



Test Report

Report No. A2190163364101001

Page 1 of 14

Applicant JIANGYIN PRECISION ELECTRICAL EQUIPMENT CO.,LTD.

Address NO.87 WEST YINGBIN ROAD,HUANGTU TOWN,JIANGYIN CITY,JIANGSU,CHINA

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

Final Product Name JRM、USE-JRMB、USE-RB38-EMR Series thermostat

Sample Received Date Jul. 2, 2019

Testing Period Jul. 2, 2019 to Jul. 8, 2019

Test Requested

As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Polycyclic Aromatic Hydrocarbons (PAHs) in the submitted sample(s).

Test Method/Test Result(s) Please refer to the following page(s).

Tested by

Reviewed by

Approved by

Date

Jul. 8, 2019

Chen kaimin
Lab Manager

No. R188381829

Centre Testing International Pimiao(Shanghai) Co., Ltd.

No. 1996, Xinjinqiao Road, Pudong New District, Shanghai, China



Test Report

Report No. A2190163364101001

Page 2 of 14

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

Sample No.	Sample Name(s)
001	Metal sheet、 nickel sheet
002	solder
003	contact
004	silver
005	bronze
006	Copper Wire
007	Case
008	Ceramic base
009	PIN
010	Wire (Black、 White)
011	Epoxy
012	Insulation bushing
013	bronze

Test Report

Report No. A2190163364101001

Page 3 of 14

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-1:2015	UV-Vis
	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2014:01 PAK	GC-MS

Test Result(s)

Tested Item(s)	Result			MDL
	001	002	003	
Lead (Pb)	N.D.	72 mg/kg	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	--	--	8 mg/kg
	N.D.▼	N.D.▼	N.D.▼	0.10 µg/cm ² (LOQ)

Tested Item(s)	Result			MDL
	004	005	006	
Lead (Pb)	N.D.	24 mg/kg	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	--	--	8 mg/kg
	N.D.▼	N.D.▼	N.D.▼	0.10 µg/cm ² (LOQ)

Test Report

Report No. A2190163364101001

Page 4 of 14

Tested Item(s)	Result			MDL
	007	008	009	
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	N.D.	--	8 mg/kg
	N.D.▼	--	N.D.▼	0.10 µg/cm ² (LOQ)

Tested Item(s)	Result			MDL
	010	011	012	
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	8 mg/kg
	--	--	--	0.10 µg/cm ² (LOQ)

Tested Item(s)	Result	MDL
	013	
Lead (Pb)	9 mg/kg	2 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg
Mercury (Hg)	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	8 mg/kg
	N.D.▼	0.10 µg/cm² (LOQ)

Test Report

Report No. A2190163364101001

Page 5 of 14

Tested Item(s)	Result			MDL
	010	011	012	
Polybrominated Biphenyls(PBBs)				
Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg

Tested Item(s)	Result			MDL
	010	011	012	
Polybrominated Diphenyl Ethers (PBDEs)				
Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg

Test Report

Report No. A2190163364101001

Page 6 of 14

Tested Item(s)	Result			MDL
	010	011	012	
Phthalates (DBP, BBP, DEHP, DIBP)				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg

Test Report

Report No. A2190163364101001

Page 7 of 14

Limits for PAHs content (mg/kg) for material of (grip) surfaces, which are to be categorized on account of the results of the risk analysis.

Parameters	Category 1	Category 2		Category 3	
	Materials intended to be put in the mouth or materials of toys with foreseeable long-term skin contact(longer than 30 seconds)	Materials not covered by category 1, with foreseeable skin contact for longer than 30 seconds (long-term skin contact) or repeated short-term skin contact [#]		Materials not covered by category 1 or 2 with foreseeable skin contact up to 30seconds (short term skin contact)	
		Toys covered by Directive 2009/48/EC	Other products	Toys covered by Directive 2009/48/EC	Other products
Benzo[a]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[e]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[a]anthracene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[b]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[j]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[k]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Chrysene	<0.2	<0.2	<0.5	<0.5	<1
Dibenzo[a,h]anthracene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[g,h,i]perylene	<0.2	<0.2	<0.5	<0.5	<1
Indenol[1,2,3-cd]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene	<1 Sum	<5 Sum	<10 Sum	<20 Sum	<50 Sum
Naphthalene	<1	<2		<10	
Sum 18 PAHs	<1	<5	<10	<20	<50

[#] Formulation “of repeated short-term skin contact” REACH Annex XVII No. 50 supplement (REGULATION (EU) No.1272/2013)

Test Report

Report No. A2190163364101001

Page 8 of 14

Tested Item(s)	Result			MDL
	010	011	012	
Polycyclic Aromatic Hydrocarbons (PAHs)				
Naphthalene	N.D.	N.D.	N.D.	0.2 mg/kg
Acenaphthylene	N.D.	N.D.	N.D.	0.2 mg/kg
Acenaphthene	N.D.	N.D.	N.D.	0.2 mg/kg
Fluorene	N.D.	N.D.	N.D.	0.2 mg/kg
Phenanthrene	N.D.	N.D.	N.D.	0.2 mg/kg
Anthracene	N.D.	N.D.	N.D.	0.2 mg/kg
Fluoranthene	N.D.	N.D.	N.D.	0.2 mg/kg
Pyrene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(a)anthracene	N.D.	N.D.	N.D.	0.2 mg/kg
Chrysene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(b)fluoranthene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(k)fluoranthene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(a)pyrene	N.D.	N.D.	N.D.	0.2 mg/kg
Indenol(1,2,3-cd)pyrene	N.D.	N.D.	N.D.	0.2 mg/kg
Dibenzo(a,h)anthracene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(g,h,i)perylene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(j)fluoranthene	N.D.	N.D.	N.D.	0.2 mg/kg
Benzo(e)pyrene	N.D.	N.D.	N.D.	0.2 mg/kg
Sum (Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene)	N.D.	N.D.	N.D.	/
Sum 18 PAHs	N.D.	N.D.	N.D.	/

Sample/Part Description

- 001 Mixed test, silvery metal, silvery metal with grey printing
- 002 Silvery metal
- 003 Contact
- 004 Silvery metal
- 005 Cupreous metal
- 006 Metal wire with silvery plating
- 007 Silvery metal
- 008 White ceramic
- 009 Silvery metal
- 010 Mixed test, white plastic wire jacket with black ink, black plastic wire jacket with white ink
- 011 Black solid

Test Report

Report No. A2190163364101001

Page 9 of 14

012 Black plastic sleeving with white ink

013 Cupreous/silvery metal

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

-As specified by client, the test was conducted by mixing several samples together. The result(s) shown on this report may be different from the content of any homogeneous material.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL or LOQ)

-mg/kg = ppm = parts per million

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is $0.10 \mu\text{g}/\text{cm}^2$

-▼ The sample is negative for Cr(VI) – The Cr(VI) concentration is below $0.10 \mu\text{g}/\text{cm}^2$. The coating is considered a non-Cr(VI) based coating.

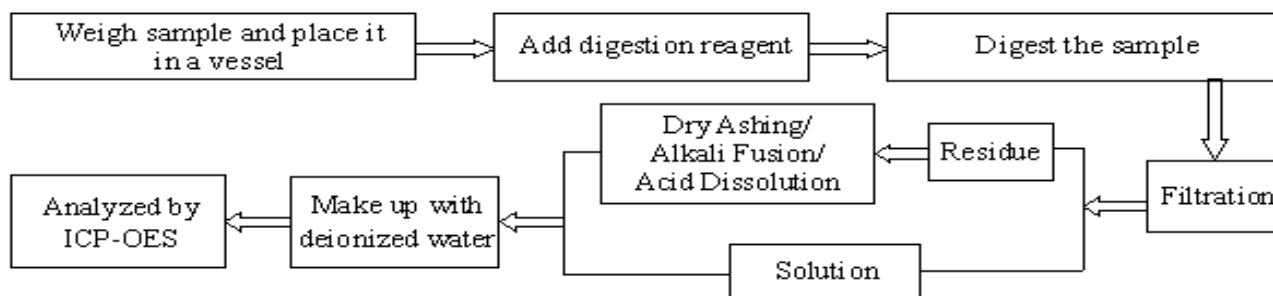
Test Report

Report No. A2190163364101001

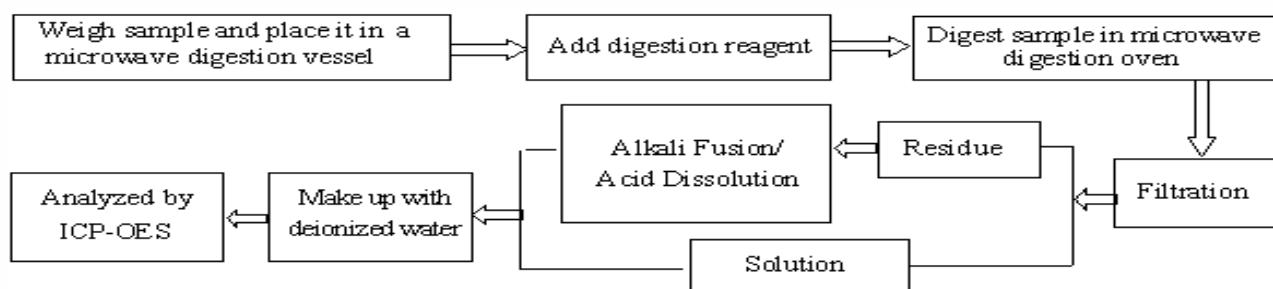
Page 10 of 14

Test Process

1. Lead(Pb), Cadmium(Cd), Chromium(Cr)

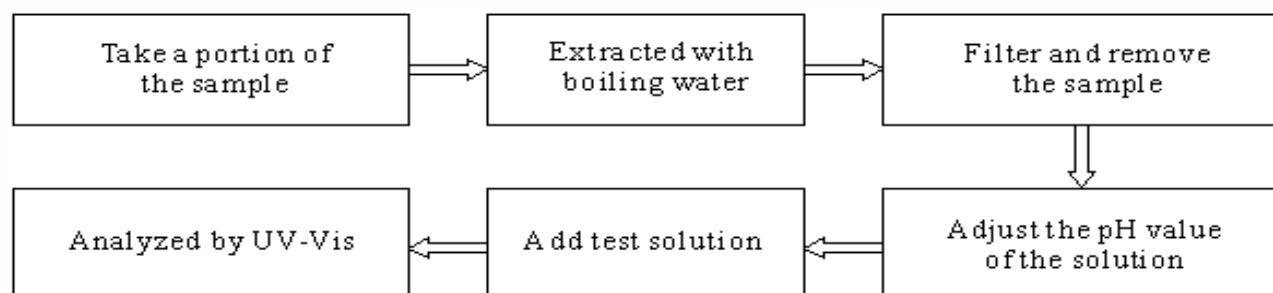


2. Mercury(Hg)

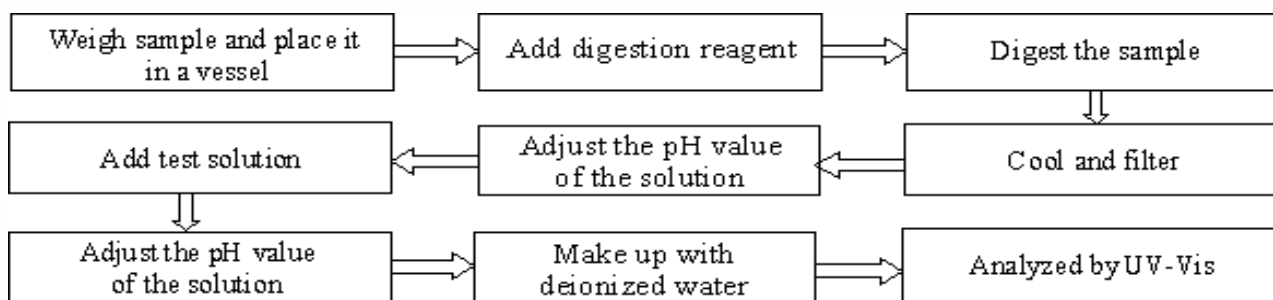


3. Hexavalent Chromium(Cr(VI))

(1) IEC 62321-7-1:2015



(2) IEC 62321-7-2:2017

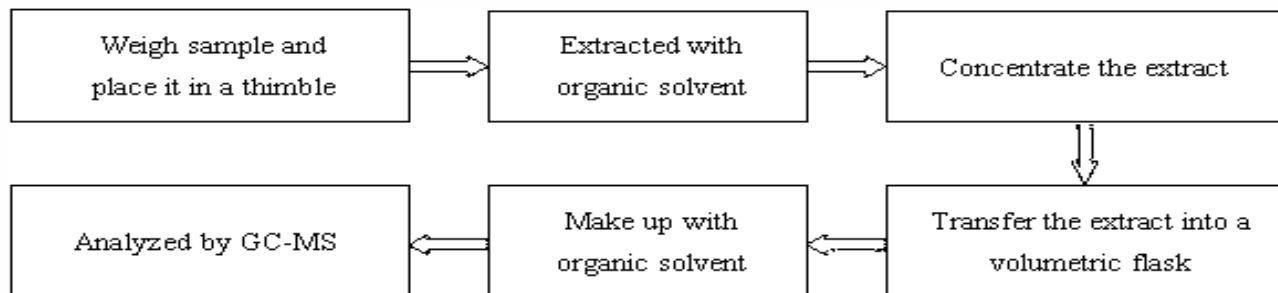


Test Report

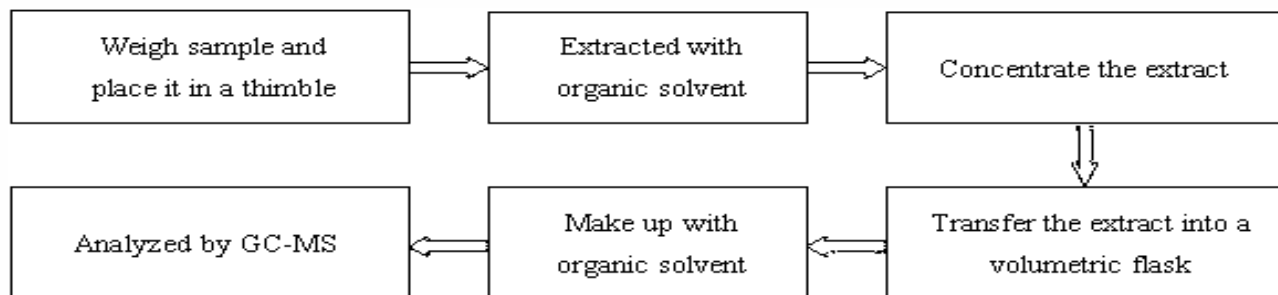
Report No. A2190163364101001

Page 11 of 14

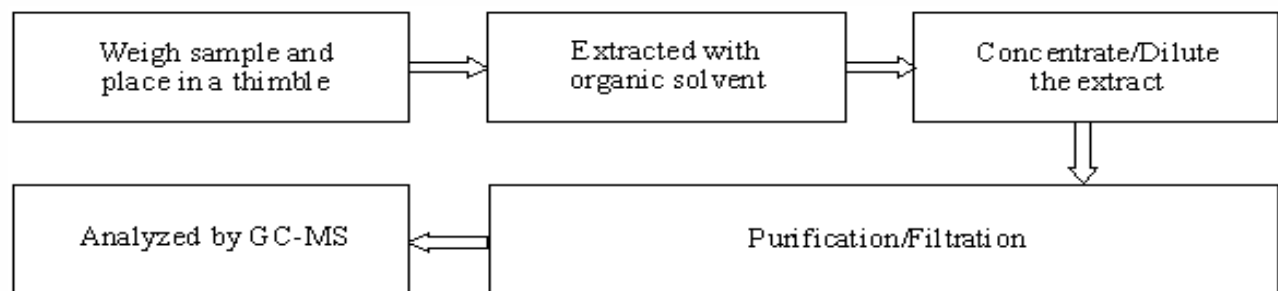
4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)



5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Polycyclic Aromatic Hydrocarbons (PAHs)



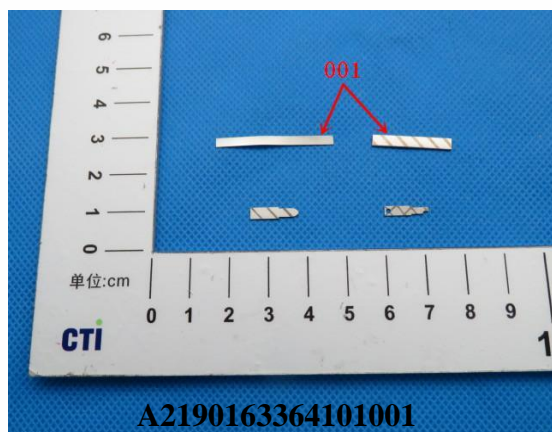
Test Report

Report No. A2190163364101001

Page 12 of 14

Photo(s) of the sample(s)

001



A2190163364101001

002



A2190163364101001

003



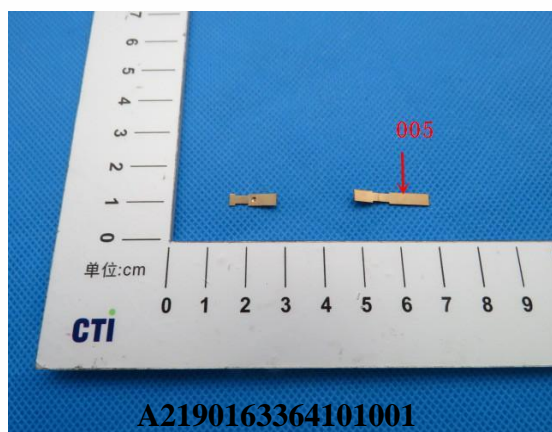
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004



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005



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006



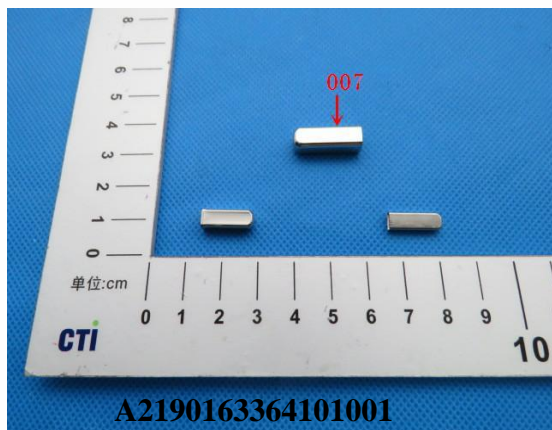
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Test Report

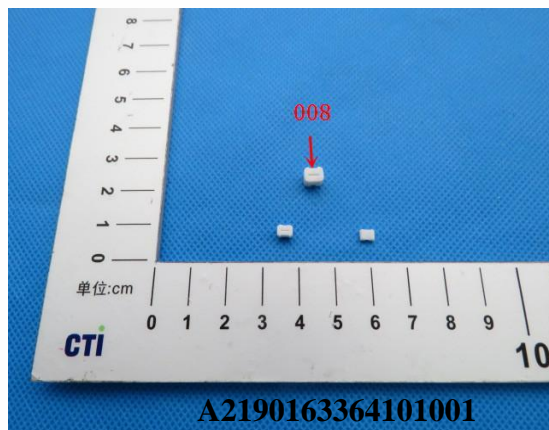
Report No. A2190163364101001

Page 13 of 14

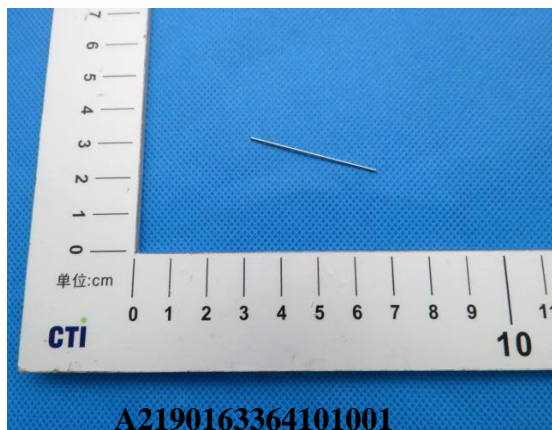
007



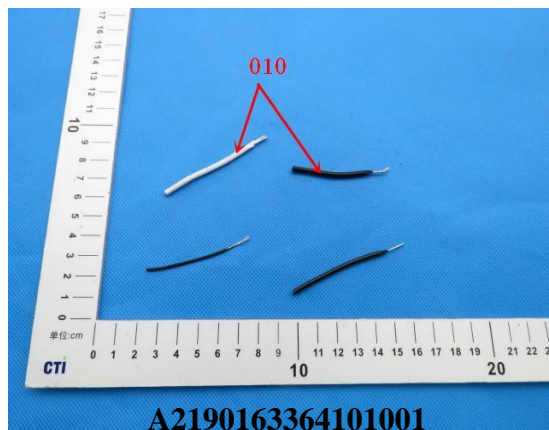
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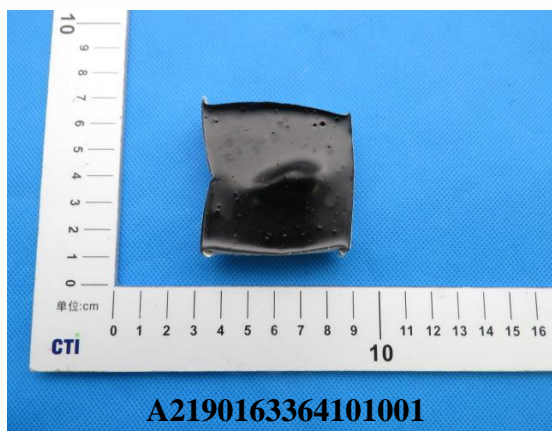
009



010



011



012



Test Report

Report No. A2190163364101001

Page 14 of 14

013



*** End of Report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.