

ICP Test Report Certification Packet

Company name:	Littelfuse, Inc.							
Product Series:	FHAC series							
Product #:	FHAC0002ZXJ							
Issue Date:	February 4, 2014							
It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC, 2011/65/EU)-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: JORDANUFF H. CABILAN							
This document cov by Littelfuse, Inc. < Raw Materials U Please see Tab	[Global EHS Engineer] (1) Parts, sub-materials and unit parts This document covers the FAHC series RoHS-Compliant series products manufactured by Littelfuse, Inc. < Raw Materials Used Please see Table 1 (2) The ICP data on all measurable substances							
Remarks:								



Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	TPV-251-Santoprene	Body	3-12
2	C194	Terminal	13-18
3	NA	Wire	19-33



Signature valid

For Question, Please Conta with SGS www.tw.sgs.com

測試報告

Test Report

號碼(No.): CE/2012/C2395 日期(Date): 2012/12/20 頁數(Page): 1 of 10

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

: EXXONMOBIL SANTOPRENE 樣品名稱(Sample Description)

樣品型號(Style/Item No.)

: 251-XX

收件日期(Sample Receiving Date)

: 2012/12/14

測試期間(Testing Period)

: 2012/12/14 TO 2012/12/20

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

Chenyu Kung / Signed for and on beh SGS TAIWAN LTD. Chemical Laboratory - Taipei



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測試結果(Test Results)

測試部位(PART NAME)No.1

: 白色塑膠粒 (WHITE PLASTIC PELLETS)

測試項目 (Test Items)	單位 (Unit)			結果 (Result)	
(lest Items)	(Unit)	(Method)	(MDL)	No.1	
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電	2	n.d.	
鉛 / Lead (Pb)	mg/kg	衆原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by	2	44	
汞 / Mercury (Hg)	mg/kg	ICP-AES.	2	n.d.	
六價络 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321: 2008方法, 以UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	
六溴環十二烷 / Hexabromocyclododecane (HBCDD) (CAS No.: 25637-99-4)	mg/kg	参考US EPA 3540C方法,以氣相層析/質譜 儀絵測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	5	n.d.	
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3550C: 2007方法,以液相層析/質譜儀檢測./With reference to US	10	n.d.	
全氟辛酸 (銨) / PFOA (CAS No.: 335-67-1)	mg/kg	EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.	
鄰苯二甲酸甲苯基丁酯 / BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
鄰苯二甲酸二異癸酯 / DIDP (Di- isodecyl phthalate) (CAS No.: 26761-40-0)	96	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.	



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測試項目 (Test Items)	單位 (Unit)			結果 (Result)	
(lest Items)	(Unit)	(Method)	(MDL)	No.1	
鄰苯二甲酸二異壬酯 / DINP (Di- isononyl phthalate) (CAS No.: 28553-12-0)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.	
鄰苯二甲酸二正辛酯 / DNOP (Di-n- octyl phthalate) (CAS No.: 117- 84-0)	%	参考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
鄰苯二甲酸二異丁酯 / DIBP (Di- isobutyl phthalate) (CAS No.: 84- 69-5)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
多溴聯苯總和 / Sum of PBBs	mg/kg		THE	n.d.	
一溴聯苯 / Monobromobiphenyl	mg/kg]	5	n.d.	
二溴聯苯 / Dibromobiphenyl	mg/kg	1	5	n.d.	
三溴聯苯 / Tribromobiphenyl	mg/kg] [5	n.d.	
四溴聯苯 / Tetrabromobiphenyl	mg/kg	参考IEC 62321: 2008方法,以氣相層析/質[5	n.d.	
五溴聯苯 / Pentabromobiphenyl	mg/kg	譜儀檢測. / With reference to IEC	5	n.d.	
六溴聯苯 / Hexabromobiphenyl	mg/kg	62321: 2008 and performed by GC/MS.	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.	



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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg	l l	5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg	1	5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg	参考IEC 62321: 2008方法, 以氣相層析/質	5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	譜儀檢測. / With reference to IEC	5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg	62321: 2008 and performed by GC/MS.	5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.
へ溴聯苯醚 / 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.

備註(Note):

- 1. mg/kg = ppm : 0.1wt% = 1000ppm
- 2. n.d. = Not Detected (未檢出)
- 3. MDL = Method Detection Limit (方法偵測極限値)
- 4. "-" = Not Regulated (無規格值)

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1µg/m2。

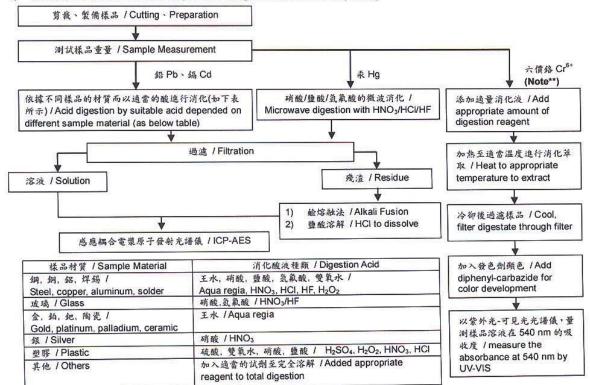
(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semifinished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above 1µg/m2.)



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- 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. (Cr6+ test method excluded)
- 測試人員:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 测試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang



Note**:(1) 針對非金屬材料加入鹼性消化液,加熱至 90~95℃萃取. / For non-metallic material, add alkaline digestion reagent and heat to 90~95°C

(2) 針對金屬材料加入純水,加熱至沸騰萃取. / For metallic material, add pure water and heat to boiling.

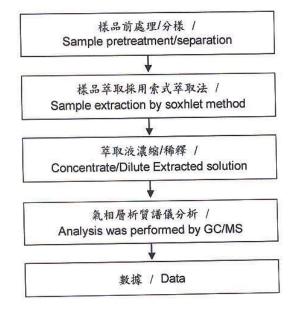


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六溴環十二烷分析流程圖 / HBCDD analytical flow chart

- 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

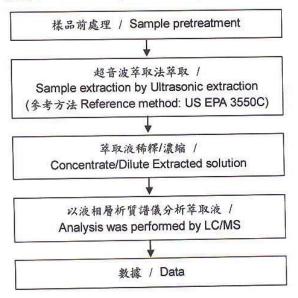




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全氟辛酸(銨)/全氟辛烷磺酸分析流程圖 / PFOA/PFOS analytical flow chart

- 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

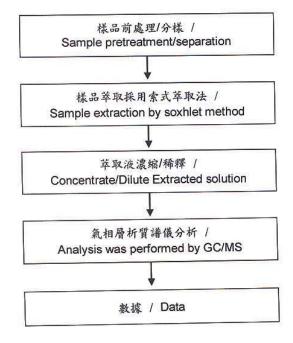




號碼(No.): CE/2012/C2395 日期(Date): 2012/12/20 頁數(Page): 8 of 10

可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 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





Test Report

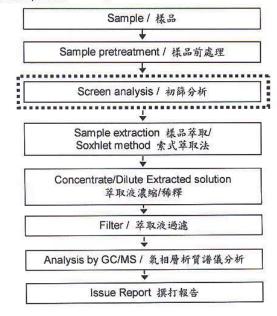
號碼(No.): CE/2012/C2395 日期(Date): 2012/12/20 頁數(Page): 9 of 10

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:張啓與 / 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 - · - · ▶



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company,应非另合规则,此故法规序算通过之权通行的。本理是某种本公司基础的,不可能分为复杂。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms-and-Conditions/Terms-e-Document. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at limit the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a the time of its intervention only and within the limits of Client's instructions, if any. The Company's lower parties to a company and the parties to a company and



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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/2012/C2395



** 報告結尾 (End of Report) **

一种价值科技技能有限公司

33, Wu Chuan Rd., New Taipei Industrial Park, New Taipei City, Taiwan / 幹上, 由卫 北華 對樹區 电程序33余 t + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.tw



For Question, Please Contact with SGS www.tw.sgs.com

測試報告 Test Report

號碼(No.): CE/2013/C0325 日期(Date): 2013/12/06

頁數(Page): 1 of 6

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) : 第一伸銅科技股份有限公司 (FIRST COPPER TECHNOLOGY CO., LTD.)

樣品名稱(Sample Description) : LEADFRAME (引線架銅)

樣品型號(Style/Item No.) : C194

收件日期(Sample Receiving Date) : 2013/12/03

測試期間(Testing Period) : 2013/12/03 TO 2013/12/06

測試需求(Test Requested): 依據客户要求,參考RoHS 2011/65/EU Annex II 指令進行鎘,鉛,汞,六價鉻,多溴聯

苯,多溴聯苯醚測試. (As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs

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).





號碼(No.): CE/2013/C0325 日期(Date): 2013/12/06

頁數(Page): 2 of 6

測試結果(Test Results)

測試部位(PART NAME)No.1 : 銅色金屬 (COPPER COLORED METAL)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321-5: 2013方法,以感應耦合 電漿原子發射光譜儀檢測. / With	2	n.d.
鋁 / Lead (Pb)	mg/kg	reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	20
汞 / Mercury (Hg)	mg/kg	参考IEC 62321-4: 2013方法, 以感應耦合 電漿原子發射光譜儀檢測. / With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.
六價络 / Hexavalent Chromium Cr(VI)	**	参考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
多溴聯苯總和 / Sum of PBBs	mg/kg		-	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	参考IEC 62321: 2008方法, 以氣相層析/質	5	n.d.
五溴聯苯 / Pentabromobiphenyl	mg/kg	譜儀檢測. / With reference to IEC	5	n.d.
六溴聯苯 / Hexabromobiphenyl	mg/kg	62321: 2008 and performed by GC/MS.	5	n.d.
七溴聯苯 / Heptabromobiphenyl	mg/kg	1	5	n.d.
八溴聯苯 / Octabromobiphenyl	mg/kg	1	5	n.d.
九溴聯苯 / Nonabromobiphenyl	mg/kg]	5	n.d.
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n.d.



號碼(No.): CE/2013/C0325 日期(Date): 2013/12/06

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
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	参考IEC 62321: 2008方法, 以氣相層析/質	5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	譜儀檢測. / With reference to IEC	5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg	62321: 2008 and performed by GC/MS.	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.

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. **= Qualitative analysis (No Unit) 定性分析(無單位)
- 6.#= 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)

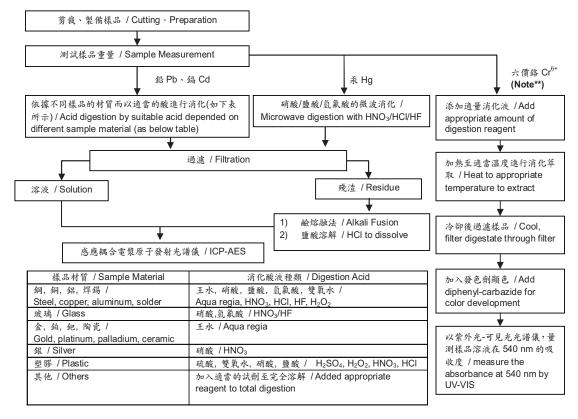
The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas. / 該溶液濃度≧0.02 mg/kg with 50 cm² (tested areas)



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頁數(Page): 4 of 6

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



Note**:(1) 針對非金屬材料加入鹼性消化液 ⋅ 加熱至 90~95℃ 萃取. / For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.

(2) 針對金屬材料加入純水,加熱至沸騰萃取. / For metallic material, add pure water and heat to boiling.



號碼(No.): CE/2013/C0325

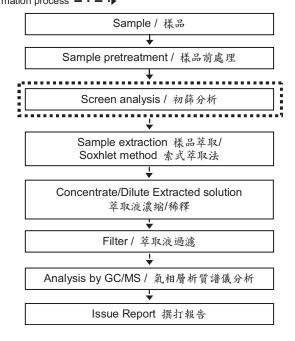
日期(Date): 2013/12/06

頁數(Page): 5 of 6

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

確認程序 / Confirmation process - - - →





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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/2013/C0325



** 報告結尾 (End of Report) **



號碼(No.) : CE/2013/24815 日期(Date) : 2013/03/07 頁數(Page) : 1 of 15

以下測試樣品係由客户送樣, 且由客户聲稱並經客户確認如下 (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 ,AC ELECTRIC WIRE ,SPEAKER WIRE ,

RAINBOW FLAT CABLE

樣品型號(Style/Item No.) : 請參考第10頁 (PLEASE REFER TO PAGE 10)

收件日期(Sample Receiving Date) : 2013/02/27

測試期間(Testing Period) : 2013/02/27 TO 2013/03/07

測試需求(Test Requested): 依據客户指定,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.)

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).



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測試結果(Test Results)

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

測試項目 (Test Items)	單位	単位 測試方法 1	方法偵測 極限値	結果 (Result)		
	(Unit)	(Method)	(MDL)	No.1	No.2	No.3
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
鉛 / Lead (Pb)	mg/kg	参考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測./With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.



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測試項目	單位	測試方法	方法偵測 極限値	結	結果 (Result)		
(Test Items)	(Unit)	(Method)	(MDL)	No.1	No.2	No.3	
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.	
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	多考IEC 62321: 2008方法,以 UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	n.d.	n.d.	
多溴聯苯總和 / Sum of PBBs			-	n.d.	n.d.	n.d.	
一溴聯苯 / Monobromobiphenyl			5	n.d.	n.d.	n.d.	
二溴聯苯 / Dibromobiphenyl]		5	n.d.	n.d.	n.d.	
三溴聯苯 / Tribromobiphenyl]		5	n.d.	n.d.	n.d.	
四溴聯苯 / Tetrabromobiphenyl			5	n.d.	n.d.	n.d.	
五溴聯苯 / Pentabromobiphenyl	1		5	n.d.	n.d.	n.d.	
六溴聯苯 / Hexabromobiphenyl	1		5	n.d.	n.d.	n.d.	
七溴聯苯 / Heptabromobiphenyl	1		5	n.d.	n.d.	n.d.	
八溴聯苯 / Octabromobiphenyl	1		5	n.d.	n.d.	n.d.	
九溴聯苯 / Nonabromobiphenyl	1	参考IEC 62321: 2008方法,以	5	n.d.	n.d.	n.d.	
十溴聯苯 / Decabromobiphenyl	1	氣相層析/質譜儀檢測. / With	5	n.d.	n.d.	n.d.	
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	reference to IEC 62321: 2008	-	n.d.	n.d.	n.d.	
一溴聯苯醚 / Monobromodiphenyl ether	1	and performed by GC/MS.	5	n.d.	n.d.	n.d.	
二溴聯苯醚 / Dibromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
三溴聯苯醚 / Tribromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
四溴聯苯醚 / Tetrabromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
五溴聯苯醚 / Pentabromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.	n.d.	n.d.	
七溴聯苯醚 / Heptabromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
八溴聯苯醚 / Octabromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
九溴聯苯醚 / Nonabromodiphenyl ether	1		5	n.d.	n.d.	n.d.	
十溴聯苯醚 / Decabromodiphenyl ether	1		5	n.d.	n.d.	n.d.	



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測試項目 (Test Items)	單位	測試方法	方法偵測 極限値	結果 (Result)		
	(Unit)	(Method)	(MDL)	No.4	No.5	No.6
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測./With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
六價絡 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321: 2008方法,以 UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	n.d.	n.d.
多溴聯苯總和 / Sum of PBBs			-	n.d.	n.d.	n.d.
一溴聯苯 / Monobromobiphenyl	\neg		5	n.d.	n.d.	n.d.
二溴聯苯 / Dibromobiphenyl	\neg		5	n.d.	n.d.	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.	n.d.	n.d.
四溴聯苯 / Tetrabromobiphenyl		参考IEC 62321: 2008方法,以	5	n.d.	n.d.	n.d.
五溴聯苯 / Pentabromobiphenyl	mg/kg	氣相層析/質譜儀檢測. / With reference to IEC 62321: 2008	5	n.d.	n.d.	n.d.
六溴聯苯 / Hexabromobiphenyl		and performed by GC/MS.	5	n.d.	n.d.	n.d.
七溴聯苯 / Heptabromobiphenyl		F = 101 max 2, 00, mb.	5	n.d.	n.d.	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.	n.d.	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.	n.d.	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.	n.d.	n.d.



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測試項目	単位 測試万法 _*	方法偵測 極限値	結果 (Result)			
(Test Items)	(Unit)	(Method)	(MDL)	No.4	No.5	No.6
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.	n.d.	n.d.
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.	n.d.	n.d.
二溴聯苯醚 / Dibromodiphenyl ether		参考IEC 62321: 2008方法,以 氣相層析/質譜儀檢測./ With	5	n.d.	n.d.	n.d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.	n.d.	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.	n.d.	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether		reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.	n.d.	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.	n.d.	n.d.
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.	n.d.	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.	n.d.	n.d.
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.	n.d.	n.d.

測試項目	単位 測試万法	方法偵測 極限値	結果(Result)			
(Test Items)	(Unit)	(Method)	(MDL)	No.7	No.8	No.9
鎬 / Cadmium (Cd)		参考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.



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測試項目 (Test Items)	單位 (Unit)	測試方法	方法偵測 極限値 (MDL)	結果(Result)		
		(Method)		No.7	No.8	No.9
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321: 2008方法,以 UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	n.d.	n.d.
多溴聯苯總和 / Sum of PBBs			-	n.d.	n.d.	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.	n.d.	n.d.
二溴聯苯 / Dibromobiphenyl]		5	n.d.	n.d.	n.d.
三溴聯苯 / Tribromobiphenyl]		5	n.d.	n.d.	n.d.
四溴聯苯 / Tetrabromobiphenyl			5	n.d.	n.d.	n.d.
五溴聯苯 / Pentabromobiphenyl	1		5	n.d.	n.d.	n.d.
六溴聯苯 / Hexabromobiphenyl	1		5	n.d.	n.d.	n.d.
七溴聯苯 / Heptabromobiphenyl	1		5	n.d.	n.d.	n.d.
八溴聯苯 / Octabromobiphenyl	1		5	n.d.	n.d.	n.d.
九溴聯苯 / Nonabromobiphenyl	1	参考IEC 62321: 2008方法,以	5	n.d.	n.d.	n.d.
十溴聯苯 / Decabromobiphenyl	1	氣相層析/質譜儀檢測. / With	5	n.d.	n.d.	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	reference to IEC 62321: 2008	-	n.d.	n.d.	n.d.
一溴聯苯醚 / Monobromodiphenyl ether	1	and performed by GC/MS.	5	n.d.	n.d.	n.d.
二溴聯苯醚 / Dibromodiphenyl ether	1		5	n.d.	n.d.	n.d.
三溴聯苯醚 / Tribromodiphenyl ether	1		5	n.d.	n.d.	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether	1		5	n.d.	n.d.	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	1		5	n.d.	n.d.	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	1		5	n.d.	n.d.	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether	1		5	n.d.	n.d.	n.d.
八溴聯苯醚 / Octabromodiphenyl ether	1		5	n.d.	n.d.	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether	1		5	n.d.	n.d.	n.d.
十溴聯苯醚 / Decabromodiphenyl ether	1		5	n.d.	n.d.	n.d.



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测試項目	單位	測試方法	方法偵測 極限値	結果(Result)		
(Test Items)	(Unit)	(Method)	(MDL)	No.10	No.11	No.12
鎬 / Cadmium (Cd)	mg/kg	参考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測./With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法,以 感應耦合電漿原子發射光譜儀檢 測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	n.d.	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321: 2008方法,以 UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	n.d.	
	**	参考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

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測試項目 (Test Items)	單位	測試方法	方法偵測 極限値	結果(Result)			
	(Unit)	(Method)	(MDL)	No.10	No.11	No.12	
多溴聯苯總和 / Sum of PBBs			-	n.d.	n.d.		
一溴聯苯 / Monobromobiphenyl			5	n.d.	n.d.		
二溴聯苯 / Dibromobiphenyl			5	n.d.	n.d.		
三溴聯苯 / Tribromobiphenyl			5	n.d.	n.d.		
四溴聯苯 / Tetrabromobiphenyl			5	n.d.	n.d.		
五溴聯苯 / Pentabromobiphenyl			5	n.d.	n.d.		
六溴聯苯 / Hexabromobiphenyl			5	n.d.	n.d.		
七溴聯苯 / Heptabromobiphenyl			5	n.d.	n.d.		
八溴聯苯 / Octabromobiphenyl			5	n.d.	n.d.		
九溴聯苯 / Nonabromobiphenyl		参考IEC 62321: 2008方法,以	5	n.d.	n.d.		
十溴聯苯 / Decabromobiphenyl	ma/ka	氣相層析/質譜儀檢測. / With reference to IEC 62321: 2008	5	n.d.	n.d.		
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.	n.d.		
一溴聯苯醚 / Monobromodiphenyl ether		and performed by GC/MS.	5	n.d.	n.d.		
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.	n.d.		
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.	n.d.		
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.	n.d.		
五溴聯苯醚 / Pentabromodiphenyl ether			5	n.d.	n.d.		
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.	n.d.		
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.	n.d.		
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.	n.d.		
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.	n.d.		
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.	n.d.		



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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≧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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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)	1316(LF)	1317(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)
20018(LF)	3443(LF)	3475(LF)	3610(LF)	SPT-1(LF)	SPT-2(LF)	SPT-3(LF)	2651(LF)	
20882(LF)	20881(LF)	2569(LF)	20942(LF)					
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)			

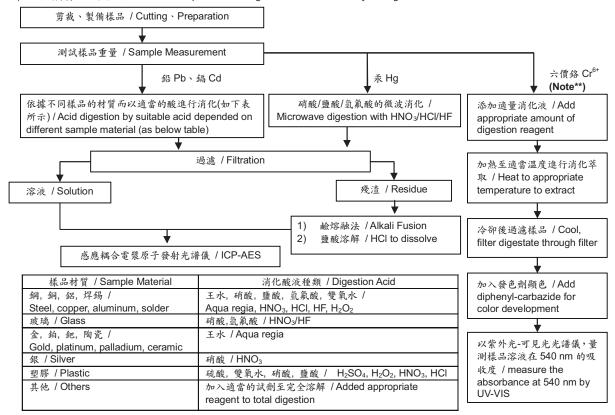
HOOK UP WIRE ,AUTOMOBILE WIRE ,AC ELECTRIC WIRE ,SPEAKER WIRE ,RAINBOW FLAT CABLE



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- 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^{6+} 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



Note**: (1) 針對非金屬材料加入鹼性消化液,加熱至 90~95℃ 萃取. / For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.

(2) 針對金屬材料加入純水,加熱至沸騰萃取. / For metallic material, add pure water and heat to boiling.

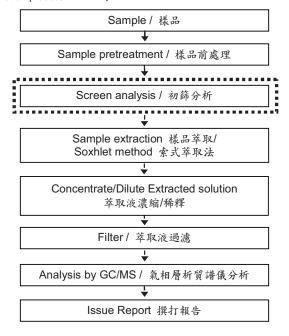


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多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 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

確認程序 / Confirmation process - - - - ▶





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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/2013/24815 NO.1

CE/2013/24815 NO.2





CE/2013/24815 NO.3

CE/2013/24815 NO.4





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CE/2013/24815 NO.10



CE/2013/24815 NO.11



CE/2013/24815 NO.12



** 報告結尾 (End of Report) **

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