

TEST REPORT

APPLICANT : YONGKANG HAORYING ELECTRIC APPLIANCE CO.,LTD
ADDRESS : QINGXI INDUSTRIAL ZONE, XIANGZHU, YONGKANG ZHEJIANG, CHINA
SAMPLE DESCRIPTION : HOT PLATE
TEST MODEL : F-013A
REFERENCE MODEL : F-008, F-008A, F-008B, F-008C, F-008D, F-008E, F-008F, F-008G, F-008H, F-009, F-009B, F-010, F-010A, F-010B, F-010C, F-010D, F-010E, F-011, F-011A, F-011B, F-011C, F-011D, F-012, F-012A, F-012B, F-012C, F-012D, F-012E, F-013B
COUNTRY OF ORIGIN : CHINA
AGE REQUESTED ON APPLICATION FORM : NOT PRESENT
SAMPLE RECEIVED DATE : NOV. 14, 2016
TEST PERIOD : NOV. 18, 2016 TO NOV. 24, 2016
RESULT SUMMARY :

TEST(S) REQUESTED BY APPLICANT:	RESULT
- RoHS Directive 2011/65/EU.	PASS

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

SIGNED FOR AND ON BEHALF OF
EUROFINS TESTING TECHNOLOGY (SHENZHEN) CO. LTD.



Harry Chen
Assistant Lab Manager



Coco Luo
Assistant Lab Manager



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This test report does not entitle to carry any safety mark on this or similar products.

RoHS

Test Method : (1) Screening by XRF Spectroscopy:
 IEC 62321-3-1: 2013, Lead, Mercury, Cadmium, total Chromium and total Bromine by X-ray fluorescence spectrometry

(2) Wet Chemical test:
 Cadmium, Lead: IEC 62321-5: 2013, determined by ICP-OES.
 Mercury: IEC 62321-4: 2013, determined by ICP-OES.
 Chromium (VI): IEC 62321: 2008 Annex C and IEC 62321-7-1:2015, determined by UV/VIS.
 PBBs & PBDEs: IEC 62321-6: 2015, determined by GC-MS.

Test Result :

Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
1	White coating on hull of hot- plate	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
2	Silvery metal hull of hot- plate	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
3	Black plastic knob of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
4	Black plastic loop reverse knob of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
5	Red plastic cover of light	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--

TO BE CONTINUED

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
6	Light golden metal sheet inside of knob	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
7	Black soft plastic of foot pad	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
8	Black coating on heat plate	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	N.D.
		PBBs	BL	--
		PBDEs	BL	--
9	Grey metal of heat plate	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
10	Shiny silvery metal disc reverse heat plate	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
11	Grey metal heat tube on heat plate	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
12	White ceramic cover of heat tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
13	Grey metal pin of heat tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
14	Silvery metal sheet on pin of heat tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
15	Beige sand inside of heat tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
16	Silvery metal string inside of heat tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
17	White glue on heat tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
18	Black plastic box on bottom	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
19	Black soft plastic of plug	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
20	White plastic of plug	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	IN	N.D.
		PBDEs	IN	150
21	Silvery metal pin of plug	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
22	Silvery metal sheet of plug	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
23	Black plastic of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
24	Blue plastic of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
25	Coffee plastic of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
26	Yellow and green plastic of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
27	Copper metal corer of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
28	Silvery metal ring clip and jointed of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
29	Black plastic of heat shrink tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
30	Transparent glass of light	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
31	Grey and orange metal pin inside of light	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
32	Khaki ceramic of resistor	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
33	Silvery metal pin of light and resistor	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
34	Red textile cover of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
35	White textile cover of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
36	White plastic of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
37	Silvery metal core of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
38	Golden metal of clip	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
39	Silvery metal socket on end of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
40	White textile sleeve of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
41	White textile sleeve of plastic tube	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
42	White plastic tube of wire	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--
43	Silvery metal sheet of fuse	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
44	Silvery metal hull of fuse with blue printing	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
45	Grey plastic of fuse	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	BL	--
		PBDEs	BL	--

TO BE CONTINUED

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
46	Silvery metal pin of fuse	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
47	Golden metal stick of temperature control	Cd	BL	--
		Pb	IN	1.8x10 ⁴ (*)
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
48	Silvery metal holder of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
49	Silvery metal stopper on stick of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
50	Purple ceramic ring of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	N.D.
		PBBs	NA	--
		PBDEs	NA	--
51	Black ceramic stick of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
52	White ceramic stick of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
53	Light golden metal sheet of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
54	Multicolor metal sheet of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
55	Grey mica loop of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--
56	Grey metal sheet of temperature control	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
57	Silvery metal of screw	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
58	Silvery metal of loop	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
59	Silvery metal of flower loop	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
60	Silvery metal of nut	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
61	Light golden metal of screw	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--

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Material No.	Material No.	XRF Results (1)		Wet Chemical Confirmation Result (mg/kg) (2)
62	Silvery metal washer of screw	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	IN	Negative
		PBBs	NA	--
		PBDEs	NA	--
63	Silvery square metal of nut	Cd	BL	--
		Pb	BL	--
		Hg	BL	--
		Cr(VI)	BL	--
		PBBs	NA	--
		PBDEs	NA	--

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Remark:

(1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).

(b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321.

XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices:

Element	Polymer Materials	Metallic Materials	Composite Materials
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	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	-	$BL \leq (250-3\sigma) < X$

(c) The XRF screening test for ROHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

Note: BL= Below Limit

OL= Over Limit

IN = Inconclusive

LOD = Limit of Detection

N.D. = Not Detected (<MDL)

NA = Not Applicable

- = Not Regulated

-- = Not Conducted

mg/kg = milligram per kilogram = ppm = 0.0001%

(2) (a) Unit and Method Detected Limit (MDL) in wet chemical test.

Testing Item	Detection Limit
Cadmium, Lead & Mercury	10 mg/kg
Chromium (VI)	10 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	10 [^] mg/kg

[^] The MDL for single compound of PBBs and PBDEs.

(b) According to IEC 62321, result on Cr(VI) for metal sample is shown as Positive/Negative.

Negative = Absence of Cr(VI) coating.

Positive = Presence of Cr(VI) coating.

(3) RoHS Requirement:

Restricted Substances	Limits [^]
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr VI)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

[^]The above limits were quoted from 2011/65/EU for homogeneous material.

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(4) (*) According to the Annex of RoHS Directive 2011/65/EU, "Copper alloy containing up to 4% (4.0×10^4 mg/kg) lead by weight" is exempted from the requirements of Article 4(1). This exemption applies to testing sample No. 47.

Other Information / Remark:

N/A



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Sample Photo Attachment

The photos below are attached only for the customer's reference. However, they are irrelevant in the testing process.

F-008

F-008A

F-008B

F-008C

F-008D

F-008E


Sample Photo Attachment	
The photos below are attached only for the customer's reference. However, they are irrelevant in the testing process.	
F-008F	F-008G
	
F-008H	F-009
	
F-009B	F-010
	

Sample Photo Attachment

The photos below are attached only for the customer's reference. However, they are irrelevant in the testing process.

F-010A





F-010B







F-010C

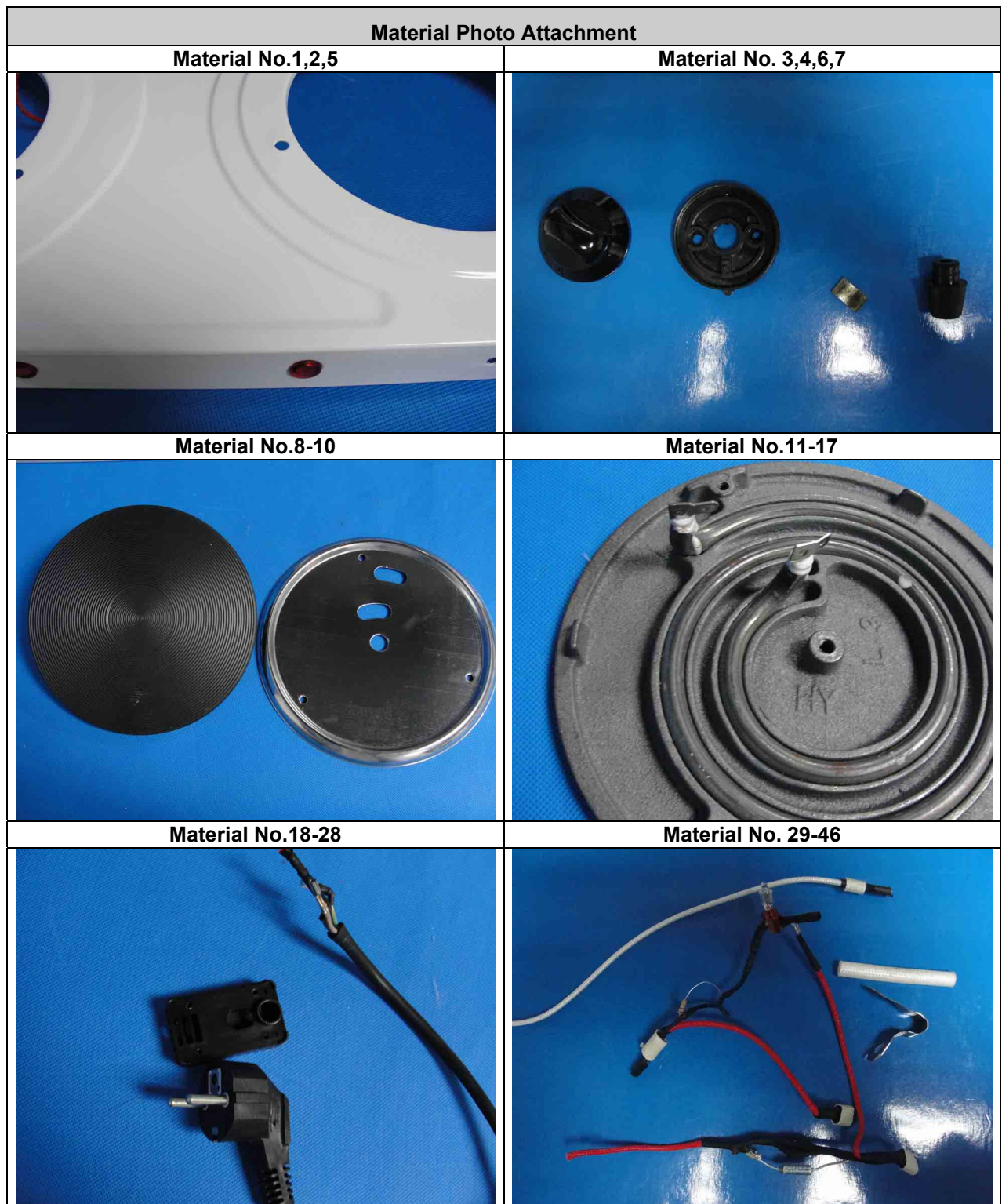
F-010D

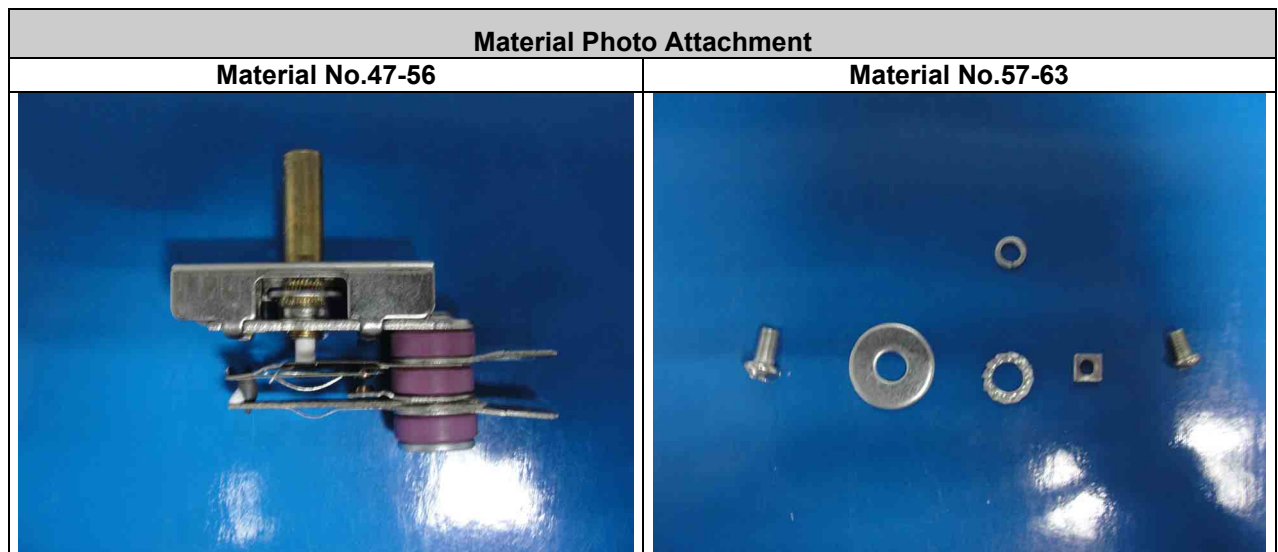
F-010E

F-011


Sample Photo Attachment	
The photos below are attached only for the customer's reference. However, they are irrelevant in the testing process.	
F-011A	F-011B
	
F-011C	F-011D
	
F-012	F-012A
	

Sample Photo Attachment	
The photos below are attached only for the customer's reference. However, they are irrelevant in the testing process.	
F-012B	F-012C
	
F-012D	F-012E
	
F-013A	F-013B
	





END OF THE REPORT