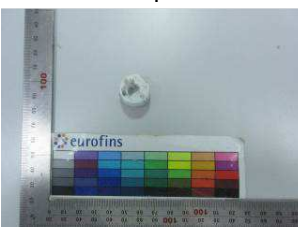
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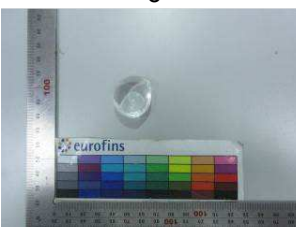
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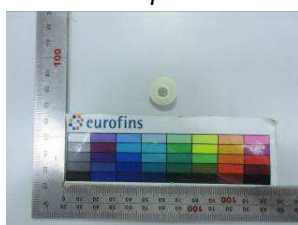
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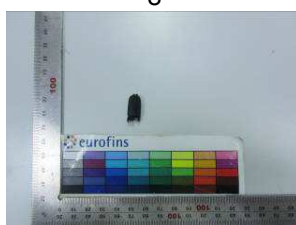
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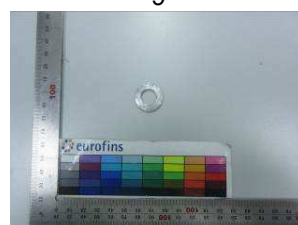
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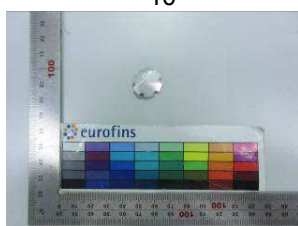
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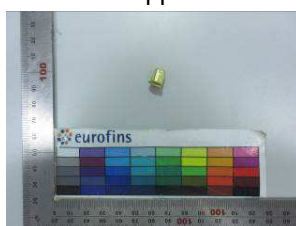
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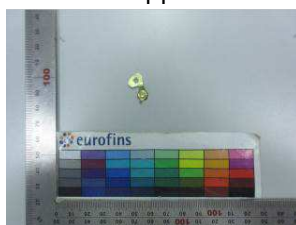
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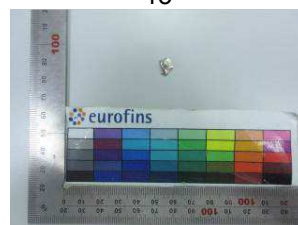
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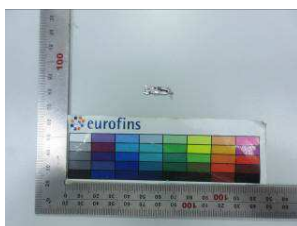
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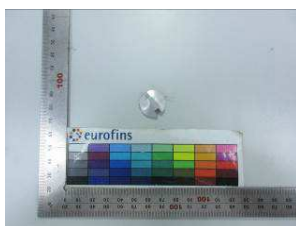
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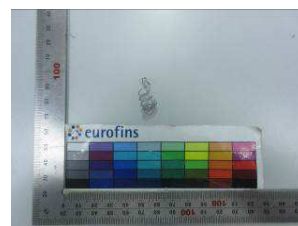
## COMPONENT PHOTO(S)



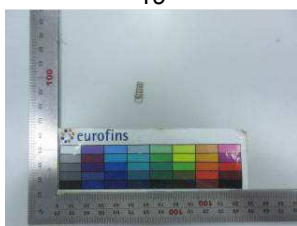
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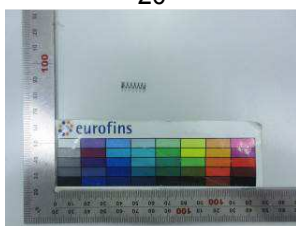
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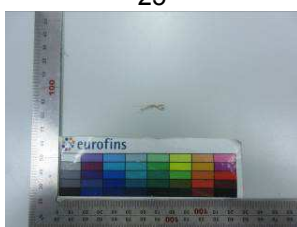
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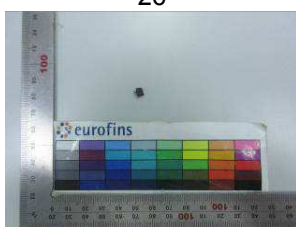
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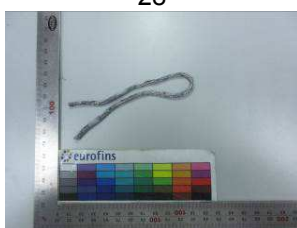
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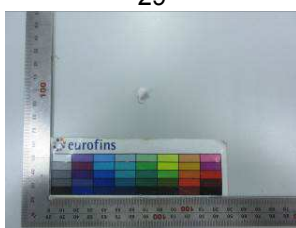
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\*\*\*TO BE CONTINUED\*\*\*

## 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	Silver metal block 1	ND	ND	ND	NC	NA
2	Silver metal block 2	ND	ND	ND	NC	NA
3	Silver metal block 3	ND	ND	ND	NC	NA
4	Ivory plastic block 1	ND	ND	ND	ND	ND
5	Silver metal block 4	ND	ND	ND	NC	NA
6	Silver metal block 5	ND	ND	ND	NC	NA
7	White plastic block 1	ND	ND	ND	ND	ND
8	Transparent plastic block	ND	ND	ND	ND	ND
9	Black rubber block	ND	ND	ND	ND	ND
10	Ivory plastic block 2	ND	ND	ND	ND	ND
11	Black plastic block	ND	ND	ND	ND	ND
12	Silver metal block 6	ND	ND	ND	NC	NA
13	Circuit board 1	ND	ND	ND	ND	ND
14	Golden metal block 1	ND	ND	ND	NC	NA
15	Golden metal block 2	ND	ND	ND	NC	NA
16	Golden metal sheet 1	ND	NC	ND	NC	NA
17	Golden metal sheet 2	ND	NC	ND	NC	NA
18	Silver metal block 7	ND	ND	ND	NC	NA
19	Silver metal block 8	ND	ND	ND	NC	NA
20	Silver metal block 9	ND	ND	ND	NC	NA
21	Silver metal spring 1	ND	ND	ND	NC	NA
22	Silver metal spring 2	ND	ND	ND	NC	NA
23	Silver metal spring 3	ND	ND	ND	NC	NA
24	Silver metal spring 4	ND	NC	ND	NC	NA
25	Red rubber wire sheath	ND	ND	ND	126	ND
26	Blue rubber wire sheath	ND	ND	ND	ND	ND
27	Black fabric thread	ND	ND	ND	150	ND
28	Copper metal wire	ND	ND	ND	NC	NA
29	Black electronic component	ND	ND	ND	120	ND
30	Black fabric rope	25	ND	ND	130	ND
31	Colorful fabric rope	ND	ND	ND	ND	ND
32	White plastic block 2	ND	ND	ND	ND	ND
33	Black electronic component 2	ND	ND	ND	266	NC
34	Circuit board 2	ND	ND	ND	ND	ND
35	Silver metal soldering tin	41	ND	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	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	/	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

**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 <sup>2</sup>
	IEC62321-7-2:2017		10 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)
1	Negative
2	Negative
3	Negative
5	Negative
6	Negative
12	Negative
14	Negative
15	Negative
16	Negative
17	Negative
18	Negative
19	Negative
20	Negative
21	Negative
22	Negative
23	Negative
24	Negative
28	Negative
35	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<sup>2</sup>.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
16	-	282	-	-	-	-
17	-	250	-	-	-	-
24	-	206	-	-	-	-
33	-	-	-	-	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

$\mu\text{g}/\text{cm}^2$  = micrograms per square centimeter

\*\*\*END OF THE REPORT\*\*\*