



## ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

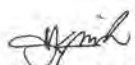
Product Series: In Line Fuse Holder

Product #: FHAxxx

Issue Date: July 11, 2011

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes. In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by:

  
KRISTEEN BACILA

\_\_\_\_\_  
<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the FHAxxx RoHS-Compliant series products manufactured by Littelfuse, Inc.

< Raw Materials Used

Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks :

**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	N/A	FHA Body	3-8
2	N/A	FHA Terminal	9-12
3	N/A	FHA Wire	13-24

# 測試報告 Test Report

號碼(No.): CE/2010/B5187

日期(Date): 2010/11/30

頁數(Page): 1 of 6

協祐股份有限公司

WGJ COMPANY LTD.

桃園縣龜山鄉大崗村頂湖五街5號

5, TINGFU 5TH ST., TAKANG VILLAGE, KWEISHAN HSIANG, TAOYUAN HSIEN 333, TAIWAN



以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : SANTOPRENE  
樣品型號(Style/Item No.) : 251-92W232, 251-80W232, 251-70W232  
收件日期(Sample Receiving Date) : 2010/11/25  
測試期間(Testing Period) : 2010/11/25 TO 2010/11/30

測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求. (In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).

測試方法(Test Method) : 參考 IEC 62321: 2008 方法檢測. (With reference to IEC 62321: 2008. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products).

- (1) 以感應耦合電漿原子發射光譜儀檢測鎘含量. / Determination of Cadmium by ICP-AES.
- (2) 以感應耦合電漿原子發射光譜儀檢測鉛含量. / Determination of Lead by ICP-AES.
- (3) 以感應耦合電漿原子發射光譜儀檢測汞含量. / Determination of Mercury by ICP-AES.
- (4) 以UV-VIS檢測六價鉻含量. / Determination of Hexavalent Chromium by UV/Vis Spectrometry.
- (5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量. / Determination of PBB and PBDE by GC/MS.

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

  
Chenyu Kung / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory - Taipei

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SGS Taiwan Ltd.  
台灣檢驗科技股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣土城區五湖路33號 電話: +886 (02)2299 3279 / +886 (02)2299 3237 [www.sgs.com](http://www.sgs.com)



# 測試報告

## Test Report

號碼(No.): CE/2010/B5187

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協祐股份有限公司

WGJ COMPANY LTD.

桃園縣龜山鄉大崗村頂湖五街5號

5, TINGFU 5TH ST., TAKANG VILLAGE, KWEISHAN HSIANG, TAOYUAN HSIEN 333, TAIWAN



測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)	方法偵測 極限值 (MDL)
		No.1	
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	34	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
多溴聯苯總和 / Sum of PBBs	(5)	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	5
多溴聯苯醚總和 / Sum of PBDEs		95	-
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	5
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	5
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	5
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	5
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	5
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	5
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	5
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	5
九溴聯苯醚 / Nonabromodiphenyl ether		n.d.	5
十溴聯苯醚 / Decabromodiphenyl ether		95	5

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5, TINGFU 5TH ST., TAKANG VILLAGE, KWEISHAN HSIANG, TAOYUAN HSIEN 333, TAIWAN



### 測試部位描述 (TEST PART DESCRIPTION):

No.1 : 白色顆粒 (WHITE PELLETS)

### 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)

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# 測試報告

## Test Report

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協祐股份有限公司

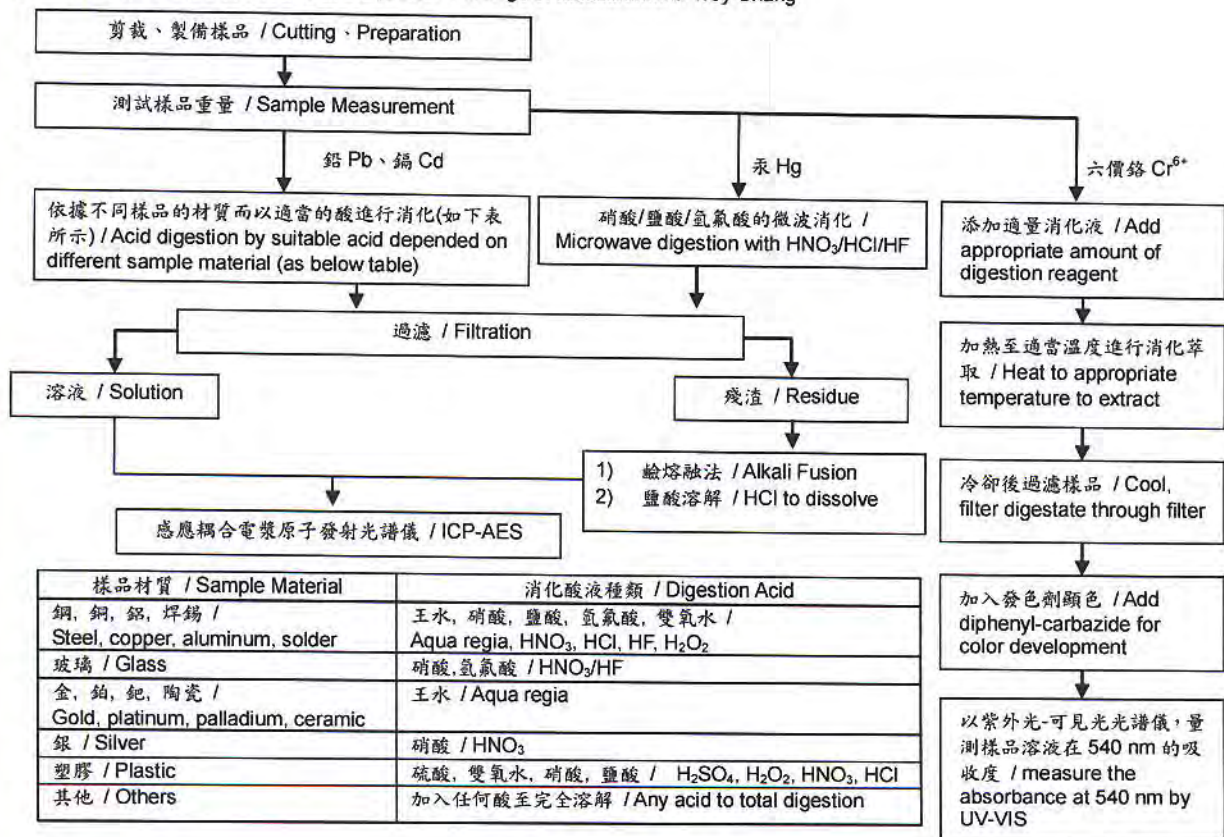
WGJ COMPANY LTD.

桃園縣龜山鄉大崗村頂湖五街5號

5, TINGFU 5TH ST., TAKANG VILLAGE, KWEISHAN HSIANG, TAOYUAN HSIEN 333, TAIWAN



- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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## 測試報告 Test Report

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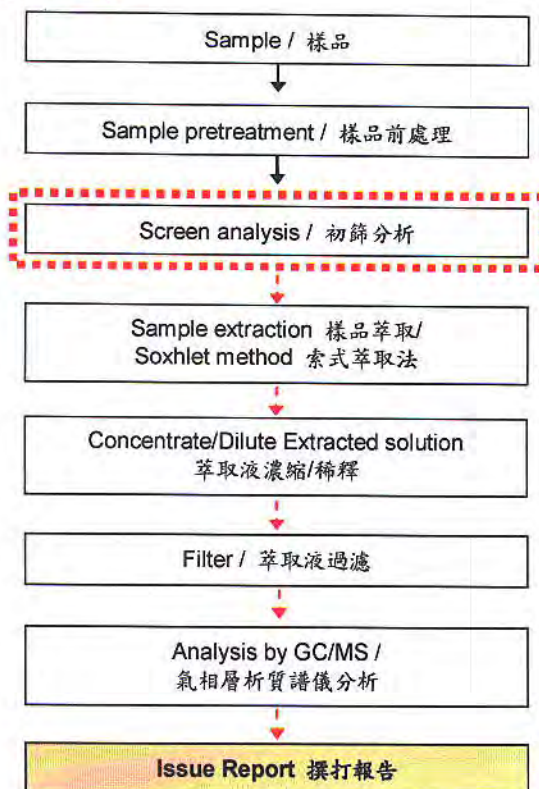
### 多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 1) 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
- 2) 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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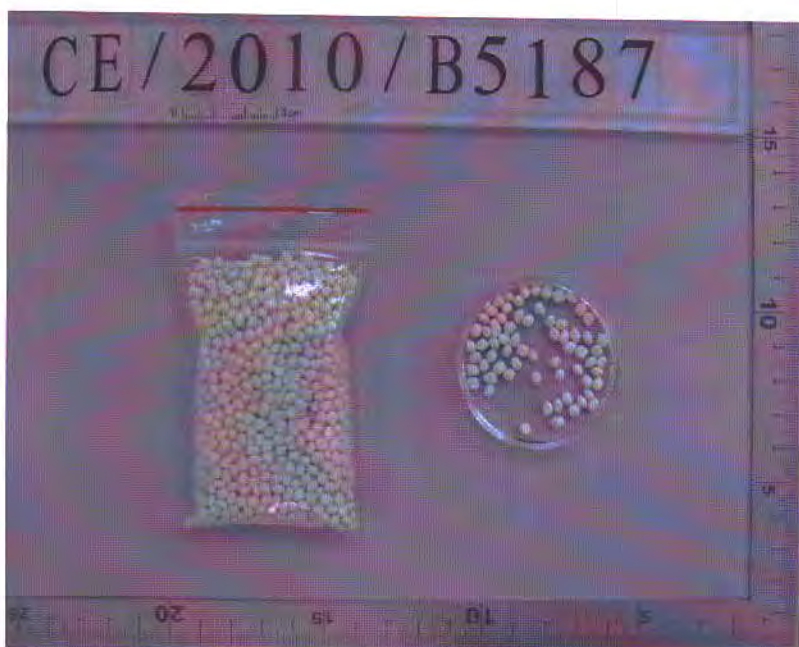
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**\*\* 報告結尾(End of Report) \*\***

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測試報告  
Test Report

號碼(No.): CE/2011/20079

日期(Date): 2011/02/14

頁數(Page): 1 of 4

第一伸銅科技股份有限公司

FIRST COPPER TECHNOLOGY CO., LTD.

高雄市前金區中正四路10號

NO. 170, CHUNG CHEN ROAD, KAOHSIUNG, TAIWAN, R. O. C.

以下測試樣品係由客戶送交，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by the client as):

樣品名稱(Sample Description) : 引線架銅 (LEADFRAME)  
樣品型號(Style/Item No.) : C194  
收件日期(Sample Receiving Date) : 2011/02/01  
測試期間(Testing Period) : 2011/02/01 TO 2011/02/14

- 測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求。 (In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).
- 測試方法(Test Method) : 參考IEC 62321: 2008方法檢測。 (With reference to IEC 62321: 2008. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products).
- (1) 以感應耦合電漿原子發射光譜儀檢測鎘含量。 / Determination of Cadmium by ICP-AES.
  - (2) 以感應耦合電漿原子發射光譜儀檢測鉛含量。 / Determination of Lead by ICP-AES.
  - (3) 以感應耦合電漿原子發射光譜儀檢測汞含量。 / Determination of Mercury by ICP-AES.
  - (4) 以Spot test / boiling water extraction方法檢測六價鉻含量。 / Determination of Hexavalent Chromium by Spot test / boiling water extraction Method.
- 測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

Nicole Chien, Supervisor  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory - Taipei

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# 測試報告

## Test Report

號碼(No.): CE/2011/20079

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第一伸銅科技股份有限公司

FIRST COPPER TECHNOLOGY CO., LTD.

高雄市前金區中正四路170號

NO. 170, CHUNG CHENG 4TH ROAD, KAOHSIUNG, TAIWAN, R. O. C.



測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)	方法偵測 極限值 (MDL)
		No.1	
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	n.d.	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 4

**測試部位描述 (TEST PART DESCRIPTION):**

No.1 : 銅色金屬片 (COPPER COLORED METAL SHEET)

**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. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),

Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);

The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed. (當該測項無法確認時, 測試樣品可藉由boiling-water-extraction測試方法進一步確認)

**Boiling-water-extraction:**

Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),

Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area. / 該溶液濃度 $\geq$ 0.02 mg/kg with 50 cm<sup>2</sup> (sample surface area)

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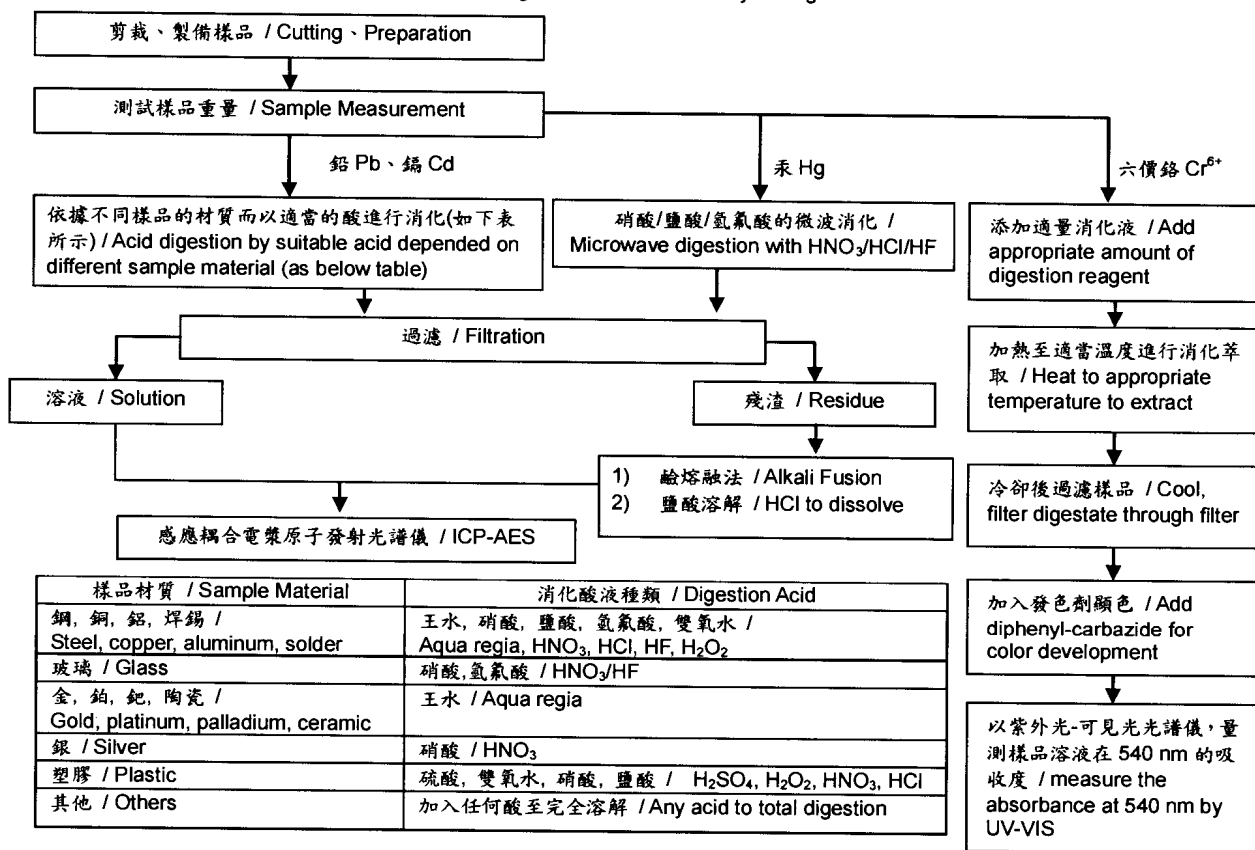
FIRST COPPER TECHNOLOGY CO., LTD.

高雄市前金區中正四路170號

NO. 170, CHUNG CHENG 4TH ROAD, KAOHSIUNG, TAIWAN, R. O. C.



- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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## 測試報告 Test Report

號碼(No.): CE/2011/20079

日期(Date): 2011/02/14

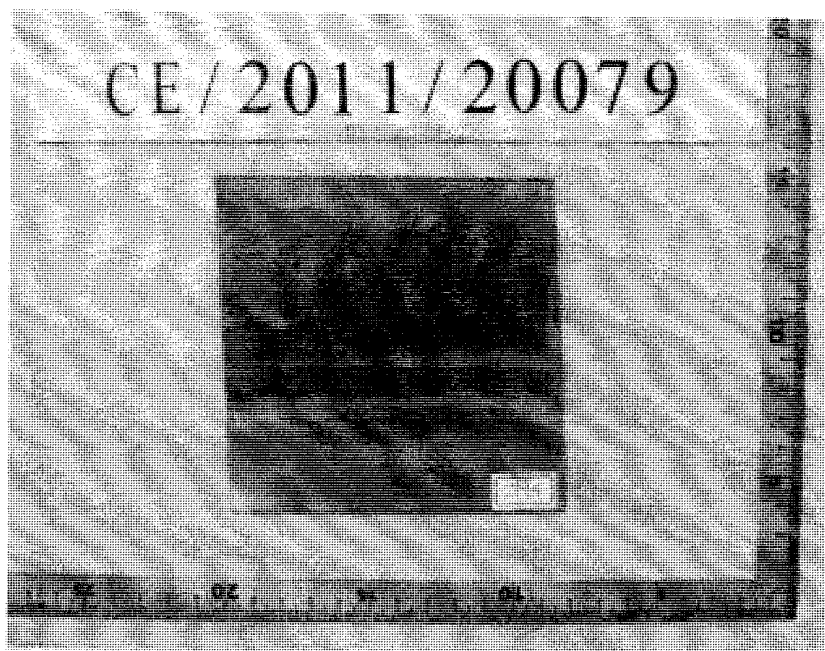
頁數(Page): 4 of 4

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**\*\* 報告結尾(End of Report) \*\***

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# 測試報告 Test Report

號碼(No.): CE/2011/33697

日期(Date): 2011/03/21

頁數(Page): 1 of 12

三甲電線電纜股份有限公司

3A PVC WIRE &amp; CABLE CO., LTD.

桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



以下測試樣品係由客戶送樣, 且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : HOOK-UP WIRE, AUTOMOBILE WIRE, ELECTRIC WIRE, SPEAKER CABLE, RAINBOW FLAT CABLE.

樣品型號(Style/Item No.) : 請參考第7頁 (PLEASE REFER TO PAGE 7)

收件日期(Sample Receiving Date) : 2011/03/14

測試期間(Testing Period) : 2011/03/14 TO 2011/03/21

測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修訂指令要求. (In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).

測試方法(Test Method) : 參考 IEC 62321: 2008 方法檢測. (With reference to IEC 62321: 2008. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products).

(1) 以感應耦合電漿原子發射光譜儀檢測鎘含量. / Determination of Cadmium by ICP-AES.

(2) 以感應耦合電漿原子發射光譜儀檢測鉛含量. / Determination of Lead by ICP-AES.

(3) 以感應耦合電漿原子發射光譜儀檢測汞含量. / Determination of Mercury by ICP-AES.

(4) 以UV-VIS檢測六價鉻含量. / Determination of Hexavalent Chromium by UV/Vis Spectrometry.

(5) 以Spot test / boiling water extraction方法檢測六價鉻含量. / Determination of Hexavalent Chromium by Spot test / boiling water extraction Method.

(6) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量. / Determination of PBB and PBDE by GC/MS.

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

  
Chenyu Kung / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory – Taipei

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# 測試報告

## Test Report

號碼(No.): CE/2011/33697

日期(Date): 2011/03/21

頁數(Page): 2 of 12

三甲電線電纜股份有限公司

3A PVC WIRE &amp; CABLE CO., LTD.

桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)			方法偵測 極限值 (MDL)
		No.1	No.2	No.3	
鎘 / Cadmium (Cd)	(1)	n.d.	n.d.	n.d.	2
鉛 / Lead (Pb)	(2)	n.d.	n.d.	n.d.	2
汞 / Mercury (Hg)	(3)	n.d.	n.d.	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	n.d.	n.d.	2
多溴聯苯總和 / Sum of PBBs	(6)	n.d.	n.d.	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	n.d.	n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	n.d.	n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	n.d.	n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	n.d.	n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	n.d.	n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	n.d.	n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	n.d.	n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	n.d.	n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	n.d.	n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	n.d.	n.d.	5
多溴聯苯醚總和 / Sum of PBDEs		n.d.	n.d.	n.d.	-
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	n.d.	n.d.	5
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	n.d.	n.d.	5
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	n.d.	n.d.	5
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	n.d.	n.d.	5
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	n.d.	n.d.	5
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	n.d.	n.d.	5
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	n.d.	n.d.	5
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	n.d.	n.d.	5
九溴聯苯醚 / Nonabromodiphenyl ether		n.d.	n.d.	n.d.	5
十溴聯苯醚 / Decabromodiphenyl ether		n.d.	n.d.	n.d.	5

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## 測試報告 Test Report

號碼(No.): CE/2011/33697

日期(Date): 2011/03/21

頁數(Page): 3 of 12

三甲電線電纜股份有限公司

3A PVC WIRE & CABLE CO., LTD.

桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)			方法偵測 極限值 (MDL)
		No.4	No.5	No.6	
鎘 / Cadmium (Cd)	(1)	n.d.	n.d.	n.d.	2
鉛 / Lead (Pb)	(2)	n.d.	n.d.	n.d.	2
汞 / Mercury (Hg)	(3)	n.d.	n.d.	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	n.d.	n.d.	2
多溴聯苯總和 / Sum of PBBs	(6)	n.d.	n.d.	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	n.d.	n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	n.d.	n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	n.d.	n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	n.d.	n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	n.d.	n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	n.d.	n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	n.d.	n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	n.d.	n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	n.d.	n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	n.d.	n.d.	5
多溴聯苯醚總和 / Sum of PBDEs		n.d.	n.d.	n.d.	-
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	n.d.	n.d.	5
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	n.d.	n.d.	5
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	n.d.	n.d.	5
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	n.d.	n.d.	5
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	n.d.	n.d.	5
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	n.d.	n.d.	5
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	n.d.	n.d.	5
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	n.d.	n.d.	5
九溴聯苯醚 / Nonabromodiphenyl ether		n.d.	n.d.	n.d.	5
十溴聯苯醚 / Decabromodiphenyl ether		n.d.	n.d.	n.d.	5

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## 測試報告 Test Report

號碼(No.): CE/2011/33697

日期(Date): 2011/03/21

頁數(Page): 4 of 12

三甲電線電纜股份有限公司

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桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)			方法偵測 極限值 (MDL)
		No.7	No.8	No.9	
鎘 / Cadmium (Cd)	(1)	n.d.	n.d.	n.d.	2
鉛 / Lead (Pb)	(2)	n.d.	n.d.	n.d.	2
汞 / Mercury (Hg)	(3)	n.d.	n.d.	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	n.d.	n.d.	2
多溴聯苯總和 / Sum of PBBs	(6)	n.d.	n.d.	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	n.d.	n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	n.d.	n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	n.d.	n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	n.d.	n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	n.d.	n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	n.d.	n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	n.d.	n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	n.d.	n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	n.d.	n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	n.d.	n.d.	5
多溴聯苯醚總和 / Sum of PBDEs		n.d.	n.d.	n.d.	-
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	n.d.	n.d.	5
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	n.d.	n.d.	5
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	n.d.	n.d.	5
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	n.d.	n.d.	5
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	n.d.	n.d.	5
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	n.d.	n.d.	5
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	n.d.	n.d.	5
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	n.d.	n.d.	5
九溴聯苯醚 / Nonabromodiphenyl ether		n.d.	n.d.	n.d.	5
十溴聯苯醚 / Decabromodiphenyl ether		n.d.	n.d.	n.d.	5

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## 測試報告 Test Report

號碼(No.): CE/2011/33697

日期(Date): 2011/03/21

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三甲電線電纜股份有限公司

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NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)			方法偵測 極限值 (MDL)
		No.10	No.11	No.12	
鎘 / Cadmium (Cd)	(1)	n.d.	n.d.	n.d.	2
鉛 / Lead (Pb)	(2)	n.d.	n.d.	n.d.	2
汞 / Mercury (Hg)	(3)	n.d.	n.d.	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	n.d.	---	2
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(5)	---	---	Negative	See Note 4
多溴聯苯總和 / Sum of PBBs	(6)	n.d.	n.d.	---	-
一溴聯苯 / Monobromobiphenyl		n.d.	n.d.	---	5
二溴聯苯 / Dibromobiphenyl		n.d.	n.d.	---	5
三溴聯苯 / Tribromobiphenyl		n.d.	n.d.	---	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	n.d.	---	5
五溴聯苯 / Pentabromobiphenyl		n.d.	n.d.	---	5
六溴聯苯 / Hexabromobiphenyl		n.d.	n.d.	---	5
七溴聯苯 / Heptabromobiphenyl		n.d.	n.d.	---	5
八溴聯苯 / Octabromobiphenyl		n.d.	n.d.	---	5
九溴聯苯 / Nonabromobiphenyl		n.d.	n.d.	---	5
十溴聯苯 / Decabromobiphenyl		n.d.	n.d.	---	5
多溴聯苯醚總和 / Sum of PBDEs		n.d.	n.d.	---	-
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	n.d.	---	5
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	n.d.	---	5
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	n.d.	---	5
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	n.d.	---	5
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	n.d.	---	5
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	n.d.	---	5
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	n.d.	---	5
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	n.d.	---	5
九溴聯苯醚 / Nonabromodiphenyl ether		n.d.	n.d.	---	5
十溴聯苯醚 / Decabromodiphenyl ether		n.d.	n.d.	---	5

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## 測試報告 Test Report

號碼(No.): CE/2011/33697

日期(Date): 2011/03/21

頁數(Page): 6 of 12

三甲電線電纜股份有限公司

3A PVC WIRE & CABLE CO., LTD.

桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



### 測試部位描述 (TEST PART DESCRIPTION):

- No.1 : 白色塑膠外被及其上灰色印刷 (WHITE PLASTIC JACKET WITH GRAY PRINTED)
- No.2 : 棕色塑膠外被及其上白色印刷 (BROWN PLASTIC JACKET WITH WHITE PRINTED)
- No.3 : 紅色塑膠外被及其上灰色印刷 (RED PLASTIC JACKET WITH GRAY PRINTED)
- No.4 : 橘色塑膠外被及其上灰色印刷 (ORANGE PLASTIC JACKET WITH GRAY PRINTED)
- No.5 : 黃色塑膠外被及其上灰色印刷 (YELLOW PLASTIC JACKET WITH GRAY PRINTED)
- No.6 : 粉紅色塑膠外被及其上灰色印刷 (PINK PLASTIC JACKET WITH GRAY PRINTED)
- No.7 : 紫色塑膠外被及其上白色印刷 (PURPLE PLASTIC JACKET WITH WHITE PRINTED)
- No.8 : 灰色塑膠外被及其上灰色印刷 (GRAY PLASTIC JACKET WITH GRAY PRINTED)
- No.9 : 綠色塑膠外被及其上灰色印刷 (GREEN PLASTIC JACKET WITH GRAY PRINTED)
- No.10 : 黑色塑膠外被及其上白色印刷 (BLACK PLASTIC JACKET WITH WHITE PRINTED)
- No.11 : 藍色塑膠外被及其上灰色印刷 (BLUE PLASTIC JACKET WITH GRAY PRINTED)
- No.12 : 銀色金屬線 (含鍍層) (SILVER COLORED METAL WIRE (INCLUDING THE PLATING LAYER))

### 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. Spot-test:
  - Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),
  - Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);
  - The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed. (當該測項無法確認時, 測試樣品可藉由boiling-water-extraction測試方法進一步確認)
- Boiling-water-extraction:
  - Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),
  - Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);
  - The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area. / 該溶液濃度 $\geq$ 0.02 mg/kg with 50 cm<sup>2</sup> (sample surface area)
5. "-" = Not Regulated (無規格值)
6. "---" = Not Conducted (未測項目)
7. 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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## 測試報告 Test Report

號碼(No.): CE/2011/33697

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三甲電線電纜股份有限公司

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NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



樣品型號(Style/Item No.)

:

1007(LF)	1011(LF)	1013(LF)	1015(LF)	1017(LF)	1024(LF)	1026(LF)	1027(LF)	1028(LF)
1037(LF)	1056(LF)	1061(LF)	1095(LF)	1185(LF)	1195(LF)	1208(LF)	1230(LF)	1275(LF)
1283(LF)	1284(LF)	1346(LF)	1354(LF)	1365(LF)	1429(LF)	1430(LF)	1431(LF)	1472(LF)
1479(LF)	1497(LF)	1500(LF)	1503(LF)	1533(LF)	1569(LF)	1570(LF)	1571(LF)	1581(LF)
1605(LF)	1650(LF)	1674(LF)	1692(LF)	1777(LF)	1789(LF)	1792(LF)	1803(LF)	1950(LF)
1953(LF)	10027(LF)	10038(LF)	10097(LF)	10235(LF)	10236(LF)	10272(LF)	10482(LF)	10599(LF)
10958(LF)	10965(LF)	11109(LF)	2095(LF)	2464(LF)	2468(LF)	2547(LF)	2725(LF)	2785(LF)
2789(LF)	2835(LF)	2851(LF)	2854(LF)	2919(LF)	2960(LF)	2990(LF)		
SPT-1(LF)	SPT-2(LF)	SPT-3(LF)	20018(LF)	3443(LF)	3475(LF)	3610(LF)		
20541(LF.HF)	20851(LF.HF)	20868(LF.HF)	21064(LF.HF)	21080(LF.HF)	21087(LF.HF)	21089(LF.HF)	21101(LF.HF)	21115(LF.HF)
21117(LF.HF)	21118(LF.HF)	21119(LF.HF)	21120(LF.HF)	21143(LF.HF)	21145(LF.HF)	21217(LF.HF)	21254(LF.HF)	21255(LF.HF)
21265(LF.HF)	21266(LF.HF)	21269(LF.HF)	21272(LF.HF)	21279(LF.HF)	21280(LF.HF)	21281(LF.HF)	21282(LF.HF)	21283(LF.HF)
21284(LF.HF)	21285(LF.HF)	21286(LF.HF)	21287(LF.HF)	21288(LF.HF)	21303(LF.HF)	21304(LF.HF)	21305(LF.HF)	21306(LF.HF)
21307(LF.HF)	21308(LF.HF)	21309(LF.HF)	21310(LF.HF)	21339(LF.HF)	21350(LF.HF)	21352(LF.HF)	21425(LF.HF)	21550(LF.HF)
21550(LF.HF)								
10981(LF.HF)	11028(LF.HF)	11029(LF.HF)	10602(LF.HF)	11027(LF.HF)	10983(LF.HF)	10800(LF.HF)	21311(LF.HF)	10986(LF.HF)
20674(LF.HF)	11045(LF.HF)	21510(LF.HF)	11047(LF.HF)	21508(LF.HF)	11025(LF.HF)			
3173(LF.HF)	3265(LF.HF)	3266(LF.HF)	3271(LF.HF)	3272(LF.HF)	3286(LF.HF)	3287(LF.HF)	3288(LF.HF)	3289(LF.HF)
3290(LF.HF)	3297(LF.HF)	3302(LF.HF)	3312(LF.HF)	3317(LF.HF)	3321(LF.HF)	3331(LF.HF)	3346(LF.HF)	3347(LF.HF)
3348(LF.HF)	3351(LF.HF)	3352(LF.HF)	3385(LF.HF)	3386(LF.HF)	3398(LF.HF)	3401(LF.HF)	3417(LF.HF)	3433(LF.HF)
3463(LF.HF)	3464(LF.HF)	3482(LF.HF)	10368(LF.HF)	10369(LF.HF)	1789(LF.HF)	FR9Y(LF.HF)		
AV(LF)	AVS(LF)	AVSS(LF)	AVX(LF)	AVXS(LF)	AVSSX(LF)	AVSSH(LF)	AESSX(LF)	AEX(LF)
CAVS(LF)	CAVUS(LF)	CHFUS(LF)	HAV(LF)					
TWE(LF)	TWP(LF)	GPT(LF)	STT(LF)	SGT(LF)	HDT(LF)	THE(LF)	STE(LF)	GTE(LF)
TXL(LF)	GXL(LF)	SXL(LF)	SGX(LF)	STX(LF)				
FLY(LF)	FLYM(LF)	FLYK(LF)	TLYY(LF)	FLRBY(LF)	FLRYB11Y(LF)	FLRY-A/B(LF)	FLR2X-A/B(LF)	FLR4Y(LF)
FLR2X-A/B(LF)	EB(LF)	HEB(LF)	HEBX(LF)	ABAEX(LF)	AYB(LF)			

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## 測試報告 Test Report

號碼(No.): CE/2011/33697

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三甲電線電纜股份有限公司

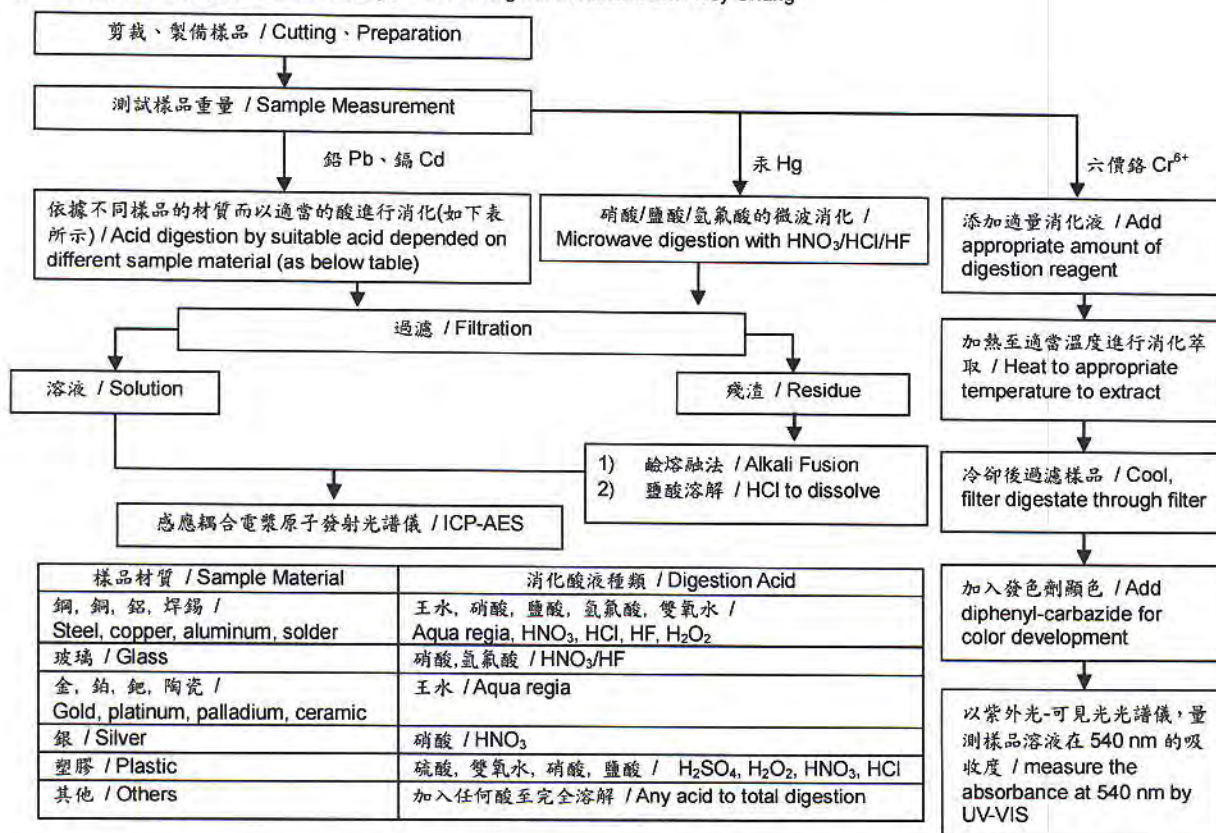
3A PVC WIRE & CABLE CO., LTD.

桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 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

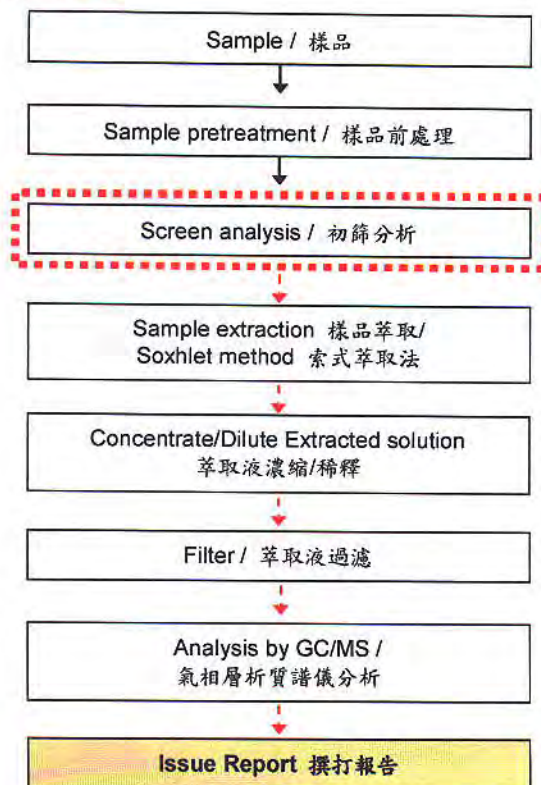
1) 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong

2) 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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## 測試報告

## Test Report

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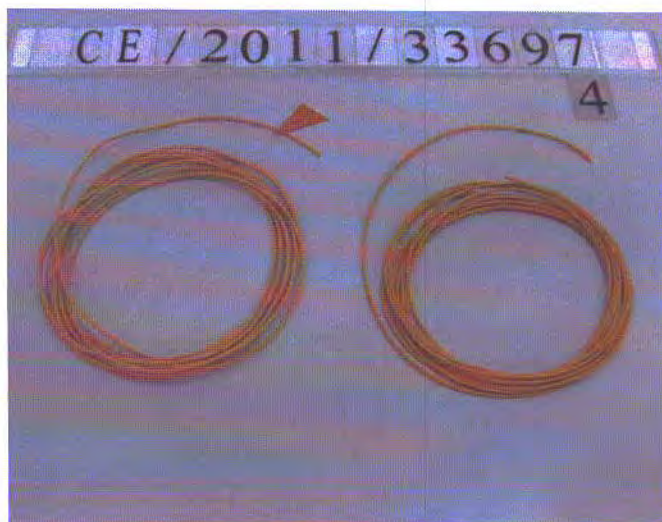
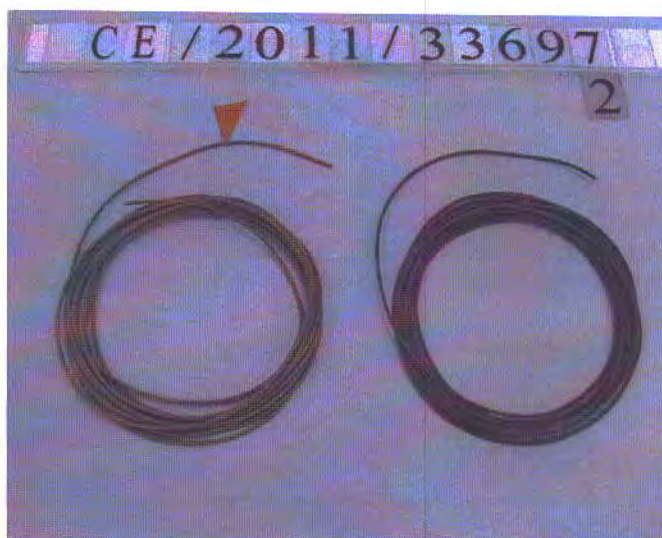
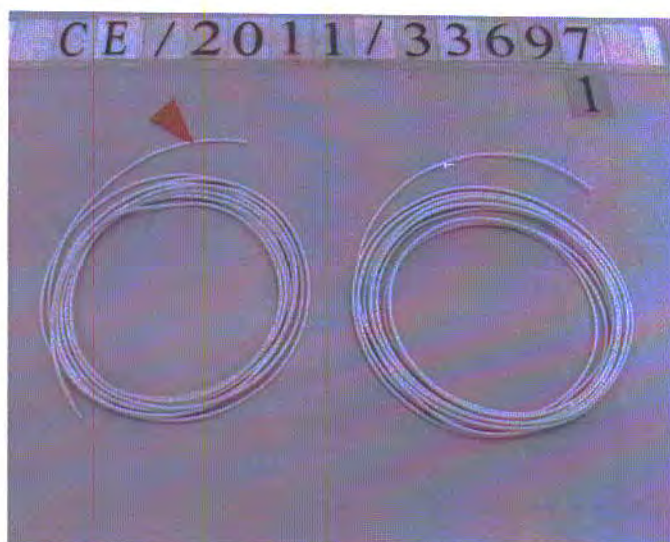
頁數(Page): 10 of 12

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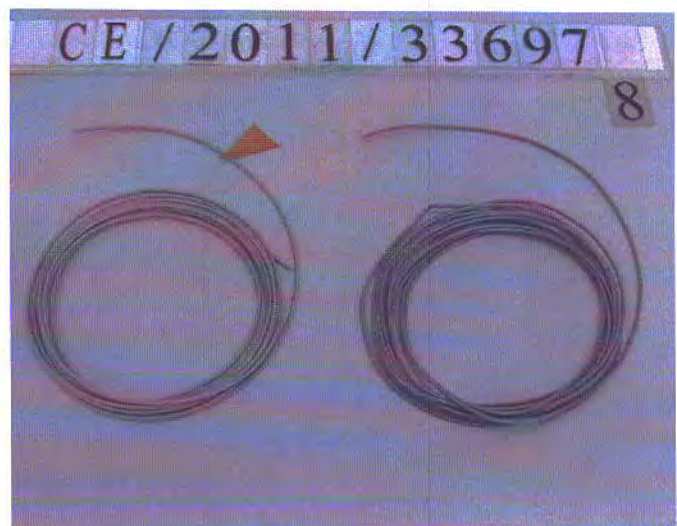
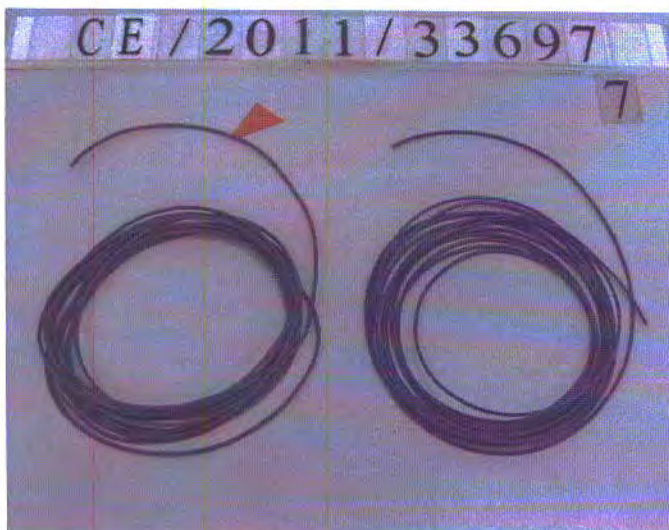
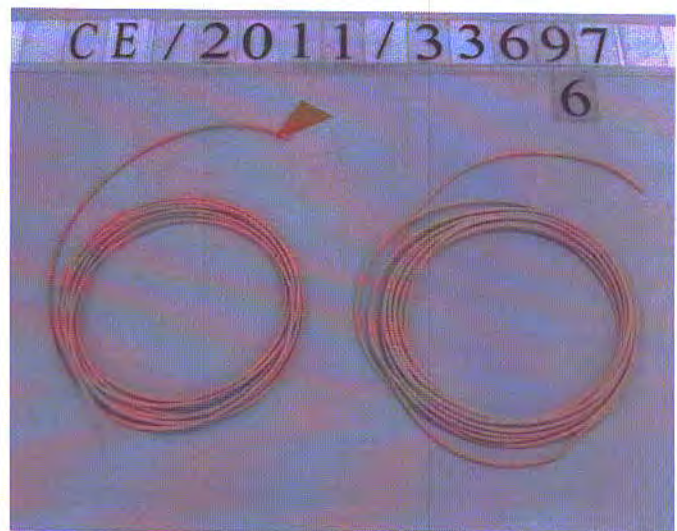
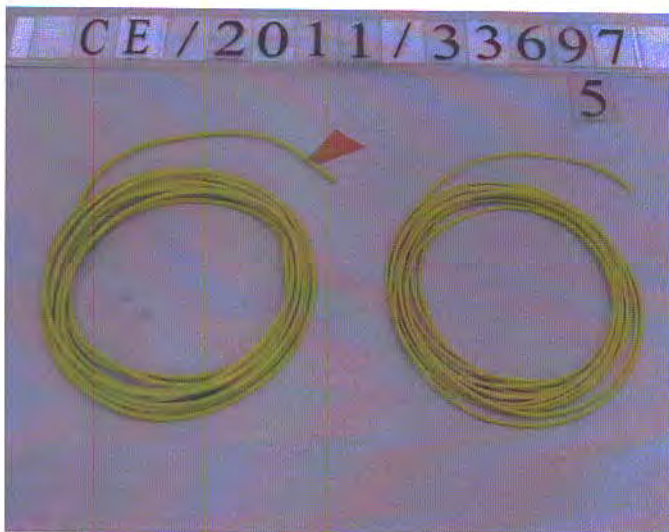
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Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股工業區五權路33號 +886 (02)2299 3279 f +886 (02)2299 3237 [www.sgs.com](http://www.sgs.com)



## 測試報告 Test Report

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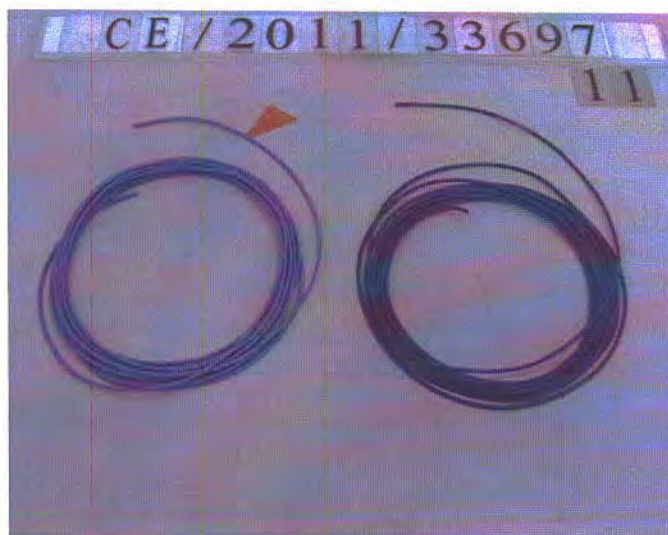
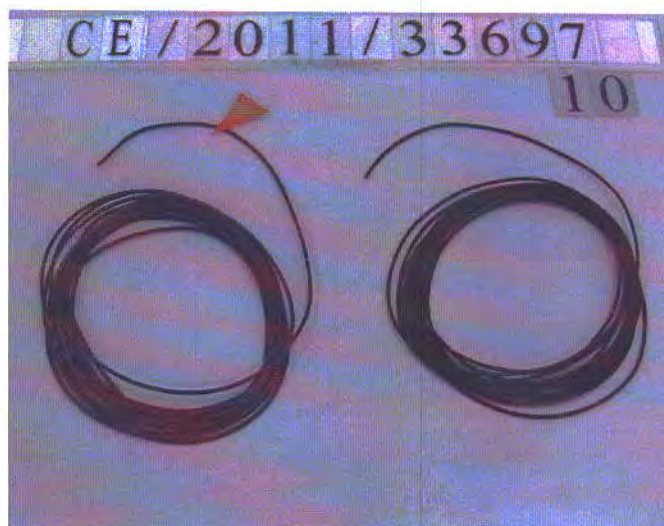
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三甲電線電纜股份有限公司

3A PVC WIRE & CABLE CO., LTD.

桃園縣八德市和成路31巷3號

NO. 3, LANE 31, HECHENG RD., BADE CITY, TAO YUAN HSIEN, TAIWAN, R. O. C.



**\*\* 報告結尾(End of Report) \*\***

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