

測試報告 Test Report

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鼎欣五金電子有限公司



DING-XIN METAL & ELECTRONIC CO., LTD

中國廣東省惠州市博羅縣龍溪鎮龍華路金茂電鍍基地C1棟

C1-AREA, JIN-MAO PLATING BASE, LONG-HUA ROAD, LONG-XI TOWN,

BO-LUO AREA, HUI-ZHOU CITY, GUANG-DONG, CHINA

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as) :

送樣廠商(Sample Submitted By) : 鼎欣五金電子有限公司 (DING-XIN METAL & ELECTRONIC CO., LTD)
樣品名稱(Sample Description) : 鍍金電鍍層
收件日期(Sample Receiving Date) : 2015/03/02 AND 2015/03/04
測試期間(Testing Period) : 2015/03/02 TO 2015/03/05 AND 2015/03/04 TO 2015/03/06

測試需求(Test Requested) : (1) 依據客戶指定, 進行鎘, 鉛, 汞, 六價鉻, 多溴聯苯, 多溴聯苯醚測試. (As specified by client, to test Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs contents in the submitted sample.)
(2) 依據客戶指定, 進行全氟辛酸、全氟辛烷磺酸、鹵素-氟、氯、溴、碘測試. (As specified by client, to test PFOA, PFOS, Halogen-Fluorine, Chlorine, Bromine, Iodine contents in the submitted sample.)

測試方法(Test Method) : 請見下一頁 (Please refer to next pages).

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

Edison Chang
Edison Chang / Sr. Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

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測試結果(Test Results)

測試部位(PART NAME)No.1 : 混測銀色金屬鍍層 (MIXED PLATING LAYER OF SILVER COLORED METAL)

測試部位(PART NAME)No.2 : 混測銀色金屬(含鍍層) (MIXED SILVER COLORED METAL (INCLUDING THE PLATING LAYER))

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No.1	No.2
鎘 / Cadmium (Cd)	mg/kg	酸洗脫鍍層, 參考IEC 62321-5: 2013方法, 以感應耦合電漿原子發 射光譜儀檢測. / IEC 62321-5:	2	n.d.	---
鉛 / Lead (Pb)	mg/kg	2013 application of modified digestion by surface etching and performed by ICP-AES.	2	n.d.	---
汞 / Mercury (Hg)	mg/kg	酸洗脫鍍層, 參考IEC 62321-4: 2013方法, 以感應耦合電漿原子發 射光譜儀檢測. / IEC 62321-4: 2013 application of modified digestion by surface etching and performed by ICP-AES.	2	n.d.	---
六價鉻 / Hexavalent Chromium Cr(VI)	**	參考IEC 62321: 2008方法, 以沸 水萃取法檢測. / With reference to IEC 62321: 2008 and performed by Boiling water extraction Method.#	#	Negative	---
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	μg/m ²	參考US EPA 3550C: 2007方法, 以 液相層析/質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	1	n.d.	---

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BO-LUO AREA, HUI-ZHOU CITY, GUANG-DONG, CHINA

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No.1	No.2
全氟辛酸 / PFOA (CAS No.: 335-67-1)	μg/m ²	參考US EPA 3550C: 2007方法, 以液相層析/質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	1	n.d.	---
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法, 以氣相層析/質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.	---
一溴聯苯 / Monobromobiphenyl	mg/kg		5	n.d.	---
二溴聯苯 / Dibromobiphenyl	mg/kg		5	n.d.	---
三溴聯苯 / Tribromobiphenyl	mg/kg		5	n.d.	---
四溴聯苯 / Tetrabromobiphenyl	mg/kg		5	n.d.	---
五溴聯苯 / Pentabromobiphenyl	mg/kg		5	n.d.	---
六溴聯苯 / Hexabromobiphenyl	mg/kg		5	n.d.	---
七溴聯苯 / Heptabromobiphenyl	mg/kg		5	n.d.	---
八溴聯苯 / Octabromobiphenyl	mg/kg		5	n.d.	---
九溴聯苯 / Nonabromobiphenyl	mg/kg		5	n.d.	---
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n.d.	---
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n.d.	---
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg		5	n.d.	---
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n.d.	---
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg		5	n.d.	---
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg		5	n.d.	---
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg		5	n.d.	---
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg		5	n.d.	---
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.	---
八溴聯苯醚 / Octabromodiphenyl ether	mg/kg		5	n.d.	---
九溴聯苯醚 / Nonabromodiphenyl ether	mg/kg		5	n.d.	---
十溴聯苯醚 / Decabromodiphenyl ether	mg/kg		5	n.d.	---

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C1-AREA, JIN-MAO PLATING BASE, LONG-HUA ROAD, LONG-XI TOWN,

BO-LUO AREA, HUI-ZHOU CITY, GUANG-DONG, CHINA

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No.1	No.2
鹵素 / Halogen					
鹵素 (氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	參考BS EN 14582:2007, 以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	---	n.d.
鹵素 (氯) / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	---	n.d.
鹵素 (溴) / Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	---	n.d.
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	---	n.d.

備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. "-" = Not Regulated (無規格值)
5. "---" = Not Conducted (未測項目)
6. ** = Qualitative analysis (No Unit) 定性分析(無單位)
7. # = a. Positive means the presence of CrVI on the tested areas

(Positive表示測試區域偵測到六價鉻)

b. Negative means the absence of CrVI on the tested areas

(Negative表示測試區域未偵測到六價鉻)

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas. / 該溶液濃度 \geq 0.02 mg/kg with 50 cm² (tested areas)

8. 樣品的測試是基於申請人要求混合測試, 報告中的混合測試結果不代表其中個別單一材質的含量. (The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

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PFOS參考資訊(Reference Information) : 持久性有機污染物 POPs - (EU) 757/2010

PFOS濃度在物質或製備中不得超過0.001%(10ppm)，在半成品、成品或零部件中不得超過0.1%(1000ppm)，在紡織品或塗層材料中不得超過 $1\mu\text{g}/\text{m}^2$ 。

(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above $1\mu\text{g}/\text{m}^2$.)

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C1-AREA, JIN-MAO PLATING BASE, LONG-HUA ROAD, LONG-XI TOWN,

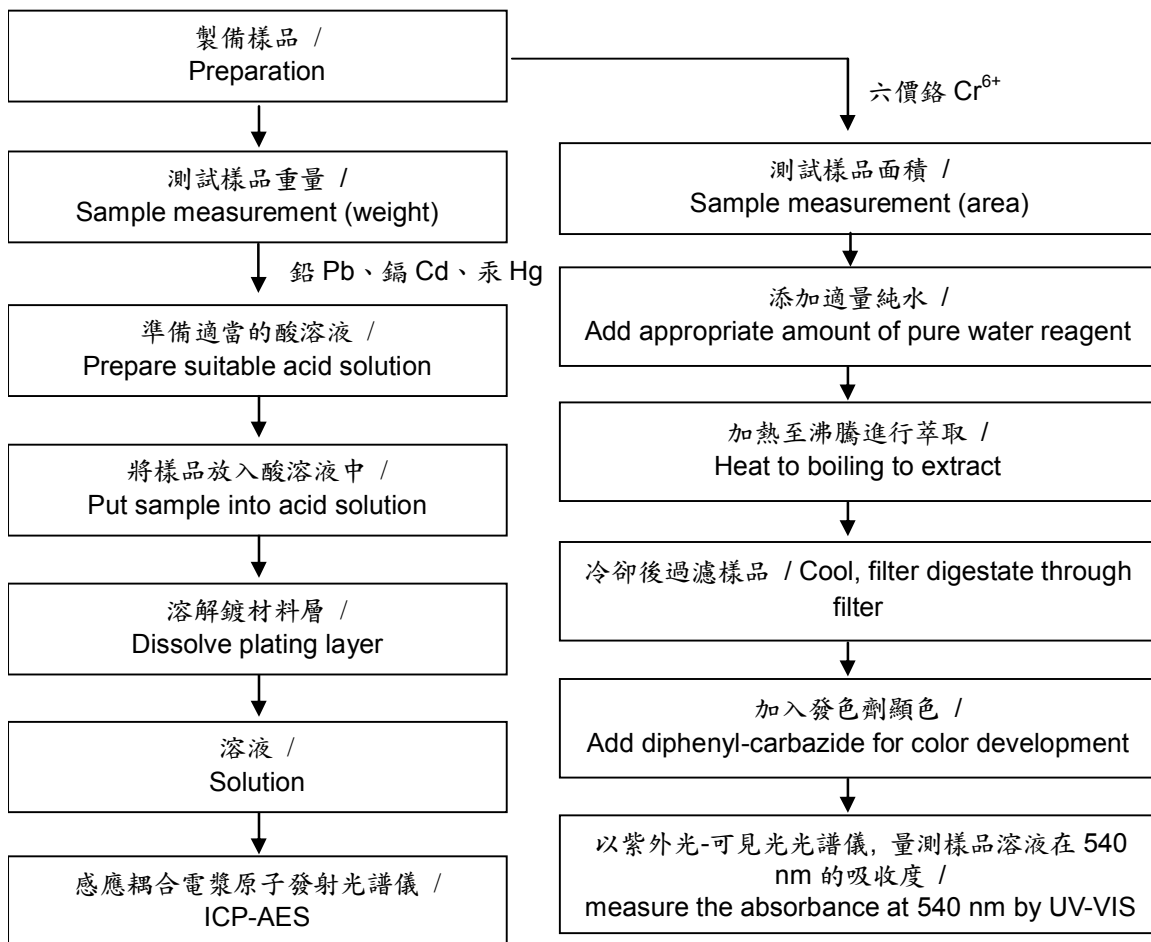
BO-LUO AREA, HUI-ZHOU CITY, GUANG-DONG, CHINA

No. 1

根據以下的流程圖之條件, 樣品之外部鍍層已完全溶解。(六價鉻測試方法除外) / The plating layer of samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)

- 測試人員: 楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 測試負責人: 張啓興 / Name of the person in charge of measurement: Troy Chang

鍍層重金屬測試流程圖 / Flow Chart of Stripping method for metal analysis



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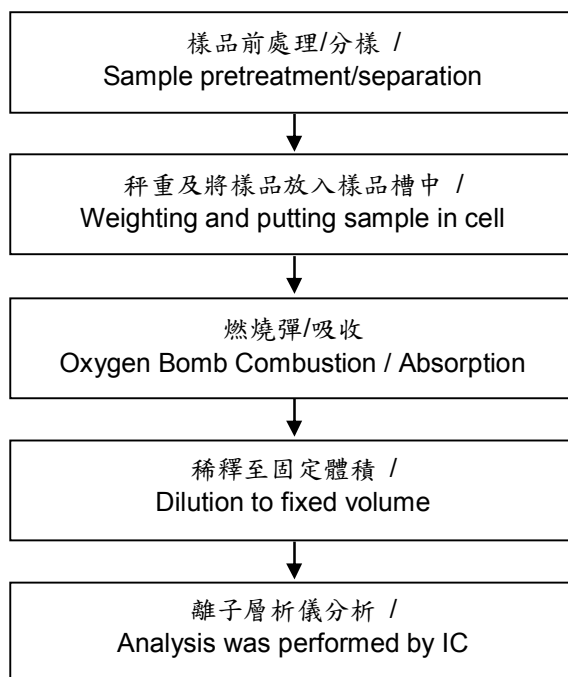
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鹵素分析流程圖 / Analytical flow chart of halogen content

- 測試人員：陳恩臻 / Name of the person who made measurement: Rita Chen
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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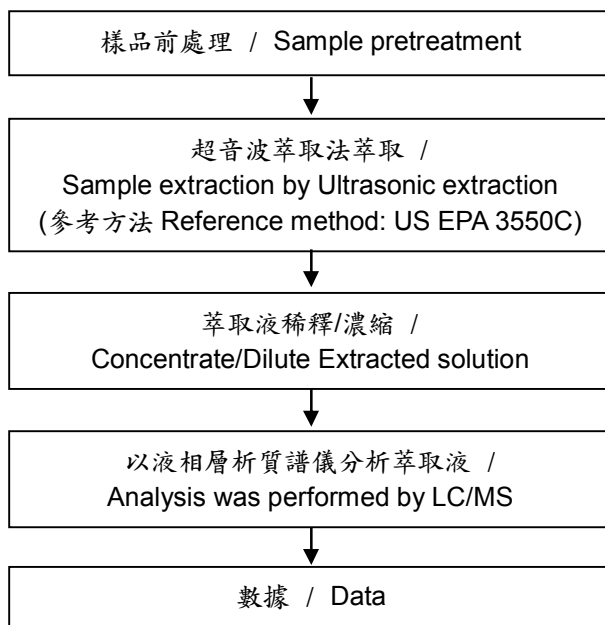
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BO-LUO AREA, HUI-ZHOU CITY, GUANG-DONG, CHINA

全氟辛酸/全氟辛烷磺酸分析流程圖 / PFOA/PFOS analytical flow chart

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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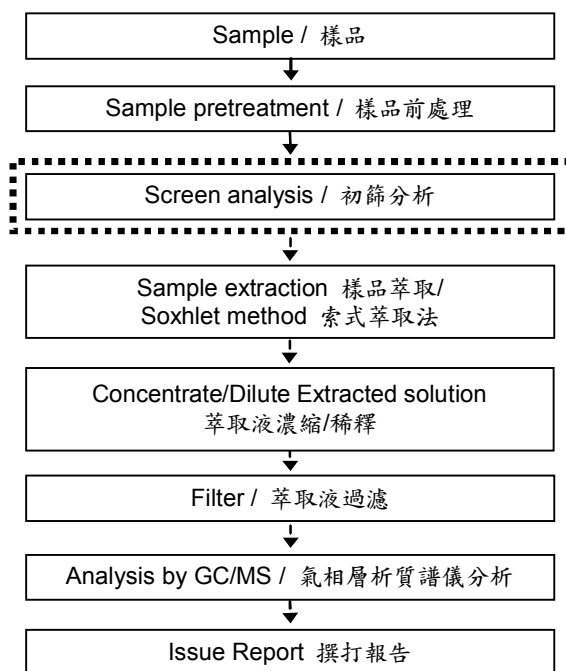
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

初次測試程序 / First testing process —————→

選擇性篩檢程序 / Optional screen process→

確認程序 / Confirmation process - - - - -→



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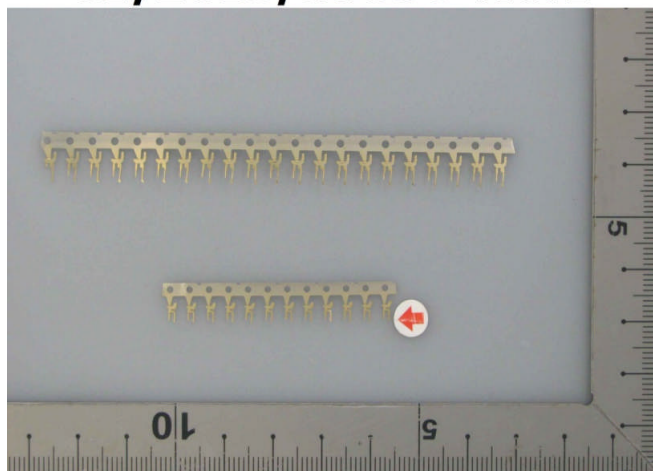
C1-AREA, JIN-MAO PLATING BASE, LONG-HUA ROAD, LONG-XI TOWN,

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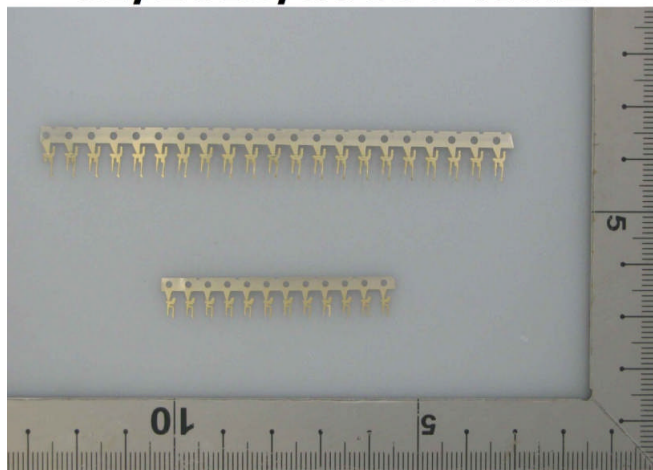
* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。*

(The tested sample / part is marked by an arrow if it's shown on the photo.)

CE/2015/30004 NO.1



CE/2015/30004 NO.2



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BO-LUO AREA, HUI-ZHOU CITY, GUANG-DONG, CHINA

CE/2015/30004 NO.2



** 報告結尾 (End of Report) **

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