



**Table 1: List of Raw Materials covered by this report**

<b>Total Parts</b>	<b>Raw Material Part Number</b>	<b>Raw Material Description</b>	<b>Page(s)</b>
1	883-048	Contact Clip	3-6
2	891-023	Knob Insert	7-10
3	875-525/ 875-526/ 875-528	Side Terminals	11-14
4	883-055 (883-050)	Contact Clip	15-18
5	912-296/ 912-297	Compress Spring	19-20
6	070126	Wire	21-26
7	057259/ 057261/ 057256	Body/ Cap/ Knob Black Valox - RoHS	27-36
8	903-114	Nut	37-40
9	903-097	Nut	41-50
10	875-521/ 875-522/ 875-524	Back terminal (same materials as 875-525)	51-54

## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00336847  
Date : Oct 22, 2013

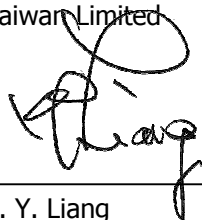
### Sample Description:

One (1) group of submitted samples said to be :  
Part Description : CONTACT CLIP  
Part Number : 883-048  
Date Sample Received : Oct 15, 2013  
Date Test Started : Oct 15, 2013

### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00336847

Test Conducted

### Test Result Summary:

Test Result Summary:					
Test Item	Unit	Test Method	Result		RL
			(1)	(2)	
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	195	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting Limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 15, 2013  
 Test Period : Oct 15, 2013 to Oct 21, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



**Test Report**

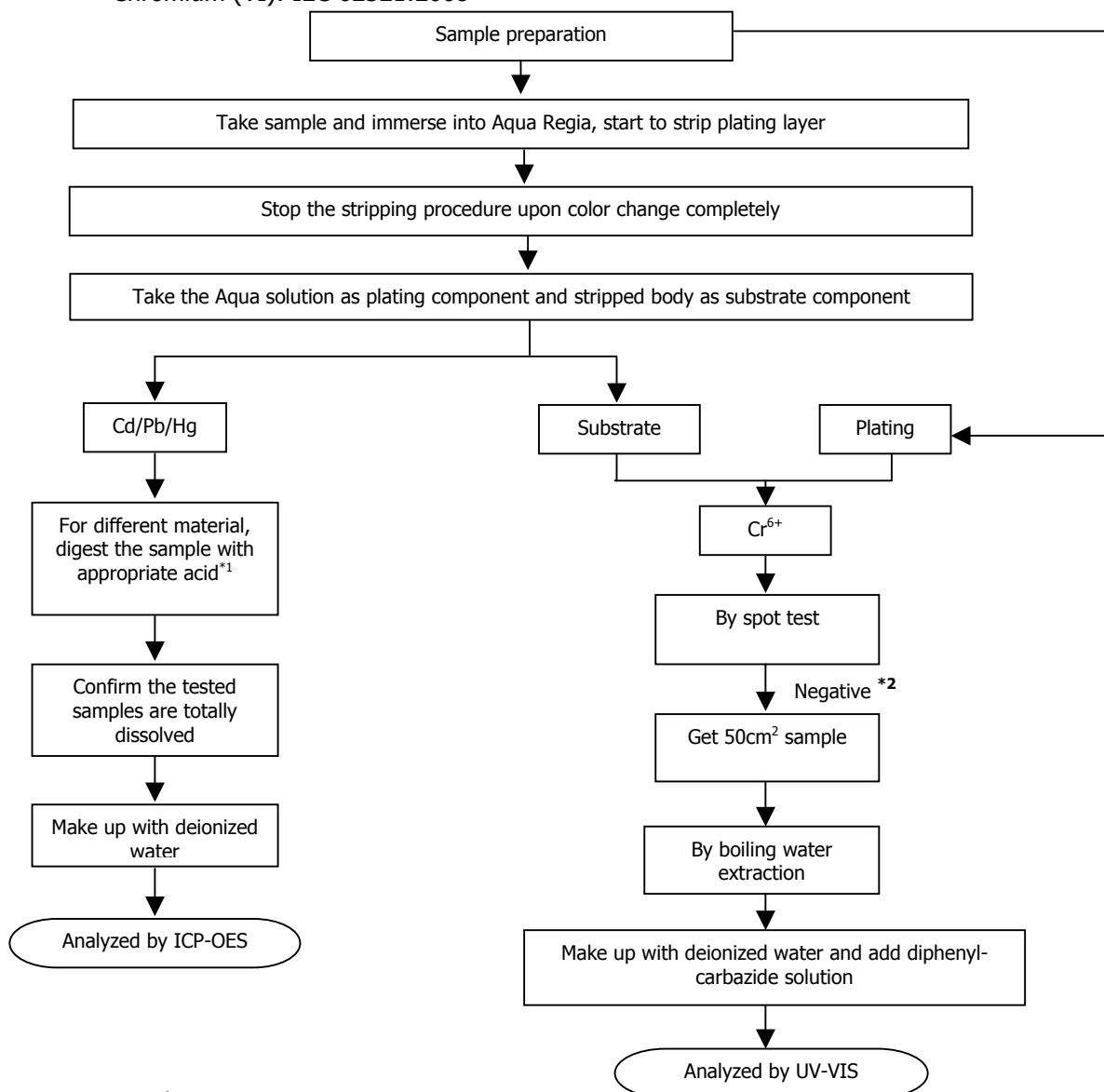
Number: TWNC00336847

Test Conducted

Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

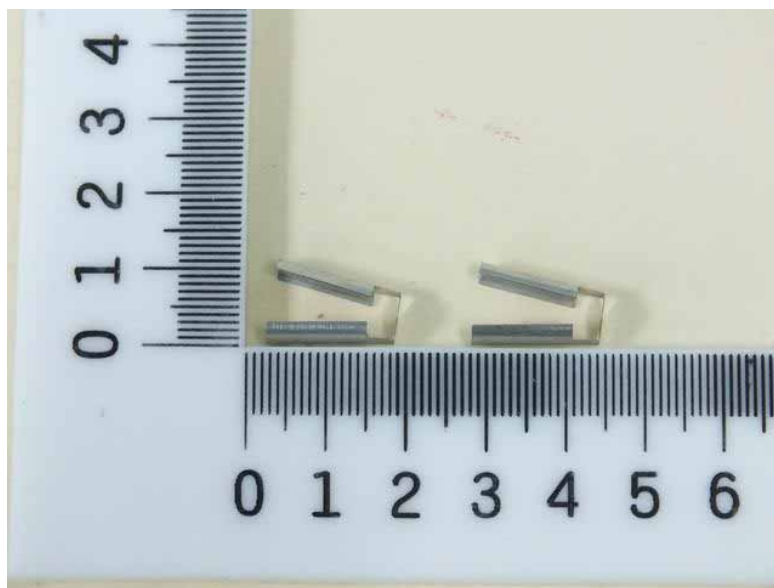
Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



**Test Report**

Number: TWNC00336847



End of Report

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**Intertek Testing Services Taiwan Ltd.**

8F., No. 423, Ruiguang Rd., Neihu District, Taipei 11492, Taiwan, R.O.C.

全國公證檢驗股份有限公司

11492 台北市內湖區瑞光路 423 號 8 樓

Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00336841  
Date : Oct 22, 2013

### Sample Description:

One (1) group of submitted samples said to be :  
Part Description : KNOB INSERT  
Part Number : 891-023  
Date Sample Received : Oct 15, 2013  
Date Test Started : Oct 15, 2013

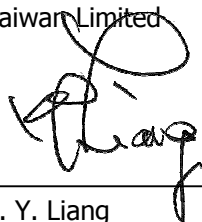
### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

### Tested Components:

- (1) Coppery metal substrate
- (2) Silvery plating layer

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00336841

Test Conducted

### Test Result Summary:

Test Result Summary:

Test Item	Unit	Test Method	Result		RL
			(1)	(2)	
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	7	433	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg

ND = Not detected

RL = Reporting Limit, quantitation limit of analyte in sample

mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter

Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 15, 2013

Test Period : Oct 15, 2013 to Oct 22, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.





**Test Report**

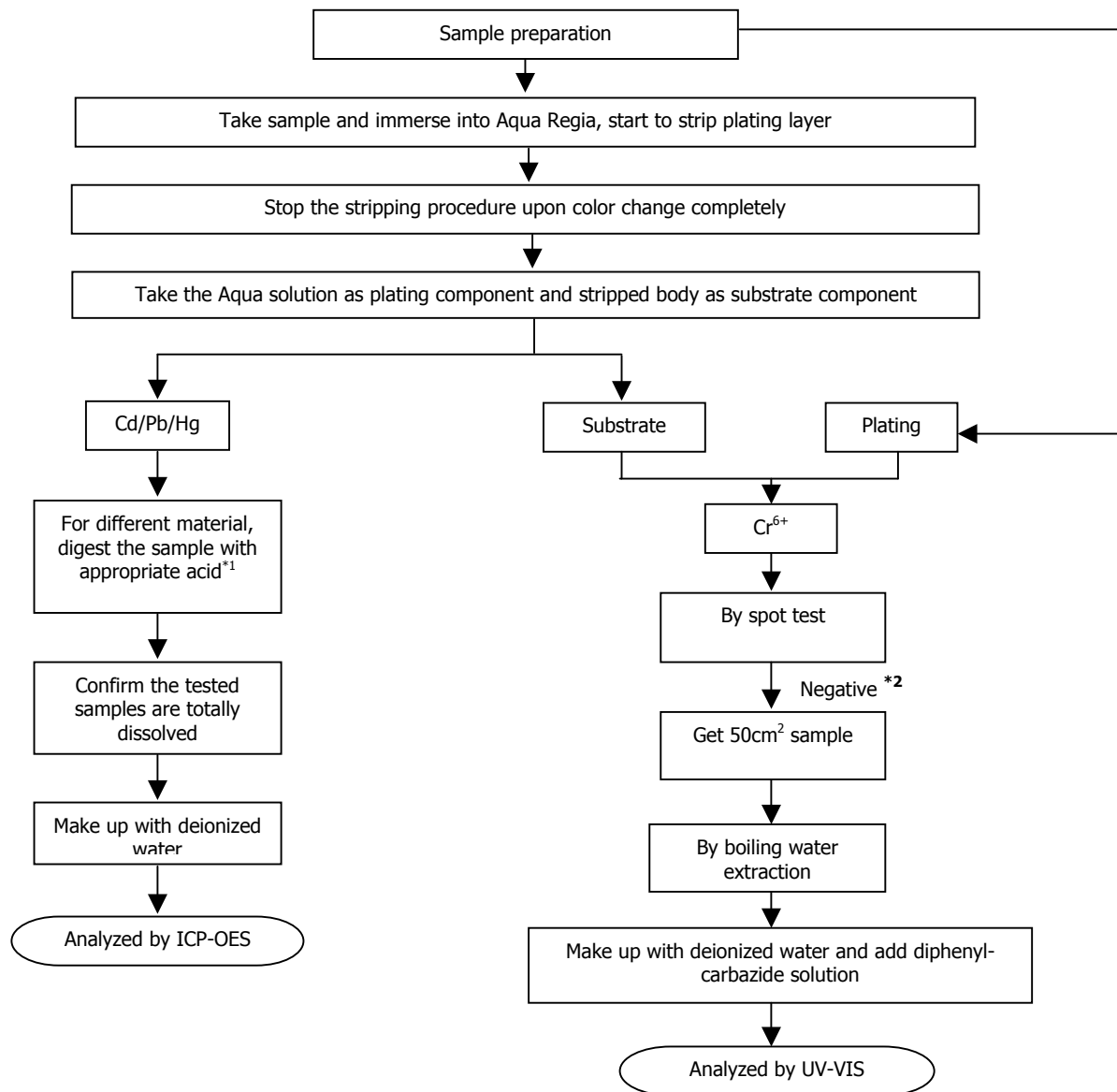
Number: TWNC00336841

Test Conducted

Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

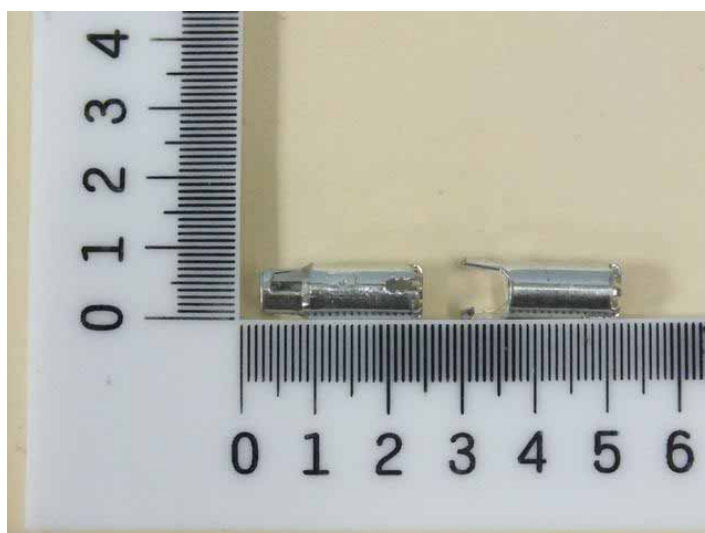
\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



## Test Report

Number: TWNC00336841

Test Conducted



End of Report

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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00336839  
Date : Oct 22, 2013

### Sample Description:

One (1) group of submitted samples said to be :

Part Description : SIDE TERMINAL  
Part Number : 875-525  
Date Sample Received : Oct 15, 2013  
Date Test Started : Oct 15, 2013

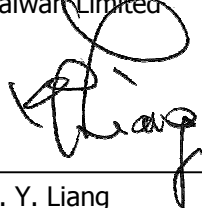
### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

### Tested Components:

- (1) Coppery metal substrate
- (2) Silvery plating layer

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00336839

Test Conducted

### Test Result Summary:

Test Result Summary:

Test Item	Unit	Test Method	Result		RL
			(1)	(2)	
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	51	ND	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting Limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 15, 2013  
 Test Period : Oct 15, 2013 to Oct 22, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



**Test Report**

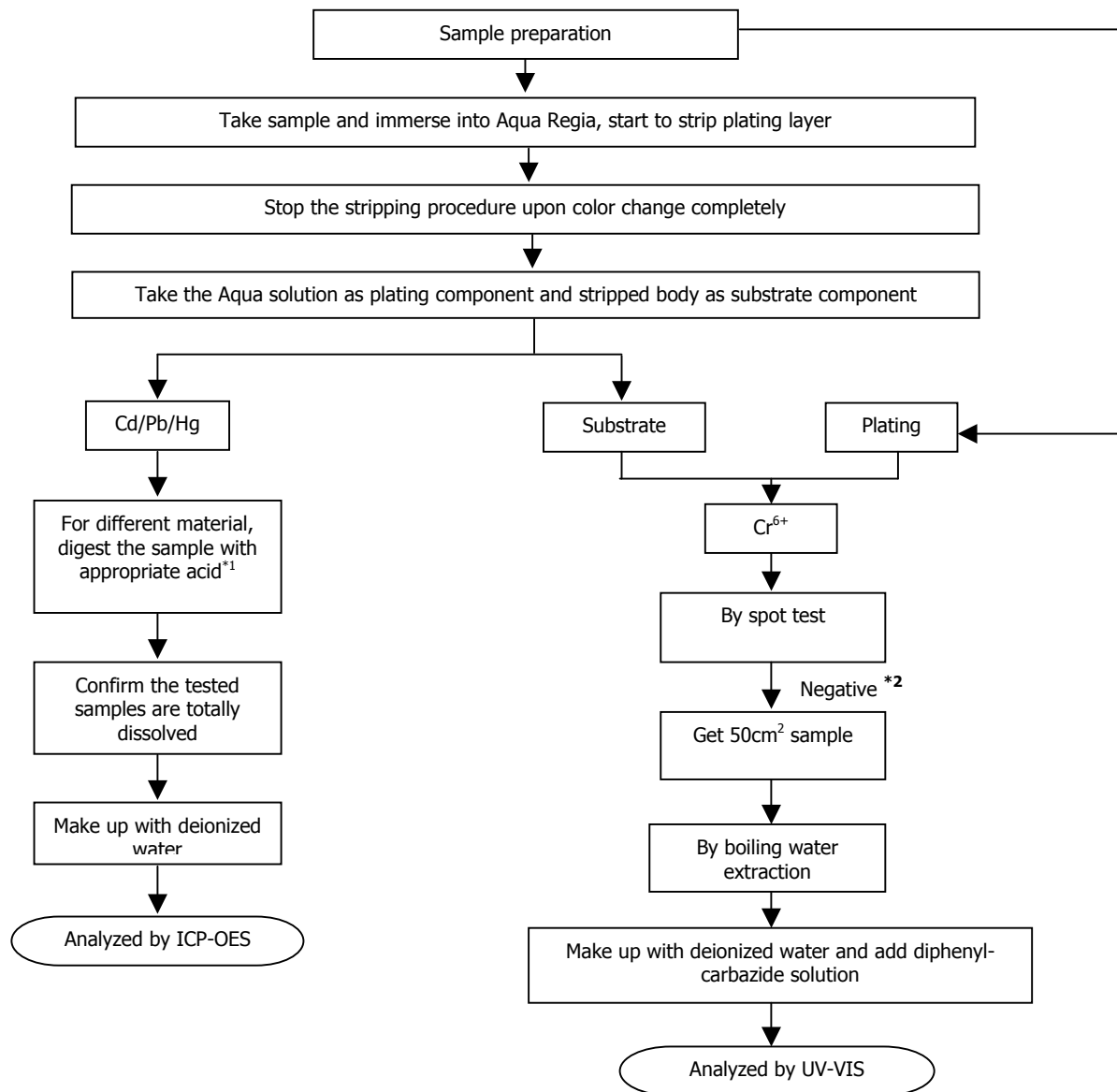
Number: TWNC00336839

Test Conducted

Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

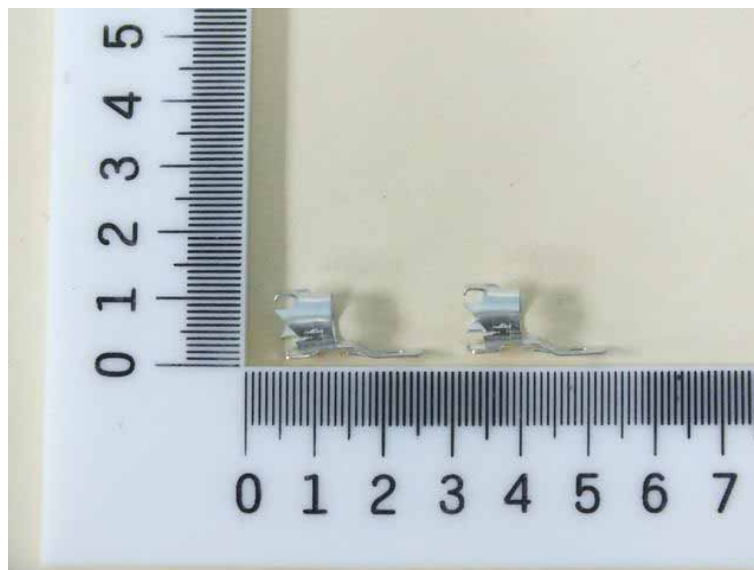
Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



**Test Report**

Number: TWNC00336839



End of Report

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## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00336840  
Date : Oct 22, 2013

### Sample Description:

One (1) group of submitted samples said to be :  
Part Description : 5X20 CONT CLIP  
Part Number : 883-055  
Date Sample Received : Oct 15, 2013  
Date Test Started : Oct 15, 2013

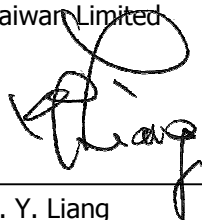
### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

### Tested Components:

- (1) Coppery metal substrate
- (2) Silvery plating layer

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00336840

Test Conducted

### Test Result Summary:

Test Result Summary:

Test Item	Unit	Test Method	Result		RL
			(1)	(2)	
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting Limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 15, 2013  
 Test Period : Oct 15, 2013 to Oct 22, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.





## Test Report

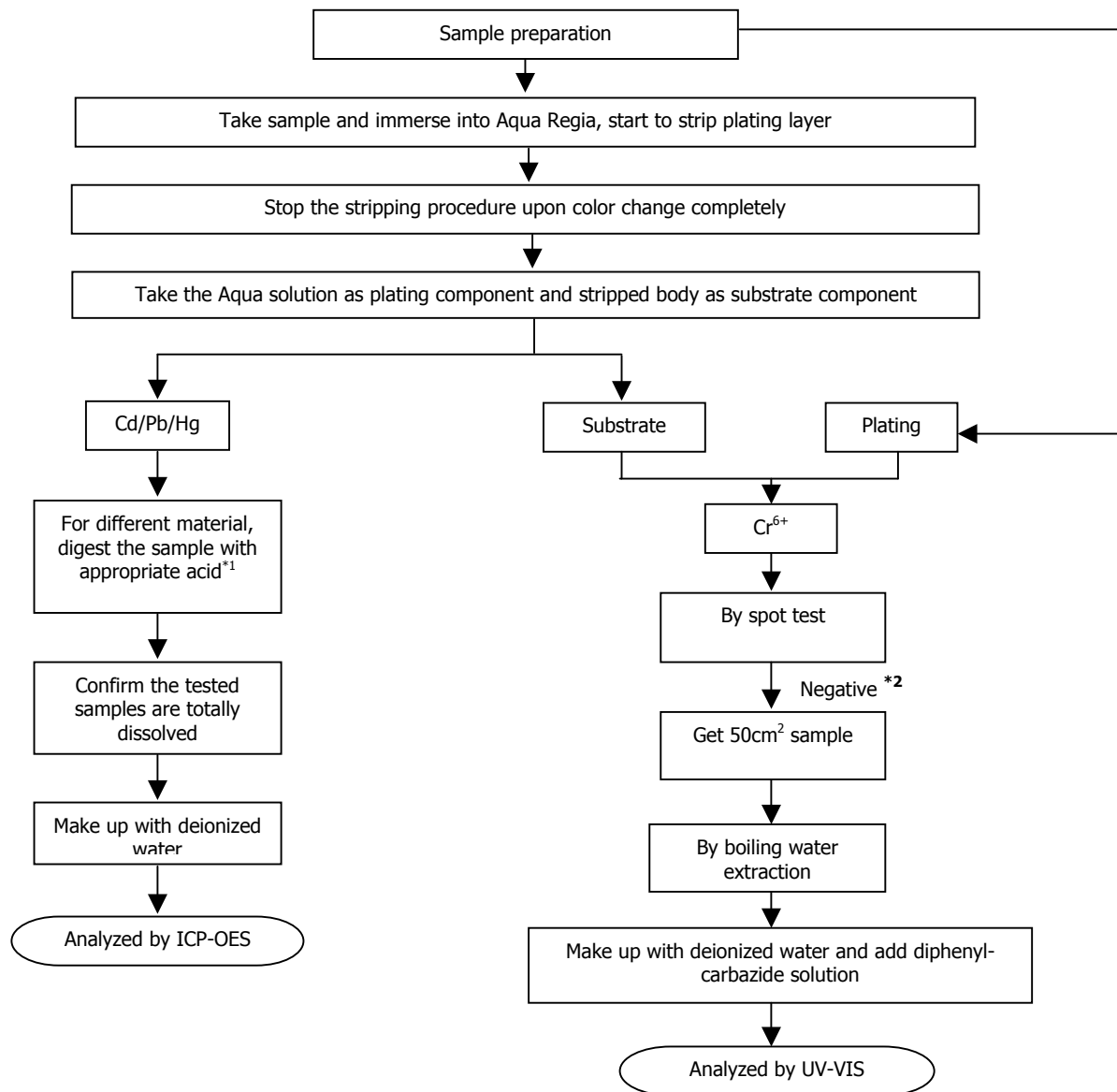
Number: TWNC00336840

Test Conducted

Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

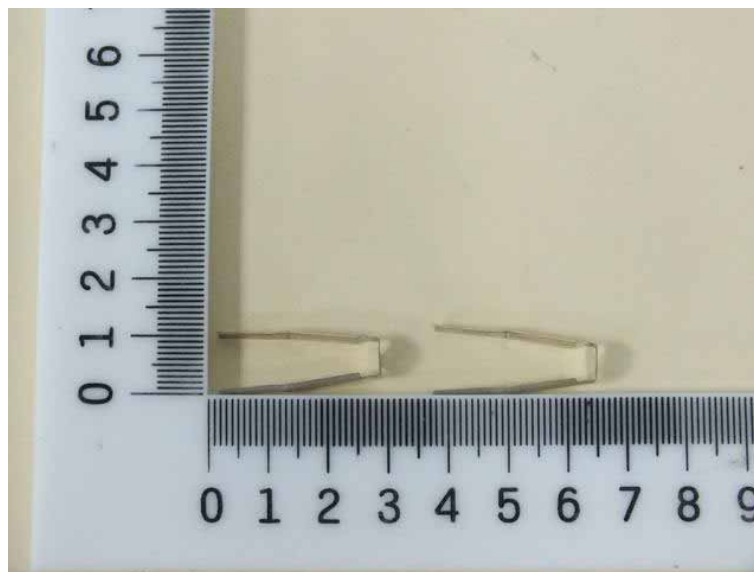
Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



**Test Report**

Number: TWNC00336840



End of Report

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## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00336842  
Date : Oct 23, 2013

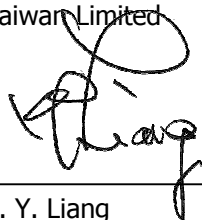
### Sample Description:

One (1) group of submitted samples said to be :  
Part Description : COMPRESS SPRING  
Part Number : 912-296  
Date Sample Received : Oct 15, 2013  
Date Test Started : Oct 15, 2013

### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00336842

Test Conducted

### Test Result Summary:

Test Result Summary:				
Test Item	Unit	Test Method	Result	RL
			Silvery metal	
Heavy Metal				
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative(#)	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting Limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.  
 # = Due to the insufficient sample area, reduced total sample surface of 25 cm<sup>2</sup> was used and the dilution factor was adjusted accordingly.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 15, 2013  
 Test Period : Oct 15, 2013 to Oct 23, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

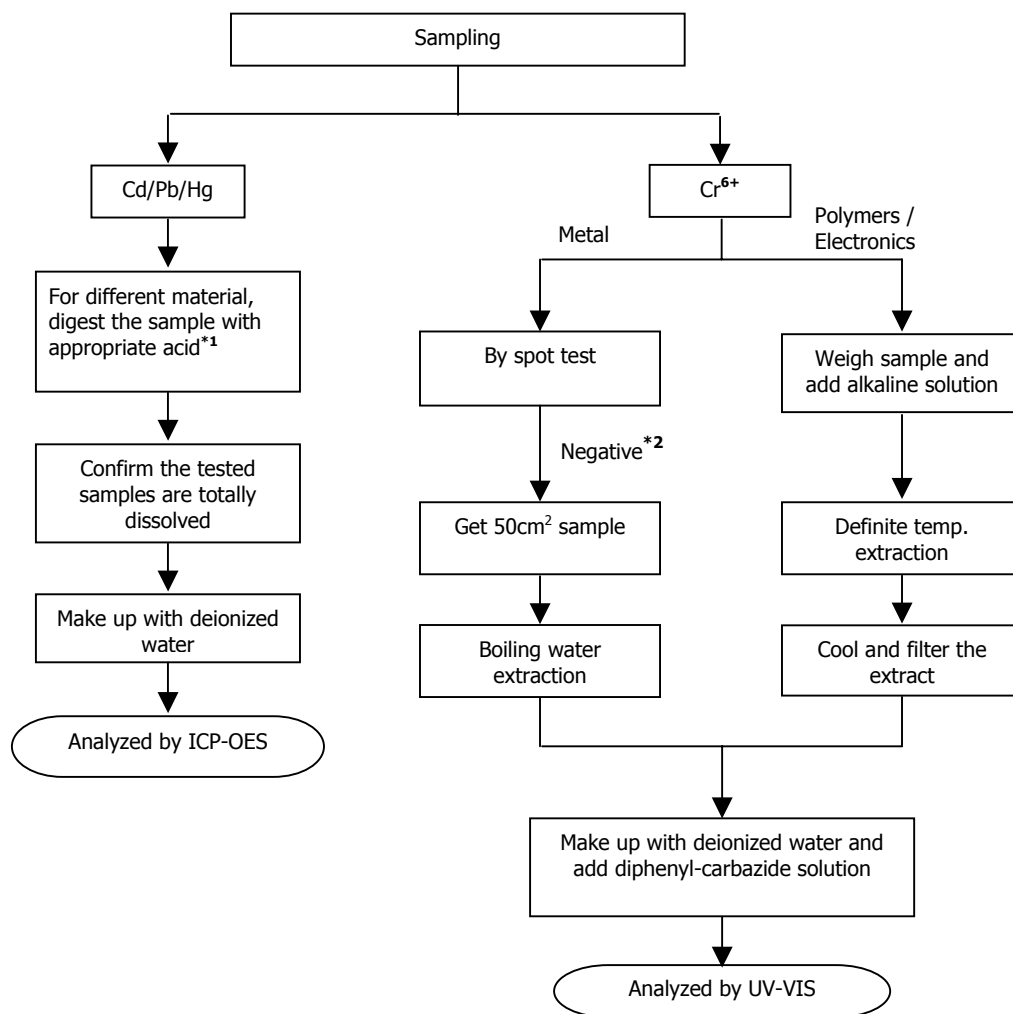
The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



**Test Report**

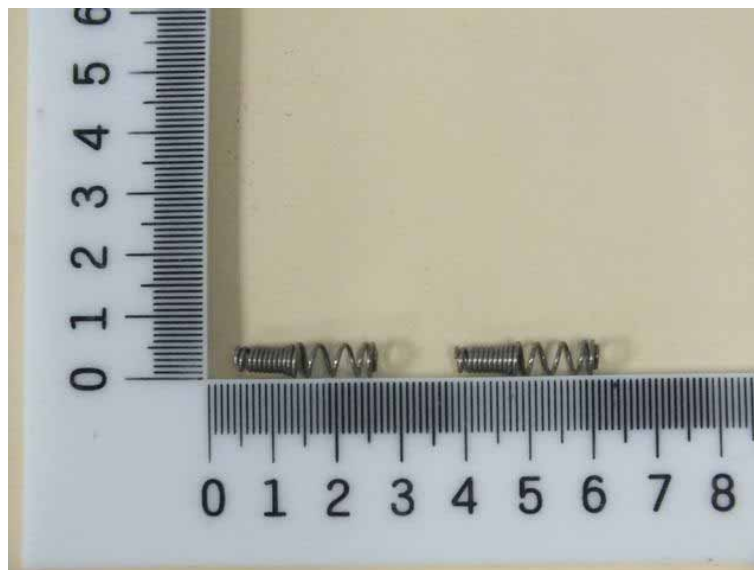
Number: TWNC00336842

Test Conducted  
Test For Cd/Pb/Hg/Chromium (VI)  
Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



**Test Report**

Number: TWNC00336842



End of Report

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## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00338328  
Date : Oct 28, 2013

### Sample Description:

One (1) group of submitted samples said to be :  
Part Description : WIRE STAINLESS STEEL .030 DIA.  
Part Number : 070126  
Date Sample Received : Oct 21, 2013  
Date Test Started : Oct 23, 2013

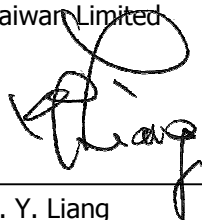
### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

### Tested Components:

- (1) Silvery metal substrate
- (2) Silvery plating layer

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00338328

Test Conducted

### Test Result Summary:

Test Result Summary:

Test Item	Unit	Test Method	Result		RL
			(1)	(2)	
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting Limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 21, 2013  
 Test Period : Oct 23, 2013 to Oct 28, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.





## Test Report

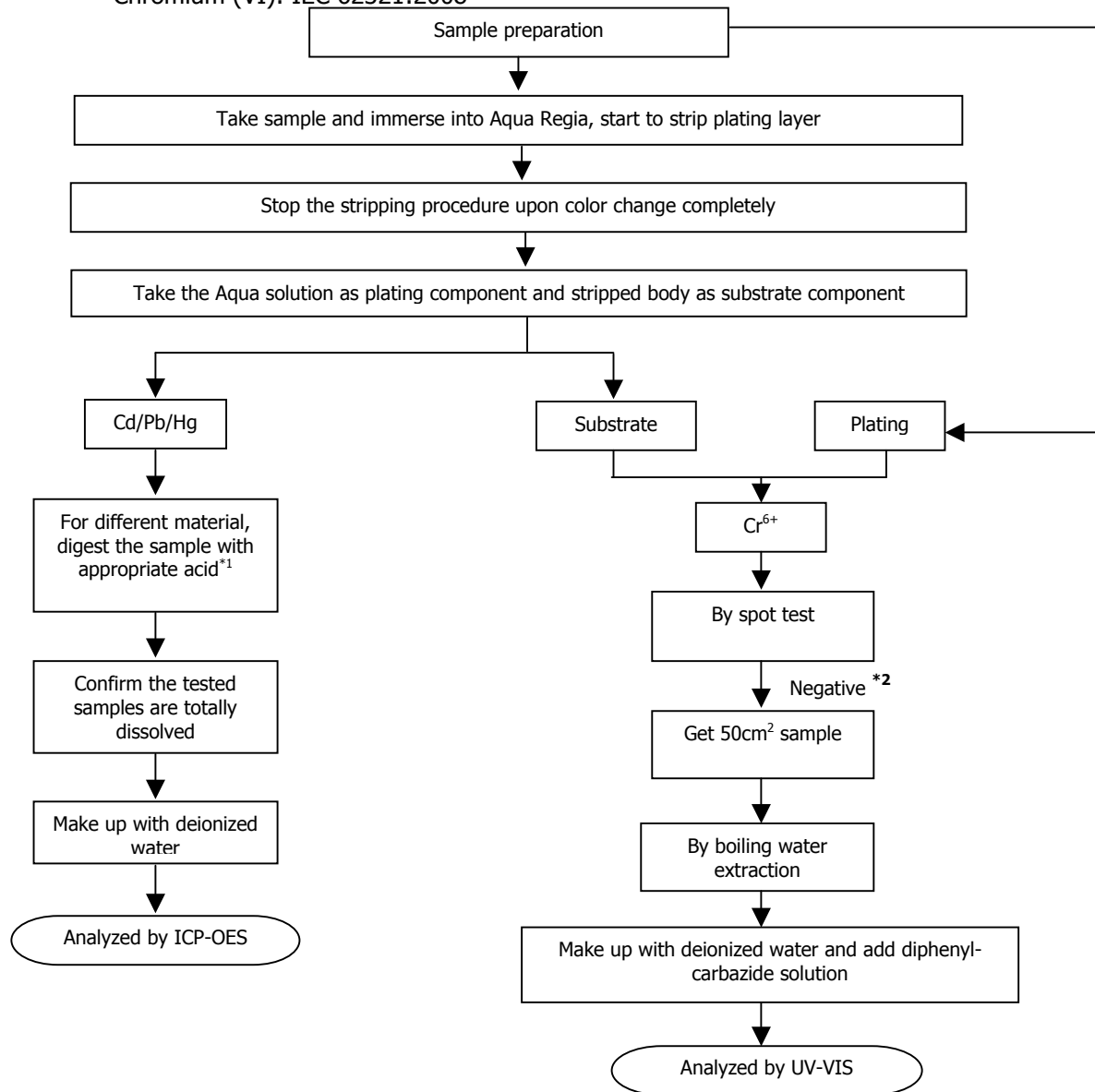
Number: TWNC00338328

Test Conducted

Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



**Test Report**

Number: TWNC00338328



End of Report

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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410



**Test Report**

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00297541  
Date : Feb 06, 2013

**Sample Description:**

One (1) group of submitted samples said to be :  
Part Description : FUSEHOLDER BODY  
Part Number : 057259  
Date Sample Received : Jan 30, 2013  
Date Test Started : Jan 30, 2013

**Test Conducted :**

As requested by the applicant, for details please refer to attached pages.

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



**Intertek Testing Services Taiwan Ltd.**

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## Test Conducted

## (I) Test Result Summary:

Test Item	Unit	Test Method	Result	RL
			Black plastic	
Heavy Metal				
Cadmium (Cd) Content	ppm	With reference to IEC 62321: 2008, by microwave digestion and determined by ICP-OES.	ND	2
Lead (Pb) Content	ppm	With reference to IEC 62321: 2008, by microwave digestion and determined by ICP-OES.	ND	2
Mercury (Hg) Content	ppm	With reference to IEC 62321: 2008, by microwave digestion and determined by ICP-OES.	ND	2
Chromium VI (Cr <sup>6+</sup> ) Content	ppm	With reference to IEC 62321: 2008, by alkaline digestion and determined by UV-Vis Spectrophotometer.	ND	1
Polybrominated Biphenyls (PBBs)				
Monobrominated Biphenyls (MonoBB)	ppm	With reference to IEC 62321: 2008, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	ND	5
Dibrominated Biphenyls (DiBB)	ppm		ND	5
Tribrominated Biphenyls (TriBB)	ppm		ND	5
Tetrabrominated Biphenyls (TetraBB)	ppm		ND	5
Pentabrominated Biphenyls (PentaBB)	ppm		ND	5
Hexabrominated Biphenyls (HexaBB)	ppm		ND	5
Heptabrominated Biphenyls (HeptaBB)	ppm		ND	5
Octabrominated Biphenyls (OctaBB)	ppm		ND	5
Nonabrominated Biphenyls (NonaBB)	ppm		ND	5
Decabrominated Biphenyl (DecaBB)	ppm		ND	5



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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

## Test Conducted

## (I) Test Result Summary:

Test Item	Unit	Test Method	Result	RL
			Black plastic	
Polybrominated Diphenyl Ethers (PBDEs)				
Monobrominated Diphenyl Ethers (MonoBDE)	ppm	With reference to IEC 62321: 2008, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	ND	5
Dibrominated Diphenyl Ethers (DiBDE)	ppm		ND	5
Tribrominated Diphenyl Ethers (TriBDE)	ppm		ND	5
Tetrabrominated Diphenyl Ethers (TetraBDE)	ppm		ND	5
Pentabrominated Diphenyl Ethers (PentaBDE)	ppm		ND	5
Hexabrominated Diphenyl Ethers (HexaBDE)	ppm		ND	5
Heptabrominated Diphenyl Ethers (HeptaBDE)	ppm		ND	5
Octabrominated Diphenyl Ethers (OctaBDE)	ppm		ND	5
Nonabrominated Diphenyl Ethers (NonaBDE)	ppm		ND	5
Decabrominated Diphenyl Ether (DecaBDE)	ppm		ND	5
Phthalates				
Di(2-ethylhexyl) Phthalate (DEHP)	ppm	With reference to EN 14372: 2004, by solvent extraction and determined by GC-MS.	ND	50
Dibutyl Phthalate (DBP)	ppm		ND	50
Benzyl Butyl Phthalate (BBP)	ppm		ND	50
Halogen Content				
Fluorine (F)	ppm	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph.	1741	50
Chlorine (Cl)	ppm		ND	50
Bromine (Br)	ppm		60563	50
Iodine (I)	ppm		ND	50
Others				
Hexabromo cyclododecane (HBCDD)	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-MS.	ND	10





Number : TWNC00297541

Test Conducted

Remarks: ppm = parts per million based on weight of tested sample = mg/kg  
ND = Not detected  
RL = Reporting Limit, Quantitation limit of analyte in sample

Responsibility of Chemist: Kevin Liu/ Irene Chiou/ Vico Lin

Date Sample Received : Jan 30, 2013

Test Period : Jan 30, 2013 to Feb 05, 2013

(II) RoHS Limits:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ehters (PBDEs)	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



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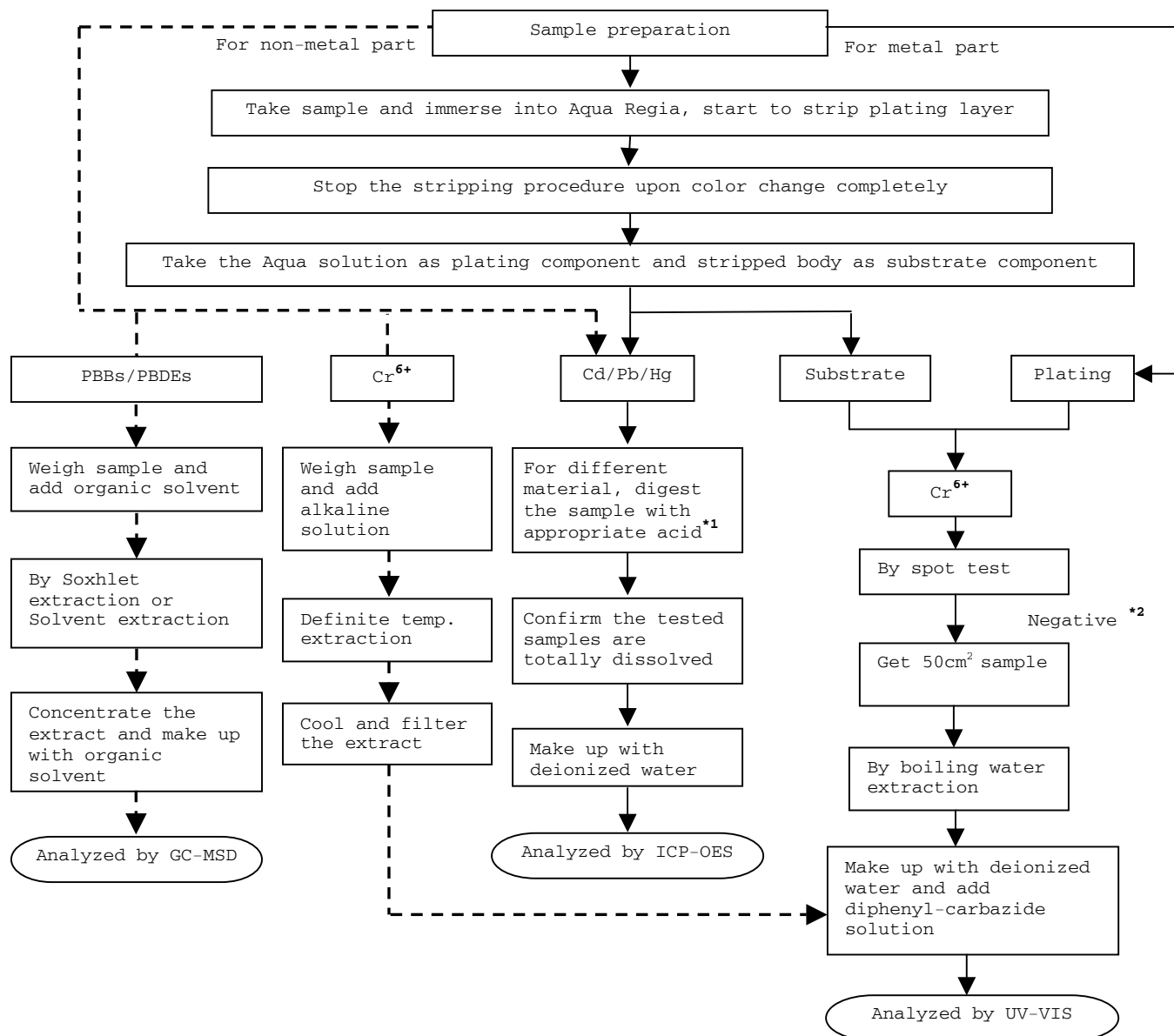
11492 台北市內湖區瑞光路 423 號 8 樓

Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

## Test Conducted

## (IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents  
Reference Standard: IEC 62321 edition 1.0:2008





Number : TWNC00297541

Test Conducted

Remarks:

\*1: List of Appropriate Acid:

Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



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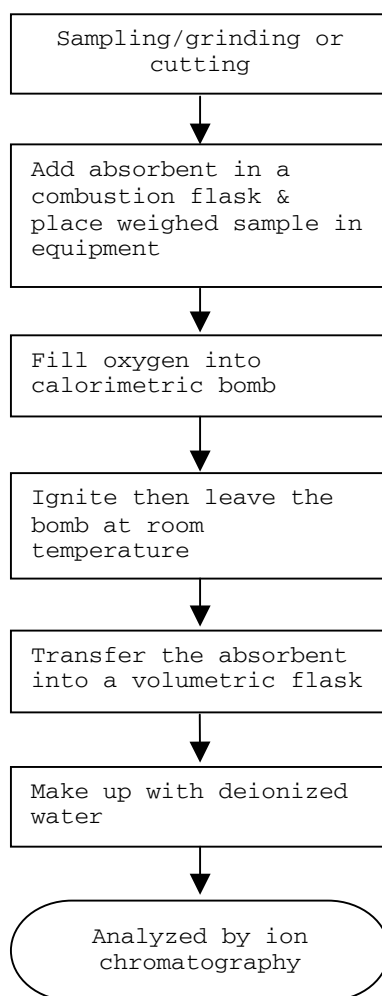
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410



Test Conducted

## (IV) Measurement Flowchart:

Test for Halogen Content  
Reference Standard: EN 14582

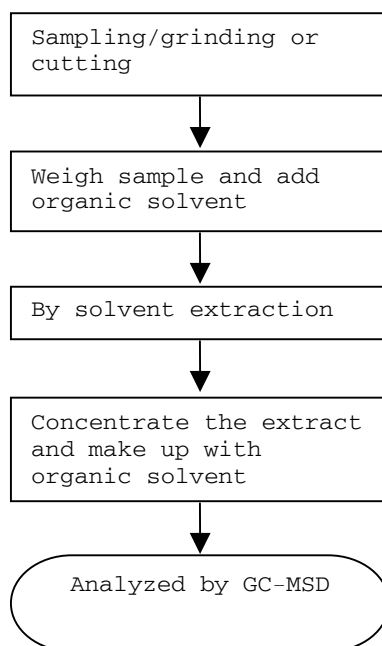


Test Conducted

## (IV) Measurement Flowchart:

Test For Phthalates Contents

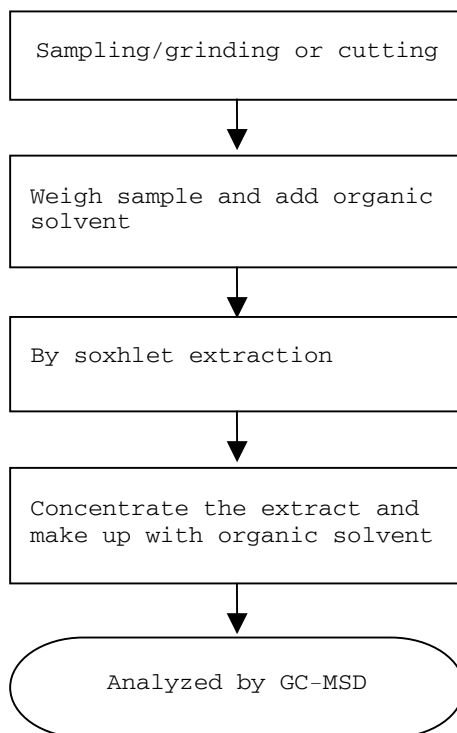
Reference Method: EN 14372: 2004



Test Conducted

## (IV) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)  
Reference Standard : USEPA 3540C



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End of Report

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Number : TWNC00297541

Test Conducted

Photo



## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

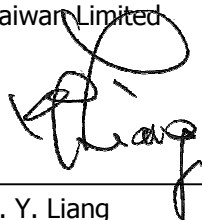
Number : TWNC00338329  
Date : Oct 25, 2013

### Sample Description:

One (1) group of submitted samples said to be :  
Part Description : NUT, PUSH-ON RD  
Part Number : 903-114  
Date Sample Received : Oct 21, 2013  
Date Test Started : Oct 23, 2013

Test Conducted :  
As requested by the applicant, for details please refer to attached pages.

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00338329

Test Conducted

### Test Result Summary:

Test Result Summary:

Test Item	Unit	Test Method	Result	RL
			Black metal	
Heavy Metal				
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 21, 2013  
 Test Period : Oct 23, 2013 To Oct 25, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



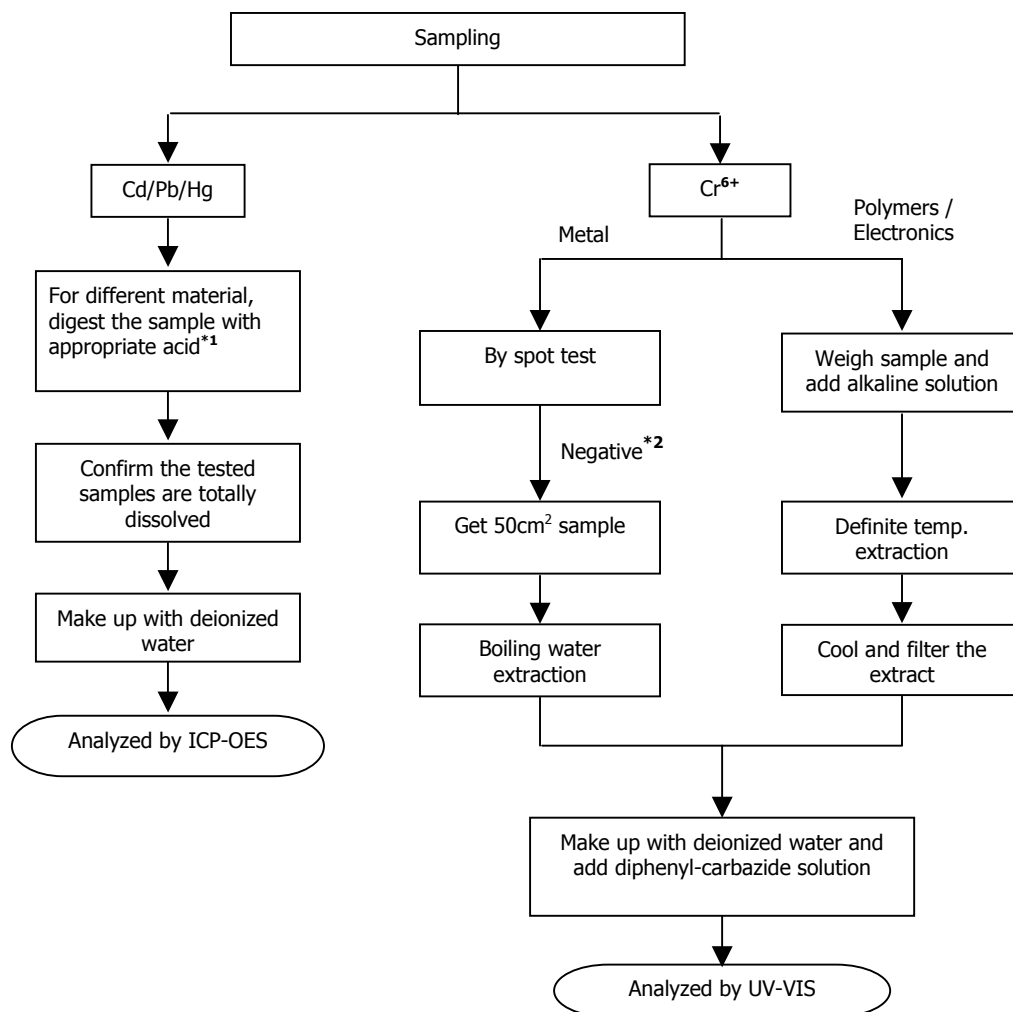
**Test Report**

Number: TWNC00338329

Test Conducted  
Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

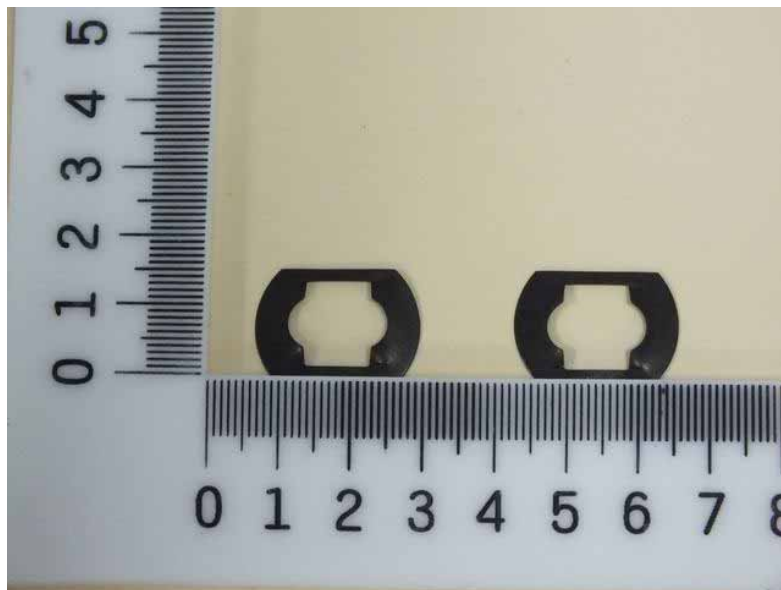
Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



**Test Report**

Number: TWNC00338329



End of Report

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**Test Report**

Number : TWNC00285223

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila,  
Mexico

Date : Nov 15, 2012

**Sample Description:**

One (1) group of submitted samples said to be :

Part Description : HEX NUT  
Part Number : 903-097  
Date Sample Received : Nov 07, 2012  
Date Test Started : Nov 08, 2012

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**Test Conducted :**

As requested by the applicant, for details please refer to attached pages.

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Authorized By:  
On Behalf Of Intertek Testing Services  
Taiwan Limited



---

K. Y. Liang  
Director



Page 1 of 10

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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Number : TWNC00285223

Test Conducted

## (I) Test Result Summary :

Test Item	Result (ppm)
	Black Plastic
<b>Heavy Metal</b>	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) content	ND
<b>Polybrominated Biphenyls (PBBs)</b>	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND
<b>Halogen Content</b>	
Fluorine (F)	ND
Chlorine (Cl)	ND
Bromine (Br)	ND
Iodine (I)	ND

Number : TWNC00285223

Test Conducted

( I ) Test Result Summary :

<u>Test Item</u>	<u>Result (ppm)</u>
	<u>Black Plastic</u>
<b>Phthalates</b>	
Di(2-ethylhexyl) Phthalate (DEHP)	ND
Dibutyl Phthalate (DBP)	ND
Benzyl Butyl Phthalate (BBP)	ND
<b>Others</b>	
Hexabromocyclododecane (HBCDD)	ND

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected

Responsibility of Chemist : Irene Chiou / Kevin Liu / Cathy Chen

Date Sample Received : Nov 07, 2012

Test Period : Nov 08, 2012 To Nov 13, 2012

( II ) RoHS Limits:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ehters (PBDEs)	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.

Test Conducted

## (III) Test Method:

Test Item	Test Method	Reporting Limit
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI ( $\text{Cr}^{6+}$ ) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	5 ppm
Halogen Content	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph.	50 ppm

Number : TWNC00285223

Test Conducted

( III ) Test Method:

Test Item	Test Method	Reporting Limit
Phthalates	With reference to EN 14372: 2004, by solvent extraction and determined by GC-MS.	50 ppm
Hexabromocyclododecane (HBCDD)	With reference to USEPA 3540C, by solvent extraction and determined by GC-MS.	10 ppm

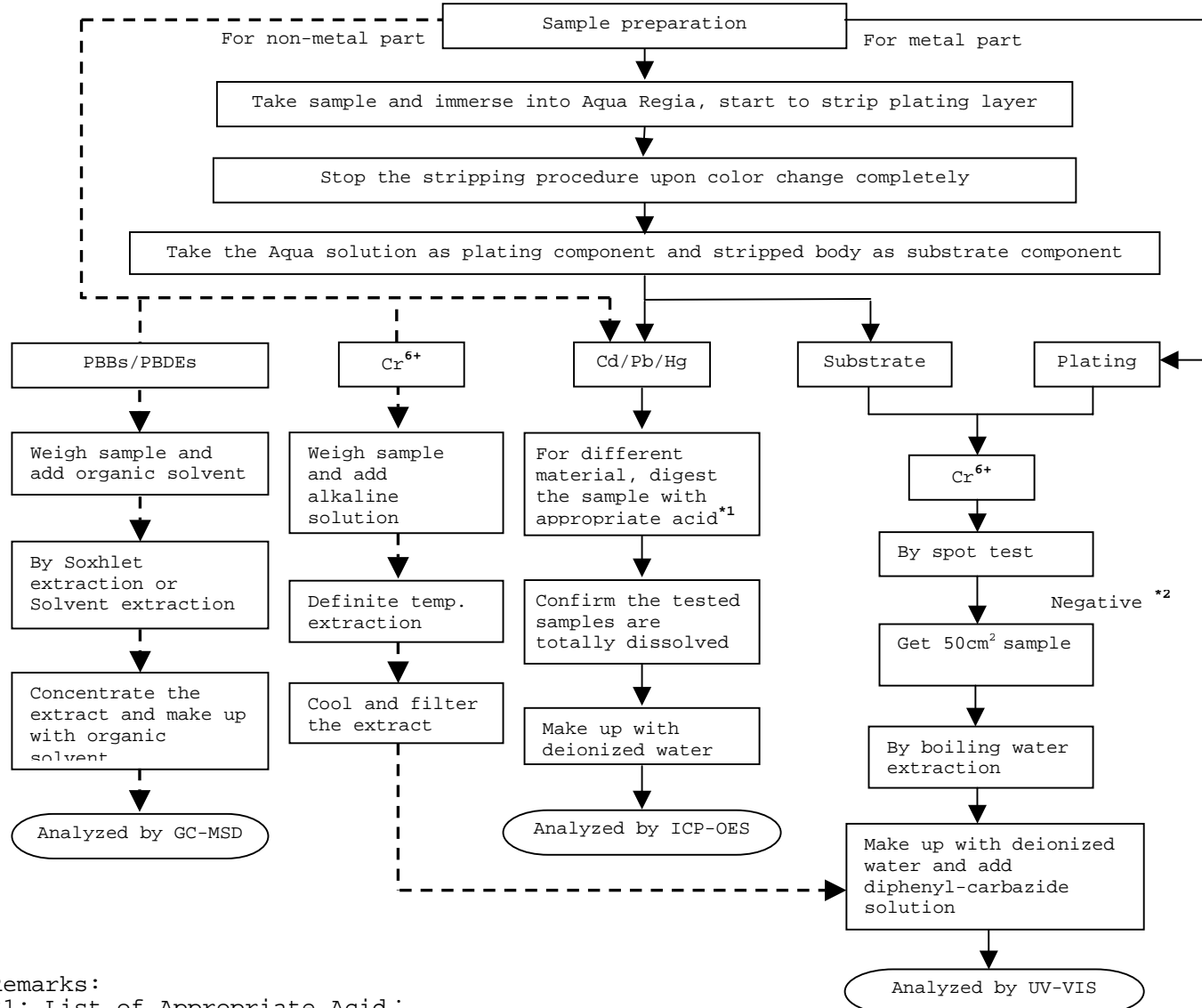
Remark: Reporting limit = Quantitation limit of analyte in sample

## Test Conducted

## (IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008



## Remarks:

\*1: List of Appropriate Acid:

Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

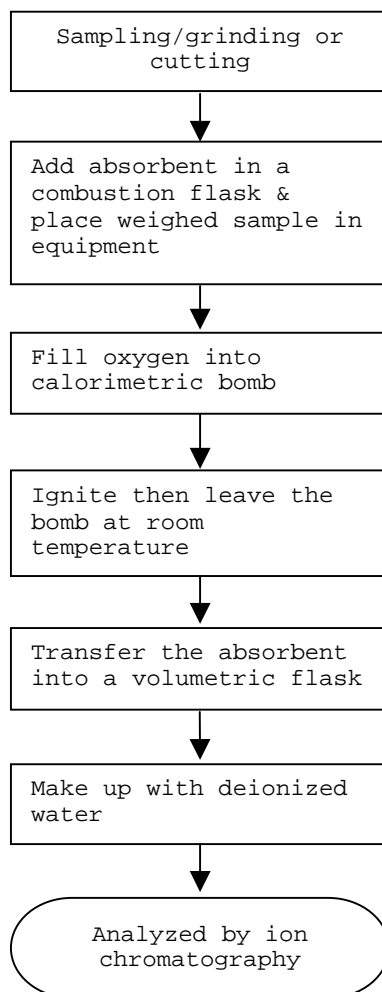
\*2: If the result of spot test is positive, Chromium VI would be determined as detected.

Test Conducted

## (IV) Measurement Flowchart:

Test for Halogen Content

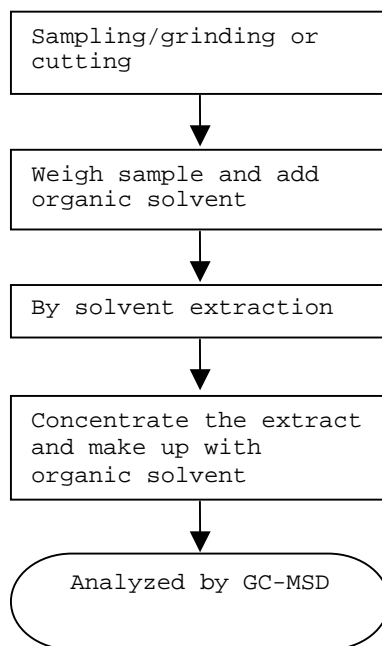
Reference Standard : EN 14582



Test Conducted

## (IV) Measurement Flowchart:

Test For Phthalates Contents  
Reference Method: EN 14372: 2004



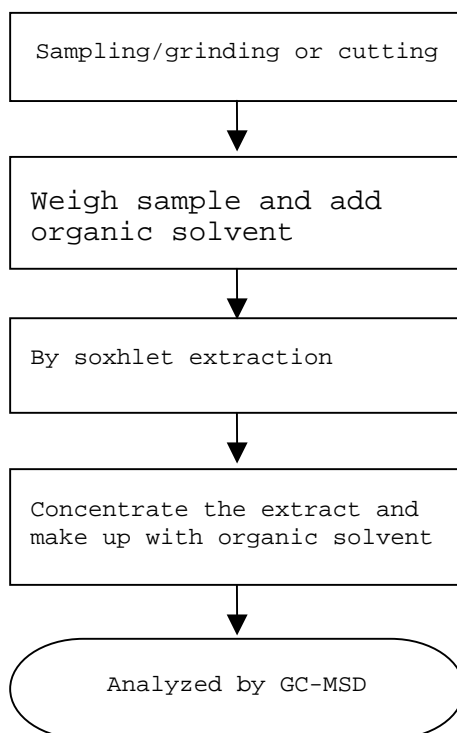


Test Conducted

## (IV) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)

Reference Standard : USEPA 3540C



---

End of Report

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Test Conducted

Number : TWNC00285223

Photo



## Test Report

Applicant: Littelfuse, S.A. de C.V.  
Blvd. Fausto Z. Martinez #1800  
Col. Magisterio Seccion 38 C.P.  
26070 Piedra Negras, Coahuila, Mexico

Number : TWNC00336839  
Date : Oct 22, 2013

### Sample Description:

One (1) group of submitted samples said to be :

Part Description : SIDE TERMINAL  
Part Number : 875-525  
Date Sample Received : Oct 15, 2013  
Date Test Started : Oct 15, 2013

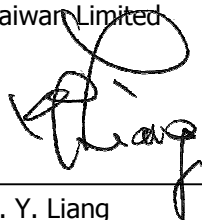
### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

### Tested Components:

- (1) Coppery metal substrate
- (2) Silvery plating layer

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



K. Y. Liang  
Director



## Test Report

Number: TWNC00336839

Test Conducted

### Test Result Summary:

Test Result Summary:					
Test Item	Unit	Test Method	Result		RL
			(1)	(2)	
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Lead (Pb) content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	51	ND	2
Mercury (Hg) content	ppm	With reference to IEC 62321-4: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	ND	2
Chromium VI (Cr <sup>6+</sup> ) content	mg/kg with 50 cm <sup>2</sup>	With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer.	Negative	Negative	0.02

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting Limit, quantitation limit of analyte in sample  
 mg/kg with 50cm<sup>2</sup> = Milligram per kilogram with 50 square centimeter  
 Negative = A negative test result indicated positive observation was not found at the time of test.

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Oct 15, 2013  
 Test Period : Oct 15, 2013 to Oct 22, 2013

### RoHS Limit

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr <sup>6+</sup> ) content	0.1% (1000ppm)

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



**Test Report**

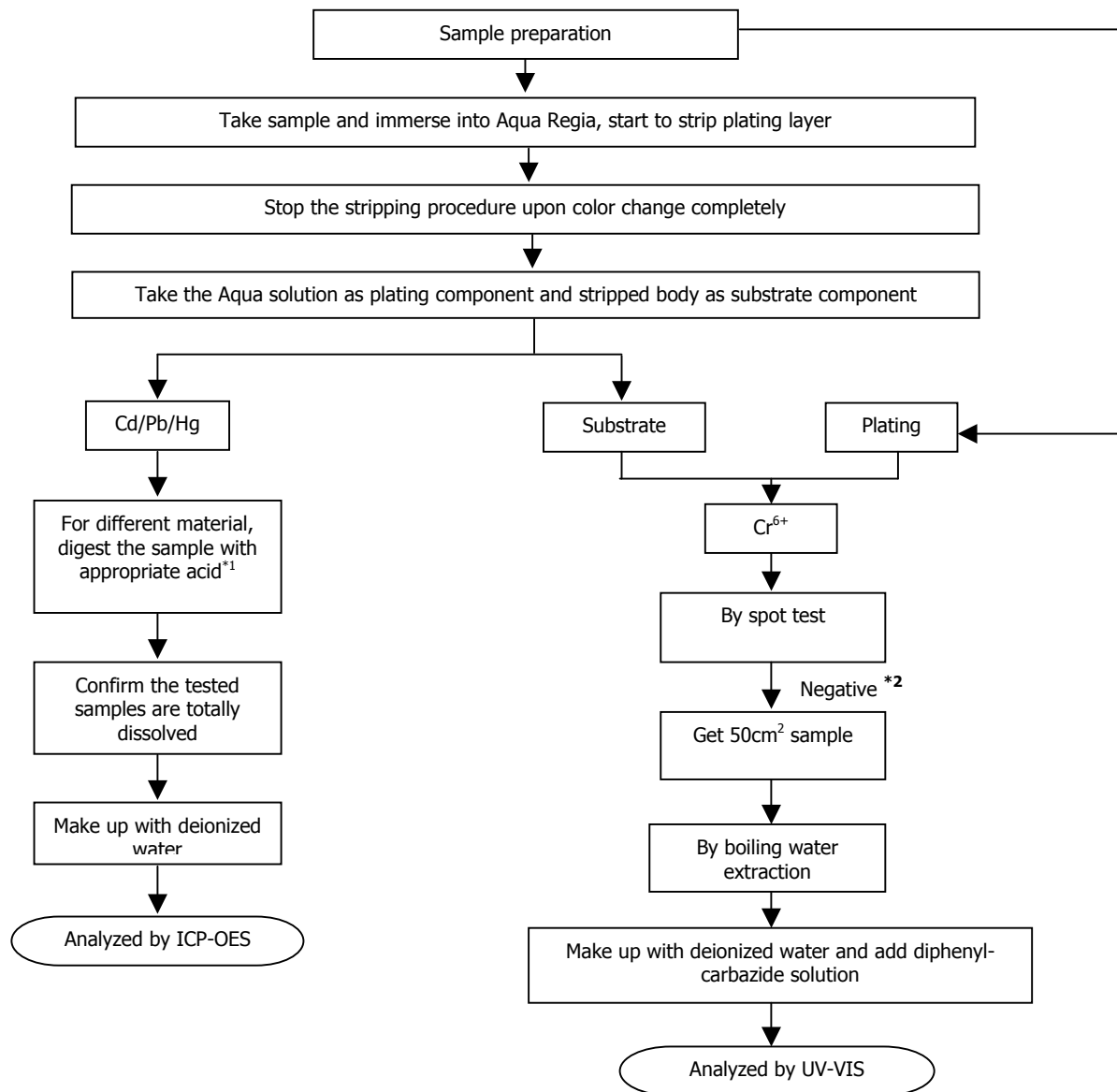
Number: TWNC00336839

Test Conducted

Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013;  
Chromium (VI): IEC 62321:2008



Remarks:

\*1: List of Appropriate Acid :

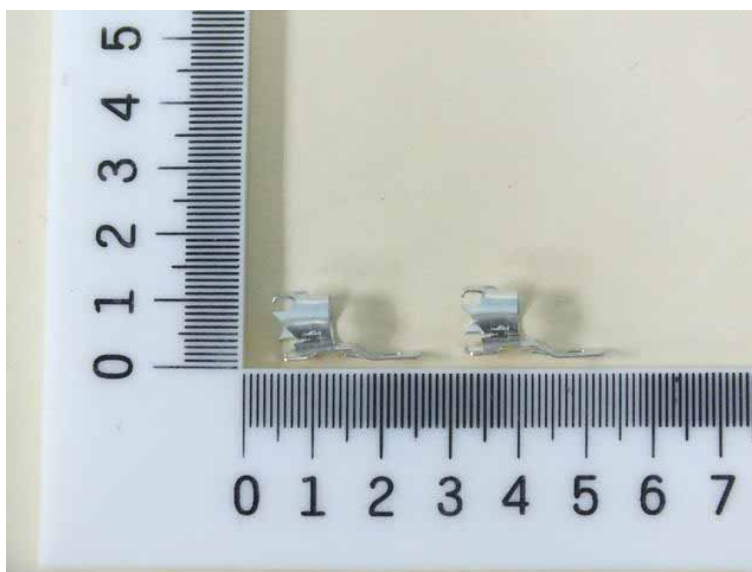
Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.



**Test Report**

Number: TWNC00336839



End of Report

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