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Applicant : DONGRI ELECTRICAL EQUIPMENT CO.,LTD.

Address : CAODUN INDUSTRIAL AREA, GAOBU TOWN, DONG GUAN, CHINA

Sample Name : NAIL DRILL
Style/Item No. : DR-203

Sample Received Date : March 18, 2017
Testing Completed Date : May 03, 2017

**Test Requested**: As requested by client, to evaluate the compliance of the submitted sample

with the Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in

electrical and electronic equipment.

**Test Method**: 1. Review was performed for the sample and the related Bill of Material submitted by the Applicant.

a) To refer to the standard IEC 62321-3-1:2013: Screening by XRF Spectroscopy.

b) Wet chemical test

 to refer to IEC 62321-5: 2013, determine the Cadmium, Lead content by ICP-OES.

2) to refer to IEC 62321-4: 2013, determine the Mercury content by ICP-OES.

3) to refer to IEC 62321:2008 Ed.1 & IEC 62321-7-1:2015, determine the Hexavalent Chromium content by UV-VIS.

4) to refer to IEC 62321-6:2015, determine the Polybrominated Biphenyls and Polybrominated Diphenyl Ethers by GC-MS.

5) with reference to the standard IEC 62321-8 (111/321/CD), the analysis was performed by Gas Chromatography Mass Spectrometry (GC / MS).

**Test Results**: Please refer to next page (s).





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#### Conclusion:

Basing on the test results obtained from the homogenous materials, the submitted sample COMPLIES with the requirements stated in the Annex II of RoHS Directive 2011/65/EU.

> Signed for and on behalf of EMTEK (Dongguan) Co., Ltd.

Prepared by

Report Engineer

Reviewed by:

Carrie Zhang Supervisor

Approved by

Lab Director

Lainey Qin





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#### **Test Results:**

No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
TE ET ATTE		Pb BL			
		Cd	BL		
	Shell-silver metal with pink coating	Hg	BL	NA	Non comment
CONTROL CONTROL		Cr	BL		
CART CANAL		Br	NA	NA NA	
		Pb	BL		
VIEW CAVICA		Cd	BL		
2	Power socket-black hard plastic	Hg	BL	NA	Non comment
	pidolio	Ćr	BL		
THE VIETE		Br	BL		
VIET ELVIE		Pb	BL		
ELVIET EL		Cd	BL		Non comment
3	Power socket-pin-silver metal	Hg	BL.		
ER BY VEFE	motor	Cr	BL		
VITE CELVICE		Br	NA		
ELY VELLE		Pb	BL		
		Cd	BL		
4	Power socket-electrode plate-silver metal	Hg	BL	NA	Non comment
	plate on or metal	Cr	BL		
		Br	NA	NA NA NA	
TATELER OF		Pb	BL		
		Cd	BL		
5	Power socket-brown PCB	Hg	BĹ		Non comment
		Cr	BL	1 2223.112	
		Br	X		
		Pb	OL		As declared by
STATE OF		Cd	BL		client, the material should be exempted
6	Axle-copper metal	Hg	BL	Pb:34673	for lead content
STATE OF		Cr	BL		requirement according to Annex
TELEFOR VIEW		Br	NA		clause 6(c).





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
THE ENT		Pb	BL S.		
		Cd	BL		
7	Axle-beige hard plastic	Hg	BL	NA	Non comment
		Cr	BL		
		Br	BL		
THAT THE		Pb	BL		
		Cd	BL		
8	Axle-bearing-silver metal	Hg	BL	NA	Non comment
VIET ETV		Cr	BL		
		Br	NA		
STATE LE		Pb	BL		The XRF screening
EL ELVIE		Cd	BL		results for Pb, Cd, Hg, Cr and Br were obtained for the resubmitted sample on April 26, 2017.
9	Axle-gasket-black soft plastic	Hg	BL	Testing <sup>(2)</sup> (mg/kg)  NA	
	Pidole	Cr	BL		
		Br	BL		
ALERE LANG		Pb	BL		
A VIETE		Cd	BL		
10	Axle-gasket-black paper	Hg	BL	NA NA NA	Non comment
FE ELVIEFE		Cr	BL		
VILLE E		Br	BL	NA NA NA NA	
TELY VER		Pb	BL		
A TATE TO A		Cd	BL		
-11	Motor-driving wheel-white hard plastic	Hg	BL	NA	Non comment
MET EN	riaid plastic	Cr	BL		
		Br	BL		
A VIET OF		Pb	BL		
		Cd	BL		
12	Motor-shell-silver metal	Hg	BL	NA	Non comment
THE BOX		Cr	BL		
ALLIET E		Br	NA		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
ELECTION OF		Pb	BL		
TO VIET		Cd	BL		
13	Motor-cover-silver metal	Hg	BL	NA	Non comment
		Cr	BL		
		Br	NA		
E BY YEL		Pb	BL		
VIET ELY		Cd	BL		
14	Motor-cover-beige hard plastic	Hg	BL	NA	Non comment
VIETE E	plastic	Cr	BL		
EL ELVI		Br	BL		
NI TELEF		Pb	BL		
ELENTE	Motor-cover-brush-silver metal	Cd	BL	NA	Non comment
15		Hg	BL		
ELECTIVE CONTRACTOR		Cr	BL		
A TELET		Br	NA		
TELETY TO		Pb	BL	NA NA	Non comment
ELY VIETE		Cd	BL		
16	Motor-bearing-copper metal	Hg	BL		
ELY LEFT		Cr	BL		
VIETER ELV		Br	NA	NA NA	
EL VIETE		Pb	BL		
ALEKETAN		Cd	BL		
17	Motor-magnet-black solid	Hg	BL	NA	Non comment
MEET CH		Cr	BL		
		Br	BL		
Wilet C		Pb	BL		
LEFERY L		Cd	BL		
18	Motor-rotor-shaft-silver metal	Hg	BL	NA Non c	Non comment
	Inclair	Cr	BL		
Wilet &		Br	NA		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
		Pb	BL		
		Cd	BL		
19	Sample description   Substances   EDXRF <sup>(1)</sup>   Testing <sup>(2)</sup> (mg/kg)	Non comment			
		Cr	BL	NA NA NA NA NA NA	
		Br	NA		
THE THE		Pb	BL		
		Cd	BL		
20	Motor-rotor-black solid	Hg	BL	NA	Non comment
Vite ferv		Cr	BL		
E EL LA VILLE		Br	BL		
A VIETE		Pb	BL		
F ELVIE		Cd	BL	NA	Non comment
21		Hg	BL		
	Pidolio	Cr	BL.		
		Br	BL		
ALEGE AND		Pb	BL		
		Cd	BL		
22		Hg	BL	NA NA NA	Non comment
	Middle	Cr	BL		
		Br	NA		
EL ELVITE		Pb	BL		The XRF screening
		Cd	BL		results for Pb, Cd,
23	Wire-coat-black soft plastic	Hg	BL	NA	Hg, Cr and Br were obtained for the
		Cr	BL		resubmitted sample
		Br	BL		on April 26, 2017.
		Pb	BL		The XRF screening
VICE OF V		Cd	BL		results for Pb, Cd,
24	Wire-rind-red soft plastic	Hg	BL	NA	Hg, Cr and Br were obtained for the
		Cr	BL		resubmitted sample
et Viet		Br	BL-	NA	on April 26, 2017.





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
THE BANK	Wire-rind-black soft plastic	Pb	BL		
		Cd	BL		
25		Hg	BL	NA	Non comment
		Cr	BL		
		Br	BL		
E ELYTE		Pb	BL		
		Cd	BL		
26	Wire-core-silver metal	Hg	BL	NA	Non comment
A LIE ET V		Cr	BL		
		Br	NA		
TATELER.		Pb	BL		
E E E E L'A	Adapter-shell-black hard plastic	Cd	BL	NA NA	Non comment
27		Hg	BL		
		Cr	BL		
		Br	BL		
VIETER A		Pb	BL	NA NA	Non comment
	Adapter-shell-label-silver	Cd	BL		
28	soft plastic with black	Hg	BL		
	coating	Cr	BL		
VIETE ET		Br	BL		
		Pb	BL		
A TATE OF THE		Cd	BL		
29	Adapter-shell-black foam	Hg	BL	NA	Non comment
		Cr	BL		
		Bř	BL		
A VIGE		Pb	BL		
		Cd	BL		
30	Adapter-pin-silver metal	Hg	BL	NA	Non comment
Car and Car		Cr	BL		
AVIET E		Br	NA		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
THE BUY		Pb	BL		
Ter Viter		Cd	BL		
31	Adapter-pin-solder-silver metal	Hg	BL	NA	Non comment
	metal	Cr	BL		
		Br	NA		
EL VIEL		Pb	BL		
VIET EN		Cd	BL		
32	Adapter-yellow PCB with green coating	Hg	BL		Non comment
VIETER CAN	gicerroduling	Cr	BL	1 0023,110	
		Br	X		
LA LEGERAL		Pb	BL		
THE BANK	Adapter-PCB-SMD resistor	Cd	BL	NA	Non comment
33		Hg	BL		
CELLY TEL		Cr	BL		
STATE LEE		Br	BL		
VEELEN VY		Pb	BL	NA	
A VIETE		Cd	BL		Non comment
34	Adapter-PCB-SMD capacitor	Hg	BL		
ELYLER E	Capacito	Cr	BL		
VILLE ELV		Br	BL	PBBs:ND PBDEs:ND	
EE VYEE		Pb	BL		
YEEKELY)		Cd	BL		
35	Adapter-PCB-diode-black solid	Hg	BL	NA	Non comment
Mark Ell	John	Cr	BL		
		Bř	BL		
A VIETE		Pb	BL		
LEFERNY STEETNYS		Cd	BL		
36	Adapter-PCB-diode-copper metal	Hg	BL	NA Non co	Non comment
CE CENT	inclai	Cr	BL		
AVIET E		Br	NA		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
KET GAVIE		Pb	BL		
		Cd	BL		
37	Adapter-PCB-diode-pin- silver metal	Hg	BL	NA	Non comment
	Silver Histar	Cr	BL		
		Br	NA		
EL VIEL		Pb	BL		
VIET EN V		Cd	BL		
38	Adapter-PCB-color circle inductor-gray solid	Hg	BL	NA	Non comment
VIET ET	inductor gray cond	Cr	BL		
		Br	BL		
N. TELEFE		Pb	BL		
THE BANK	Adapter-PCB-color circle inductor-copper metal	Cd	BL	NA NA	Non comment
39		Hg	BL		
ELECTIVATE OF THE PROPERTY OF		Cr	BL		
		Br	NA		
TELEVIE		Pb	BL	NA NA	Non comment
ELY VIETE		Cd	BL		
40	Adapter-PCB-color circle inductor-pin-silver metal	Hg	BL		
ELVIEL E	inductor par onver metal	Cr	BL		
ALEKET V		Br	NA		
EFET ME		Pb	BL		
ALLER ELA		Cd	BL		
41	Adapter-PCB-DR core-rind- black soft plastic	Hg	BL	NA	Non comment
KILL EL	black dolt plactic	Cr	BL		
		Bř	BL		
A VIETE		Pb	BL		
CETED V		Cd	BL		
42	Adapter-PCB-DR core- black solid	Hg	BL	NA	Non comment
CE CE CO	DIGGIT SOIIG	Cr	BL		
VILET E		Br	BL		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
VIET ELVY	Adapter-PCB-DR core-coil-copper metal	Pb	BL		
		Cd	BL		
43		Hg	BL	NA	Non comment
		Br	NA		
E BY TEE		Pb	BL		
VIET EN		Cd	BL		
44	Adapter-PCB-DR core-pin- silver metal	Hg	BL	NA	Non comment
VIET ET	Oneo, motal	Cr	BL		
		Br	NA		
VI LEFTER		Pb	BL		
THE BUTTE	Adapter-PCB-triode-black solid	Cd	BL	NA NA	Non comment
45		Hg	BL		
		Cr	BL		
		Br	BL		
VIETERY EFFERVI		Pb	BL	NA	Non comment
ELY VIEW		Cd	BL		
46	Adapter-PCB-triode-black solid	Hg	BL		
ELY VIET	Oona	Cr Cr	BL		
VILLE ELV		Br	BL	NA NA	
EL VIER		Pb	BL		
A THE LEAD		Cd	BL		
47	Adapter-PCB-triode-copper metal	Hg	BL	NA	Non comment
MEET EN		Cr	BL		
		Br	NA		
A VIET E		Pb	BL.		
CATE OF STATES		Cd	BL		
48	Adapter-PCB-safety capacitor-blue solid	Hg	BL	NA N	Non comment
CE ENT	capacitor blue dolla	Cr	BL		
A VIET		Br	BL		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
A CELEVITE	Adapter-PCB-safety capacitor-black solid	Pb	BL		
TO VIET		Cd	BL		
49		Hg	BL	NA	Non comment
	capacitor brack cond	Cr	BL		
		Br	BL		
E ELYTER		Pb	BL		
VIET ELY		Cd	BL		
50	Adapter-PCB-safety capacitor-pin-silver metal	Hg	BL	NA	Non comment
THE ELL		Cr	BL		
TEL VILLE		Br	NA		
L'ALE LE		Pb	BL		
THE BUY	Adapter-PCB-LED-red transparent hard plastic	Cd	BL	NA NA	Non comment
51		Hg	BL		
		Cr	BL		
LA VIETE		Br	BL		
VIETER TO		Pb	BL	NA	Non comment
ELY VIE		Cd	BL		
52	Adapter-PCB-LED-pin-coat- black soft plastic	Hg	BL		
ELY YEL	black con places	Cr	BL		
		Br	BL	NA NA	
EL LY LE		Pb	BL		
A VIETE		Cd	BL		
53	Adapter-PCB-LED-pin- silver metal	Hg	BL	NA	Non comment
		Cr	BL		
		Br	NA		
A LIGHT		Pb	BL.		
CAT CAN		Cd	BL		
54	Adapter-PCB-polyester capacitor-green solid	Hg	BL	NA	Non comment
West By	Supusitor green sond	Cr	BL		
EL VIEF F		Br	BL		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
THE THAT	Adapter-PCB-polyester capacitor-silver foil	Pb	BL		
		Cd	BL		
55		Hg	BL	NA	Non comment
	Supusitor Silver for	Cr	BL		
		Br	NA		
E ELYTE		Pb	BL		
VIET EN		Cd	BL		
56	Adapter-PCB-polyester capacitor-pin-silver metal	Hg	BL	NA	Non comment
ALLER EN	Supuditor pirr diver metal	Cr	BL		
		Br	NA		
CANTER EN		Pb	BL		
EL CALLE	Adapter-PCB-electrolytic capacitor-rind-brown soft plastic with gray printing	Cd	BL	NA NA	Non comment
57		Hg	BL		
		Cr	BL		
LA MELLE		Br	BL		
VERENTAL STATE		Pb	BL	NA NA NA	Non comment
A VIETE	Adapter-PCB-electrolytic	Cd	BL		
58	capacitor-rind-black soft	Hg	BL		
ELVIEL C	plastic with gold printing	Cr	BL		
VILLE FEEL		Br	BL		
LE INTER		Pb	BL		
ALEE CELA		Cd	BL		
59	Adapter-PCB-electrolytic capacitor-shell-silver metal	Hg	BL	NA	Non comment
Mark Eld	capacitor silver metal	Cr	BL		
		Br	NA		
A VIETE		Pb	BL		
Verenavy Ferenavy		Cd	BL	NA NA I	
60	Adapter-PCB-electrolytic capacitor-black soft plastic	Hg	BL		Non comment
The Bay	capacitor black soft plastic	Cr	BL		
A VIET E		Br	BL		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
THE HAVE	Adapter-PCB-electrolytic capacitor-brown paper	Pb	BL		
		Cd	BL		
61		Hg	BL	NA	Non comment
	Capacitor Brown paper	Cr	BL		
		Br	BL		
CANTEL C		Pb	BL		
		Cd	BL		
62	Adapter-PCB-electrolytic capacitor-dull silver metal	Hg	BL	NA	Non comment
Y THE ET Y	Supulification of the control of the	Cr.	BL		
		Br	NA		
A VIET ET		Pb	BL		
E E E E VILLE	Adapter-PCB-electrolytic capacitor-pin-silver metal	Cd	BL	NA NA	Non comment
63		Hg	BL		
ARTHURY A		Cr	BL		
A VIET E		Br	NA.		
VIETER NY		Pb	BL		
ELY VEE		Cd	BL		Non comment
64	Adapter-PCB-transformer- yellow tape	Hg	BL	NA NA	
	Joinet Repo	Cr	BL	NA NA	
VILLE ELY		Br	BL		
ELETATIES		Pb	BL		
SYNTELE CO		Cd	BL		
65	Adapter-PCB-transformer- frame-black solid	Hg	BL	NA	Non comment
	rane black cond	Cr	BL		
		Br	BL		
S VIGE		Pb	BL		
		Cd	BL		
66	Adapter-PCB-transformer- coil-copper metal	Hg	BL	NA I	Non comment
Ken en k	coil-copper metal	Cr	BL		
AVITET E		Br	NA		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark
TELETY I		Pb	BL		
		Cd	BL		
67	Adapter-PCB-transformer- pin-silver metal	Hg	BL	NA	Non comment
	pur suver metar	Cr	BL		
		Br	NA		
ELY VER		Pb	BL		
VIET FER		Cd	BL		
68	Adapter-PCB-white glue	Hg	BL	NA	Non comment
VIETE ELV		Cr	BL		
EL ELVIE		Br	BL		
NATE OF		Pb	BL		
EL ELVIE	Adapter-PCB-solder-silver metal	Cd	BL	NA NA	Non comment
69		Hg	BL		
ELECTIVE C		Cr	BL		
		Br	NA.		
THE FELLY		Pb	BL	NA NA	Non comment
EL VIELE		Cd	BL		
70	Adapter-wire-coat-black soft plastic	Hg	BL		
ELY VEF	John Plastio	Cr	BL		
TELEFE A		Br	BL		
ER VILLE		Pb	BL		
VILLE E		Cd	BL		
71	Adapter-wire-rind-black soft plastic	Hg	BL	NA	Non comment
A WELL	piaduo	Cr	BL		
et et et vier		Br	BL		
CAN TO THE		Pb	BL		
CAT CONT		Cd	BL		
72	Adapter-wire-rind-white soft plastic	Hg	BL	NA	Non comment
E ENT	ριασιιο	Cr	BL		
Wilet &		Br	BL		





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark	
THE BUY		Pb	BL			
		Cd	BL			
73	Adapter-wire-rind-red soft plastic	Hg	BL	NA	Non comment	
	piasto	Cr	BL			
		Br	BL			
ELY LEFT		Pb	BL			
MET EN		Cd	BL			
74	Adapter-wire-core-silver metal	Hg	BL	NA	Non comment	
VIET ET	History	Cr	BL			
		Br	NA			
VALUE CENT		Pb	BL			
EL CAN		Cd	BL			
75	75 Adapter-wire-core-copper metal	Hg	BL	NA NA	Non comment	
TELEVIET		Cr	BL			
TANTELE A		Br	NA			
VIETERY)		Pb	BL			
ELY VIETE		Cd	BL	NA	Non comment	
76	Adapter-wire-fixed plate- black soft plastic	Hg	BL			
	Diddict Cont places	Cr	BL			
VITE EN		Br	BL			
ER VIEW		Pb	BL			
		Cd	BL			
77	Adapter-wire-switch-shell- black hard plastic	Hg	BL	NA	Non comment	
	Oldon Julia Padalo	Cr	BL			
		Br	BL			
N. C.		Pb	BL.			
CARE OV		Cd	BL			
78	Adapter-wire-switch-green PCB	Hg	BL	PBBs:ND PBDEs:ND	Non comment	
Ser al		Cr	BL			
Wilet B		Br	X			





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark	
ELECTION OF SELECTION	Adapter-wire-switch-PCB-	Pb	BL			
TI VIET		Cd	BL			
79	slide switch-shell-silver	Hg	BL	NA	Non comment	
	metal	Cr	BL			
VIETER VI		Br	NA			
EL VIET		Pb	BL			
VIET E	Adapter-wire-switch-PCB-	Cd	BL			
80	slide switch-touch spot-	Hg	BL	NA	Non comment	
TELEFE	black hard plastic	Cr	BL			
		Br	BL			
VIETER		Pb	BL			
EL ELY	Adapter-wire-switch-PCB- slide switch-electrode plate- silver metal	Cd	BL	NA	Non comment	
81		Hg	BL			
ELEVATE		Cr	BL			
ALLEY E		Br	NA			
LEFELVY TELEVY		Pb	BL	PBBs:ND PBDEs:ND		
CANTELE CO		Cd	BL		Non comment	
82	Adapter-wire-switch-PCB- slide switch-brown PCB	Hg	BL			
ELVIEL	Shac Switch Diown I OD	Cr	BL			
VITER TO		Br	X			
FERVIE		Pb	BL			
VILLEFE	Adapter-wire-switch-PCB-	Cd	BL			
83	rotary switch-black hard	Hg	BL	NA	Non comment	
ARTE EN	plastic	Cr	BL			
e te viet		Br	BL			
Willet C		Pb	BL			
CA CANA	Adapter-wire-switch-PCB-	Cd	BL			
84	rotary switch-electrode	Hg	BL	NA	Non comment	
er edy	plate-silver metal	Cr	BL			
Viter 6		Br	NA			





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark	
		Pb	BL			
		Cd	BL			
85	Adapter-wire-switch-PCB- solder-silver metal	Hg	BL	NA	Non comment	
	Solder diver metar	Cr	BL			
		Br	NA			
THAT THE		Pb	BL			
		Cd	BL			
86	Adapter-wire-plug-black soft plastic	Hg	BL	NA	Non comment	
	Soft plactic	Cr	BL			
		Br	BL			
CAN THE COLUMN		Pb	BL			
EL EL VI	Adapter-wire-plug-silver metal	Cd	BL			
87		Hg	BL	NA	Non comment	
TELLY TELL		Cr	BL			
		Br	NA.			
TE EL TIVE		Pb	BL	NA NA		
STATE E		Cd	BL		Non comment	
88	Adapter-wire-plug-black hard plastic	Hg	BL			
FERNIEL E	nara plastic	Cr	BL			
VILLE ELV		Br	BL			
THE WATER		Pb	BL			
ALEEKEEN Y		Cd	BL			
89	Adapter-wire-plug-solder- silver metal	Hg	BL	NA	Non comment	
Mark Carl	Silver metal	Cr	BL			
TEN VICE		Br	NA			
A VIET E		Pb	BL			
V. S.		Cd	BL			
90	Screw-silver metal with black coating	Hg	BL	NA	Non comment	
CEL ELVIE	DIAGN COATING	Cr	BL			
AVIET E		Br	NA			





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No.	Sample description	Restricted substances	Results of EDXRF <sup>(1)</sup>	Results of Chemical Testing <sup>(2)</sup> (mg/kg)	Remark	
VIET ELVIE		Pb	BL			
ELTANTET E		Cd	BL			
91	Box-white hard plastic	Hg	BL	NA	Non comment	
		Cr Cr	BL			
		Br	BL			
TELLY TELL		Pb	BL			
		Cd	BL			
92	Box-transparent hard plastic	Hg	BL	NA	Non comment	
	piastic	Cr	BL			
		Br	BL			
STANTE STAN	Box-red foam	Pb	BL			
		Cd	BL			
93		Hg	BL	NA	Non comment	
		Cr	BL			
		Br	BL			
		Pb	BL			
		Cd	BL			
94	Drill-silver metal	Hg	BL	NA	Non comment	
		Cr	BL			
TEL VIEFERVIE		Br	NA			
LE EL VIER		Pb	BL			
A VIETERY		Cd	BL			
95	Red sandpaper	Hg	BL	NA NA	Non comment	
		Cr	BL			
		Br	BL			





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- Remark: (1) ① Results are obtained by XRF for primary screening, and further wet chemical testing by ICP-OES / AAS (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as "X" in below table) (unit: mg/kg).
  - ② OL = Over Limit, BL = Below Limit, X = Inconclusive, NA= Not Applicable.
  - ③ The XRF screening test for RoHS elements The reading may be different to the actual content in the sample be of non-uniformity composition.

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$BL \leq (70\text{-}3\sigma) < X < (130\text{+}3\sigma) \\ \leq OL$	LOD < X <(150+3 σ )≤ OL
Pb	BL ≤(700-3 σ )< X <(1300+3 σ )≤ OL	BL $\leq$ (700-3 $\sigma$ )< X <(1300+3 $\sigma$ ) $\leq$ OL	BL ≤(500-3 σ)< X <(1500+3 σ)≤ OL
Hg	BL ≤(700-3 σ)< X <(1300+3 σ)≤ OL	BL $\leq$ (700-3 $\sigma$ )< X <(1300+3 $\sigma$ ) $\leq$ OL	BL ≤(500-3 σ )< X <(1500+3 σ )≤ OL
Br	BL ≤ (300-3 <i>σ</i> )< X	NA	BL ≤ (250-3 σ )< X
Cr Cr	BL ≤ (700-3 <i>σ</i> )< X	BL ≤ (700-3 σ )< X	BL ≤ (500-3 σ )< X

- (2) ① mg/kg = ppm = 0.0001%, ND = Not Detected (Less than reporting limit value.).
  - 2 Unit, Reporting Limit (RL) and Requirement limit in wet chemical test.

Test items	Pb	Cd	Hg	Cr <sup>6+</sup> (Non-metal)	Cr <sup>6+</sup> (metal)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
RL	2	2	2	2	2	5	5
Requirement Limit	1000	100	1000	1000	Negative	1000	1000

3 According to IEC 62321:2008 & IEC 62321-7-1:2015, result on Cr<sup>6+</sup> for metal sample is shown as Positive/Negative.

Negative = Absence of  $Cr^{6+}$  coating, Positive = Presence of  $Cr^{6+}$  coating. Storage condition and production date of the tested sample are unavailable and thus results of  $Cr^{6+}$  represent status of the sample at the time of testing.

According to IEC 62321-3-1:2013, this column represents the results of wet chem test. And "NA" means no need to perform wet chem test, when the XRF sereening results are qualified.





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#### **Test Results:**

#### Test results of Phthalates (DEHP, DBP, BBP, DIBP)

T. C. 1912		Test Res	Reporting	Requirement		
Test Item	2/7/11	9/24/25	10/64/68	14/21/27	Limit (mg/kg)	limit (mg/kg)
Dibutyl phthalate(DBP)	ND	ND	266	ND	30	1000
Benzylbutyl phthalate(BBP)	ND	ND	ND	ND	30	1000
Di-2-ethylhexyl phthalate(DEHP)	ND	ND	ND	ND	30	1000
Diisobutyl phthalate(DIBP)	ND	ND	ND	ND	30	1000

+		Test Resu	Reporting	Requirement		
Test Item	25/41/52	28/57/58	29/93	51/60/70	Limit (mg/kg)	limit (mg/kg)
Dibutyl phthalate(DBP)	ND	ND	ND	ND	30	1000
Benzylbutyl phthalate(BBP)	ND	ND	ND	ND	30	1000
Di-2-ethylhexyl phthalate(DEHP)	ND	ND	ND	ND	30	1000
Diisobutyl phthalate(DIBP)	ND	ND	ND	ND	30	1000

		Test Resu	Reporting	Requirement		
Test Item	71/72/73	76/80/86	77/83	88/91/92	Limit (mg/kg)	limit (mg/kg)
Dibutyl phthalate(DBP)	ND	ND	ND	ND	30	1000
Benzylbutyl phthalate(BBP)	ND	ND	ND	ND	30	1000
Di-2-ethylhexyl phthalate(DEHP)	ND	172	ND	ND	30	1000
Diisobutyl phthalate(DIBP)	ND	ND	ND	ND	30	1000

Note: mg/kg = parts per million = ppm

ND = Not Detected (less than reporting limit)





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#### **Test Material List:**

Item No.	Description
2	Shell-white hard plastic
7	Shell-white hard plastic with silver coating
9	Shell-key cap-white hard plastic with silver coating
10	Shell-transparent hard plastic
11	Base-white hard plastic
14	Base-foot pad-black soft plastic
21	Base-nail-black hard plastic
23	Base-label-silver soft plastic with black coating
24	Base-label-white paper
25	PCB(LED)-LED-transparent hard plastic
27	PCB(QD-X)-electrolytic capacitor-black soft plastic with gray printing
28	PCB(QD-X)-electrolytic capacitor-black soft plastic
29	PCB(QD-X)-LED-red transparent hard plastic
41	PCB(QD-X)-buzzer-label-white paper with blue printing
51	PCB(QD-X)-buzzer-shell-black hard plastic
52	PCB(QD-X)-relay-shell-black hard plastic
57	PCB(QD-X)-terminal-white hard plastic
58	Power socket-black hard plastic
60	Wire-coat-black soft plastic
64	Wire-rind-red soft plastic
68	Wire-rind-black soft plastic
70	Adapter-shell-black hard plastic
71	Adapter-shell-label-silver soft plastic with black coating
72	Adapter-shell-black foam
73	Adapter-shell-white glue
76	Adapter-PCB-electrolytic capacitor-rind-black soft plastic with gray coating
77	Adapter-PCB-electrolytic capacitor-rind-green soft plastic with gold coating





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#### **Test Material List:**

Item No.	Description
80	Adapter-PCB-electrolytic capacitor-black soft plastic
83	Adapter-PCB-transformer-yellow tape
86	Adapter-wire-rind-red soft plastic
88	Adapter-wire-rind-black soft plastic
91	Adapter-wire-fixed plate-black soft plastic
92	Adapter-wire-plug-black soft plastic
93	Adapter-wire-plug-black hard plastic

Remark: As specified by client, the samples were proceeded mixed testing.

#### Photo Appendix



\* \* \* \* \* \* The End \* \* \* \* \* \*





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#### ANNEX

#### **EXEMPTION LIST**

- Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):
- 1(a) For general lighting purposes < 30W: 5mg (expires on 31 December 2011; 3.5mg may be used per burner after 31 December 2011 until 31 December 2012; 2.5mg shall be used per burner after 31 December 2012)
- 1(b) For general lighting purposes ≥ 30W and <50W: 5mg (expires on 31 December 2011; 3.5mg may be used per burner after 31 December 2011)
- 1(c) For general lighting purposes ≥ 50W and <150W: 5mg
- 1(d) For general lighting purposes ≥ 150W: 15mg
- 1(e) For general lighting purposes with circular or square structural shape and tube diameter ≤17mm (no limitation of use until 31 December 2011; 7mg may be used per burner after 31 December 2011)
- 1(f) For special purposes: 5mg
- 1(g) For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3,5 mg (Expires on 31 December 2017)
- 2(a) Mercury in double-capped linear fluorescent lamps for general lighting purples not exceeding (per lamp):
- 2(a)(1) Tri-band phosphor with normal lifetime and a tube diameter < 9mm (e.g. T2): 5mg (expires on 31 December 2011; 4mg may be used per lamp after 31 December 2011)
- 2(a)(2) Tri-band phosphor with normal lifetime and a tube diameter ≥ 9mm and ≤ 17mm (e.g. T5): 5mg (expires on 31 December 2011; 3mg may be used per lamp after 31 December 2011)
- 2(a)(3) Tri-band phosphor with normal lifetime and a tube diameter > 17mm and ≤ 28mm (e.g. T8): 5mg (expires on 31 December 2011; 3.5mg may be used per lamp after 31 December 2011)
- 2(a)(4) Tri-band phosphor with normal lifetime and a tube diameter > 28mm (e.g. T12): 5mg (expires on 31 December 2012; 3.5mg may be used per lamp after 31 December 2012)
- 2(a)(5) Tri-band phosphor with long lifetime (≥ 25000h): 8mg (expires on 31 December 2011; 5mg may be used per lamp after 31 December 2011)
- 2(b) Mercury in other fluorescent lamps not exceeding (per lamp):
- 2(b)(2) Non-linear halophosphate lamps (all diameters): 15mg (expires on 13 April 2016)
- 2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17mm (e.g. T9) (no limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011)
- 2(b)(4) Lamps for other general lighting and special purposes (e.g. induction lamps) (no limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011)
- 3 Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):
- 3(a) Short length (≤ 500mm) (No limitation of use until 31 December 2011; 3.5mg may be used per lamp after 31 December 2011)
- 3(b) Medium length (> 500m and ≤ 1500mm) (No limitation of use until 31 December 2011; 5mg may be used per lamp after 31 December 2011)
- 3(c) Long length (> 1500mm) (No limitation of use until 31 December 2011; 13mg may be used per lamp after 31 December 2011)
- 4(a) Mercury in other low pressure discharge lamps (per lamp) (no limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011)
- 4(b) Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:
- 4(b)-I  $P \le 155W$  (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
- 4(b)-II 155W < P ≤ 405W (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
- 4(b)-III P > 405W (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
- 4(c) Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):
- 4(c)-I P≤ 155W (no limitation of use until 31 December 2011; 25mg may be used per burner after 31 December 2011) 4(c)-II 155W < P ≤ 405W (no limitation of use until 31 December 2011; 30mg may be used per burner after 31 December 2011)
- 4(c)-ii 155W < P = 405W (in limitation of use until 51 December 2011, 30mg may be used per burner after 51 December 2
- 4(c)-III P > 405W (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
- 4(d) Mercury in High Pressure Mercury (vapour) lamps (HPMV) (expires on 13 April 2015)
- 4(e) Mercury in metal halide lamps (MH)
- 4(f) Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex
- 4(g) Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and lightartwork, where the mercury content shall be limited as follows: (Expires on 31 December 2018)
  - (a) 20 mg per electrode pair + 0,3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 ° C:
  - (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.





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#### **ANNEX**

#### **EXEMPTION LIST**

#### Continued

	1. 6. V. E.	\$\$\D\$\$\\$`\\$`\\$`\\$`\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$
	5(a)	Lead in glass of cathode ray tubes
E	5(b)	Lead in glass of fluorescent tubes not exceeding 0.2% by weight
EX	6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight
1	6(b)	Lead as an alloying element in aluminium containing up to 0.4% lead by weight
Ž.	6(c)	Copper alloy containing up to 4% lead by weight.
X	7(a)	Lead in high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead)
16	7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications
77	7(c)-l	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound
	7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125V AC or 250V DC or higher
A CO	7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125V AC or 250V DC (expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013).
	7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors
	8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs (expires on 1 January 2012 and after that date may be
0	VIETER	used in spare parts for EEE placed on the market before 1 January 2012)
	8(b)	Cadmium and its compounds in electrical contacts
	9	Hexavalent chromium as an anti-corrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75% by
	VILLE FEBRUI	weight in the cooling solution
	9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and
et.	F ELVIER	refrigeration (HVACR) applications
1	11(b)	Lead used in other than C-press compliant pin connector systems (expires on 1 January 2013 and after that date may be used
	VIET EN	in spare parts for EEE placed on the market before 1 January 2013)
Y.	13(a)	Lead in white glasses used for optical applications
	13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards
	14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors
£	EV LEFTER	with a lead content of more than 80% and less than 85% by weight (expires on 1 January 2011 and after that date may be used
	CHEEN VEET	in spare parts for EEE placed on the market before 1 January 2011)
J	15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip
	VIELEN	Chip packages
1	17	Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications
	18(b)	Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> :Pb)
	21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glass
	24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors
	25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring
	29	Lead bound in crystal glass as defined in Annex 1 (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC
	30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers
	EL ELVIEL	used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more
7	31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)
	32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes
1	33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers
	34	Lead in cermet-based trimmer potentiometer elements
	37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body
	38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide
	39	Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm <sup>2</sup> of light- emitting area) for use in solid state illumination or display systems (expires on 1 July 2014)
	41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in

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ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of



the European Parliament and of the Council (2)) (Expires on 31 December 2018)