



互力精密化學股份有限公司  
FINESIL TECHNOLOGY INC.  
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## 矽利康產品規格書

版本 Issue Date : 2018/02

產品名稱 Product Name : 耐高溫中性矽利康

產品型號 Product No. : 5842

產品描述 Product description :

有別於一般市面上之矽利康，一般市面上之矽利康約可耐溫 150°C，但是排煙風管或汽車引擎等之填縫有時溫度會達到 200°C 以上，甚至達到 300°C。本公司經過長時間研發及檢驗，經由 SGS 檢驗證實，可達 300°C 之耐溫效果(依使用狀態不同，可耐溫度會有所變化)。

### 1. 產品資訊 Product Information

| No. | 項目 Item   | 規範 Specification            |
|-----|---|-----------------------------|
| 1-1 | 外箱尺寸 Carton size :                                  | 310mm*110mm*250mm           |
| 1-2 | 每箱數量 Quantity :                                     | 12 支                        |
| 1-3 | 每支容量 Capacity :                                     | 300mL                       |
| 1-4 | 顏色 Colour :   | 銀鋁色、磚紅色                     |
| 1-5 | 保存期 Storage Life :                                  | 12 個月                       |
| 1-6 | 適用材質(Material) :<br>*建議於施工前進行接著測試，特別材料請搭配底漆(Primer) | 鋁、鐵、玻璃、石材、PC、PVC(可能需要底塗)等材質 |

## 2. 使用環境 Apply Environmental Condition

| No. | 項目 Item                          | 規範 Specification |
|-----|----------------------------------|------------------|
| 2-1 | 存儲溫度 Storage Temperature Range   | 25°C             |
| 2-2 | 存儲濕度 Storage Humidity range      | 50%              |
| 2-3 | 操作溫度 Operating Temperature Range | 5~40°C           |
| 2-4 | 固化系統 Cure System                 | 酮肟型濕氣固化          |

## 3. 測試環境 Standard Test Environment





| No. | 項目 Item              | 規範 Specification |
|-----|----------------------|------------------|
| 3-1 | 溫度 Temperature range | 25°C             |
| 3-2 | 濕度 Humidity range    | 70%              |

## 4. 物理特性 Physical Specification

| No. | 項目 Item                                      | 規範 Specification |
|-----|--|------------------|
| 4-1 | 擠出率 Extrusion Rate (g/min)                   | 120              |
| 4-2 | 垂流度 Sag (mm)                                 | 0                |
| 4-3 | 表乾時間 Take Free Time (min)                    | 10               |
| 4-4 | 硬度 Hardness (Shore A)                        | 33               |
| 4-5 | 比重 Specific Gravity                          | 1.32             |
| 4-6 | 抗張強度 Tensile Strength (kgf/cm <sup>2</sup> ) | 26               |
| 4-7 | 撕裂強度 Tear Strength (kgf/cm)                  | 10               |

|      |                                   |                     |
|------|-----------------------------------|---------------------|
| 4-8  | 延伸率 Elongation (%)                | 280                 |
| 4-9  | 固化速率 Curing Rate (mm/day)         | 4                   |
| 4-10 | 熱傳導系數 Thermal Conductivity (W/mK) | NA                  |
| 4-11 | 固化後耐溫 Temperature Limited (°C)    | -40~250 (短時間 300°C) |

### 5. 使用說明 How To Use

|   |   |
|---|---|
|     | <ol style="list-style-type: none"> <li>適當清潔欲填縫之物體表面，確認無油漬及水分，必要時清潔後以風扇或熱風烘乾接著物體表面水分。</li> <li>將欲施工之填縫周圍以膠帶貼紙貼合緊密，以避免不需填縫處被矽利康污染。</li> <li>用刀片將矽利康瓶頭部切開，保留約 0.5 公分高度之螺紋，將塑膠尖頭旋入矽利康頭部，並將尖頭依實際需要切開所需之大小。</li> <li>將矽利康置入矽利康槍手工具中，擠壓至填縫處，以刮刀或其他適合工具將其抹平即完成修補動作。</li> <li>取下膠帶貼紙，並注意膠帶上之殘膠不要污染到其他區域。</li> <li>工作完成後 24 小時內勿碰觸，以免未乾燥而造成變形。7 天後矽橡膠會完全硬化此時可發揮最大之接著性及密封性。</li> <li>在使用及硬化過程中會釋放出些微氣味，屬於正常情況，待完全硬化後即會消失。</li> </ol> |
|---|---|

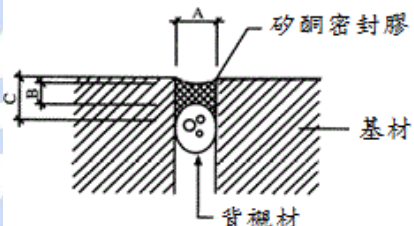
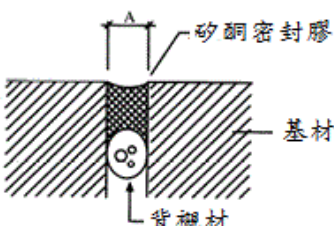
### 6. 使用範圍 Use range

| No. | 規範 Specification  |
|-----|---|
| 6-1 | <ol style="list-style-type: none"> <li>汽車引擎填縫、補強、迫緊用。</li> <li>煙霧和通風管道或管件接頭密封。</li> <li>烘箱門或窗黏合劑/密封件。</li> <li>工業高溫管道系統中填塞接縫密封。</li> <li>工業爐和鍋爐門或窗黏合劑/密封件。</li> </ol> |

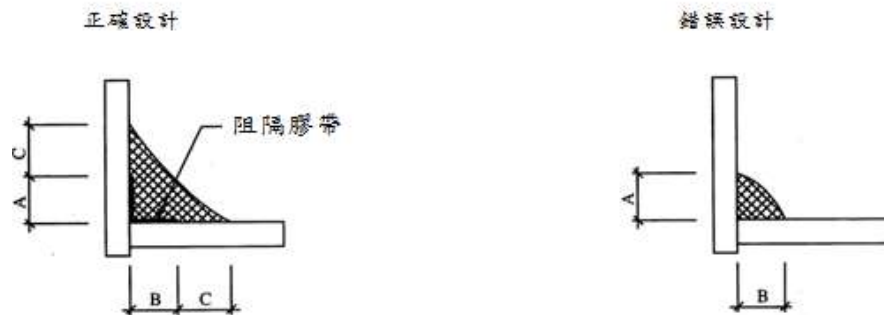
## 7. 注意事項 Limitation

| No. | 規範 Specification   |
|-----|--|
| 7-1 | <ol style="list-style-type: none"> <li>1. 材質表面須是乾淨、乾燥、無灰塵污染及無凍霜的，用遮罩膠帶黏在界面四周。</li> <li>2. 若需要底塗液，底塗液必須施打在清潔的表面。</li> <li>3. 按要求使用背襯材料或阻隔膠帶。</li> <li>4. 打膠時需讓膠注滿界面空隙。</li> <li>5. 刮膠是為了確保膠有流暢的接縫，具有正確的形狀及與基材完全接觸。</li> <li>6. 不可用於建築結構或玻璃帷幕接著、室外建築主體之接著。</li> <li>7. 請保存於 25°C 以下之乾燥場所。</li> <li>8. 使用時不要直接接觸到皮膚，請戴上手套、口罩及眼鏡。</li> <li>9. 避免接觸眼睛、避免小孩接觸若不慎沾到請立即沖水並就醫。</li> <li>10. 生產日期 12 個月內使用完畢。</li> </ol> |

## 8. 界面設計 Interface Design

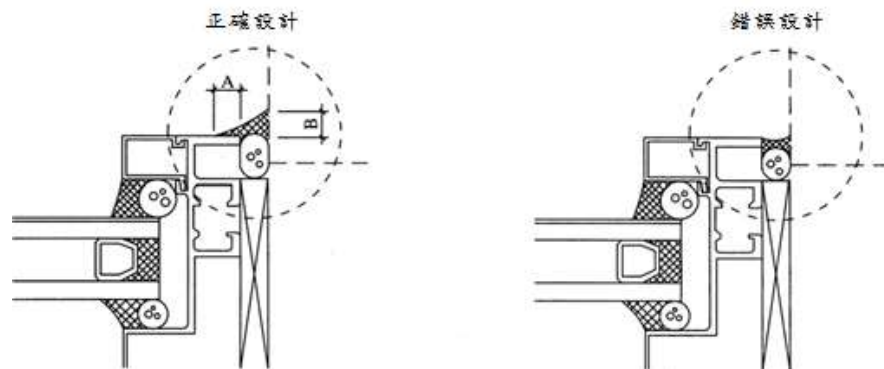
| No.         | 規範 Specification  |
|-------------|---|
| 8-1<br>移動接口 | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>正確設計</p>  </div> <div style="text-align: center;"> <p>錯誤設計</p>  </div> </div> <ol style="list-style-type: none"> <li>1. 尺寸 A 至少必須有 6mm。</li> <li>2. A:B 最佳比例應保持在 2:1。</li> <li>3. 尺寸 B 沒背襯材時，不得超過 4mm。</li> <li>4. 建議尺寸 A 最大為 14mm。</li> <li>5. 界面表面須刮成內凹狀。</li> </ol> |

8-2  
 角部接口



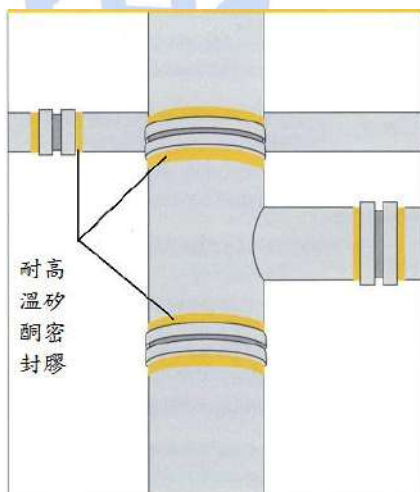
1. 尺寸 A 和 B 至少必須有 6mm(固定界面，無需阻隔膠帶)。
2. 如果設計之界面會移動，必須使用阻隔膠帶和背襯材，沒有阻隔膠帶材料，界面則無法承受位移。
3. 界面表面須刮成內凹狀。
4. 尺寸 C 至少為 6mm。

8-3  
 窗戶接口



1. 尺寸 A 和 B 至少為 6mm。
2. 在很薄的金屬邊框上打膠可能導致膠與金屬沒有充分的接觸而導致漏水。
3. 界面表面須刮成內凹狀。

8-4  
 管件接縫



1. 管路接縫。
2. 高溫環境之石材、金屬片等材料相互接合的場所。
3. 高溫烘箱弦窗、鄰接元件密封。

## 9. 檢測報告 Test Report



材料及工程實驗室-高雄

### 試驗報告



報告編號: KV-17-08212

頁數: 1 OF 3

報告日期: 106年09月15日

互力精密化學股份有限公司  
新竹縣湖口鄉新竹工業區光復北路 78 號

本實驗室依照委託單位之要求,根據委託單位所提供之樣品進行試驗,結果如下:

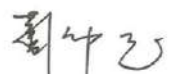
**產品名稱:** 耐高溫矽橡膠(阻燃型)  
**產品型號:** 5842  
**產品顏色:** 銀鋁色  
**製造廠商:** 互力精密化學股份有限公司  
**收件日期:** 106年08月22日  
**試驗日期:** 106年08月22日~106年09月14日  
**備註:** 1.以上資料由顧客提供(收件及試驗日期除外)  
2.除非另有說明,此報告結果僅對測試之樣品負責  
未經本公司事先書面同意,此報告不可部分複製

**委託試驗要求:** (依照客戶提供之測試規格進行試驗,詳細內容請參照附頁。)  
高溫老化試驗

**試驗結果** : --如附頁所示--

----- 1 -----

本報告若有提供規範值時,該規範要求值僅供參考,合格之判定以委託單位實際要求為準。

  
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材料及工程實驗室-高雄

### 試驗報告



報告編號: KV-17-08212

頁數: 2 OF 3

報告日期: 106 年 09 月 15 日

#### 試驗設備:

| 名稱    | 廠牌 | 型號     |
|-------|----|--------|
| 老化試驗機 | 全華 | PID-96 |

#### 實驗室環境條件:

環境溫度:  $(23 \pm 2) ^\circ\text{C}$

相對濕度:  $(50 \pm 5) \%$

#### 試驗方法:

將固化後的膠體置入烘箱, 以  $300 ^\circ\text{C}$  烘烤, 觀察膠體外觀是否有龜裂現象。

#### 試驗條件:

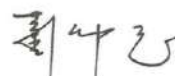
試驗時間(hr): 4、8、12。

#### 試驗結果:

| 試驗項目 | 試驗結果  |       |
|------|-------|-------|
| 老化試驗 | 4 小時  | 外觀無龜裂 |
|      | 8 小時  | 外觀無龜裂 |
|      | 12 小時 | 外觀無龜裂 |

----- 2 -----

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TWC2375791



材料及工程實驗室-高雄

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頁數: 3 OF 3  
報告日期: 106 年 09 月 15 日

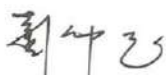
#### 試驗照片:



高溫老化測試後

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材料及工程實驗室-高雄

## 試驗報告



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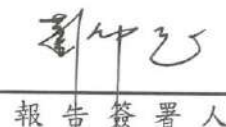
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高溫老化試驗

**試驗結果** : --如附頁所示--

----- 1 -----

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材料及工程實驗室-高雄

## 試驗報告



報告編號: KV-17-08211  
頁數: 2 OF 3  
報告日期: 106 年 09 月 15 日

### 試驗設備:

| 名稱    | 廠牌 | 型號     |
|-------|----|--------|
| 老化試驗機 | 全華 | PID-96 |

### 實驗室環境條件:

環境溫度:  $(23 \pm 2) ^\circ\text{C}$   
相對濕度:  $(50 \pm 5) \%$

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### 試驗條件:

試驗時間(hr): 4、8、12。

### 試驗結果:

| 試驗項目 | 試驗結果  |       |
|------|-------|-------|
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|      | 8 小時  | 外觀無龜裂 |
|      | 12 小時 | 外觀無龜裂 |

----- 2 -----

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TWC2375793



材料及工程實驗室-高雄

### 試驗報告



報告編號: KV-17-08211

頁數: 3 OF 3

報告日期: 106 年 09 月 15 日

#### 試驗照片:



試驗樣品



高溫老化測試後

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本報告若有提供規範值時,該規範要求值僅供參考,合格之判定以委託單位實際要求為準。



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TWC2375788



化學實驗室-高雄 Chemical Laboratory - Kao., SGS Taiwan Ltd.

## 試驗報告 Test Report

號碼(No.) : KA/2017/51832

日期(Date) : 2017/06/01

頁數(Page): 1 of 7

互力精密化學股份有限公司  
FINESIL TECHNOLOGY INC.  
新竹縣湖口鄉光復北路78號  
NO. 78, KUANG FU N. ROAD, HSIN CHU INDUSTRIAL PARK, 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) : 耐高溫矽橡膠填縫劑(阻燃型)  
樣品型號(Style/Item No.) : 5842  
收件日期(Sample Receiving Date) : 2017/05/24  
測試期間(Testing Period) : 2017/05/24 TO 2017/06/01  
送樣廠商(Sample Submitted By) : 互力精密化學股份有限公司 (FINESIL TECHNOLOGY INC.)

測試需求(Test Requested) : 依據客戶要求，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).

結論(Conclusion) : 根據客戶所提供的樣品，其鎘，鉛，汞，六價鉻，多溴聯苯，多溴聯苯醚的測試結果符合RoHS指令2002/95/EC的更新指令2011/65/EU之要求 (Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.)



報告簽署人/Ray Chang, Ph.D./Manager Tech  
Signed for and on behalf of  
SGS Taiwan Limited

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## 試驗報告 Test Report

號碼(No.) : KA/2017/51832 日期(Date) : 2017/06/01

頁數(Page): 2 of 7

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### 測試結果(Test Results)

測試部位(PART NAME)No.1 : 灰色 耐高溫矽橡膠填縫劑(阻燃型) (GRAY 耐高溫矽橡膠填縫劑(阻燃型))

| 測試項目<br>(Test Items)                    | 單位<br>(Unit) | 測試方法<br>(Method)   | 方法偵測<br>極限值<br>(MDL) | 結果<br>(Result) | 法規<br>限值<br>(Limit) |
|---|--------------|--|----------------------|----------------|---------------------|
|   |              |  |                      | No.1           |                     |
| 鎘 / 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 reference to IEC 62321-5: 2013 and performed by ICP-AES.   | 2                    | n.d.           | 100                 |
| 鉛 / Lead (Pb)                           | 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 reference to IEC 62321-5: 2013 and performed by ICP-AES.   | 2                    | n.d.           | 1000                |
| 汞 / Mercury (Hg)                        | mg/kg        | 參考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.           | 1000                |
| 六價鉻 / Hexavalent Chromium Cr(VI)<br>(◆) | mg/kg        | 參考IEC 62321-7-2:2017, 以UV-VIS檢測; 參考IEC 62321-5:2013, 以ICP-AES檢測. / With reference to IEC 62321-7-2:2017 and performed by UV-VIS.; With reference to IEC 62321-5:2013 and performed by ICP-AES. | 8                    | n.d.           | 1000                |

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## 試驗報告 Test Report

號碼(No.) : KA/2017/51832 日期(Date) : 2017/06/01

頁數(Page): 3 of 7

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| 測試項目<br>(Test Items)             | 單位<br>(Unit) | 測試方法<br>(Method)  | 方法偵測<br>極限值<br>(MDL) | 結果<br>(Result)<br>No.1 | 法規<br>限值<br>(Limit) |
|----------------------------------|--------------|---|----------------------|------------------------|---------------------|
|                                  |              |   |                      |                        |                     |
| 多溴聯苯總和 / Sum of PBBs             | mg/kg        | 參考IEC 62321-6:2015方法, 以氣相層析/質譜儀檢測. / With reference to IEC 62321-6:2015 and performed by GC/MS. | -                    | n.d.                   | 1000                |
| 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        | 參考IEC 62321-6:2015方法, 以氣相層析/質譜儀檢測. / With reference to IEC 62321-6:2015 and performed by GC/MS. | -                    | n.d.                   | 1000                |
| 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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## 試驗報告 Test Report

號碼(No.) : KA/2017/51832

日期(Date) : 2017/06/01

頁數(Page): 4 of 7

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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. (◆) :

若鉻含量小於六價鉻之方法偵測極限值，則六價鉻為n.d.，不須再測試六價鉻。

The result of Cr(VI) is "n.d." as the result of Chromium (Cr) is less than the MDL of Cr(VI), and confirmation test of Cr(VI) is not required.

若鉻含量未小於六價鉻之方法偵測極限值，需進行六價鉻測試。

If the Chromium (Cr) content is not less than the MDL of Cr(VI), confirmation test of Cr(VI) is required.



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## 試驗報告 Test Report

號碼(No.): KA/2017/51832

日期(Date): 2017/06/01

頁數(Page): 5 of 7

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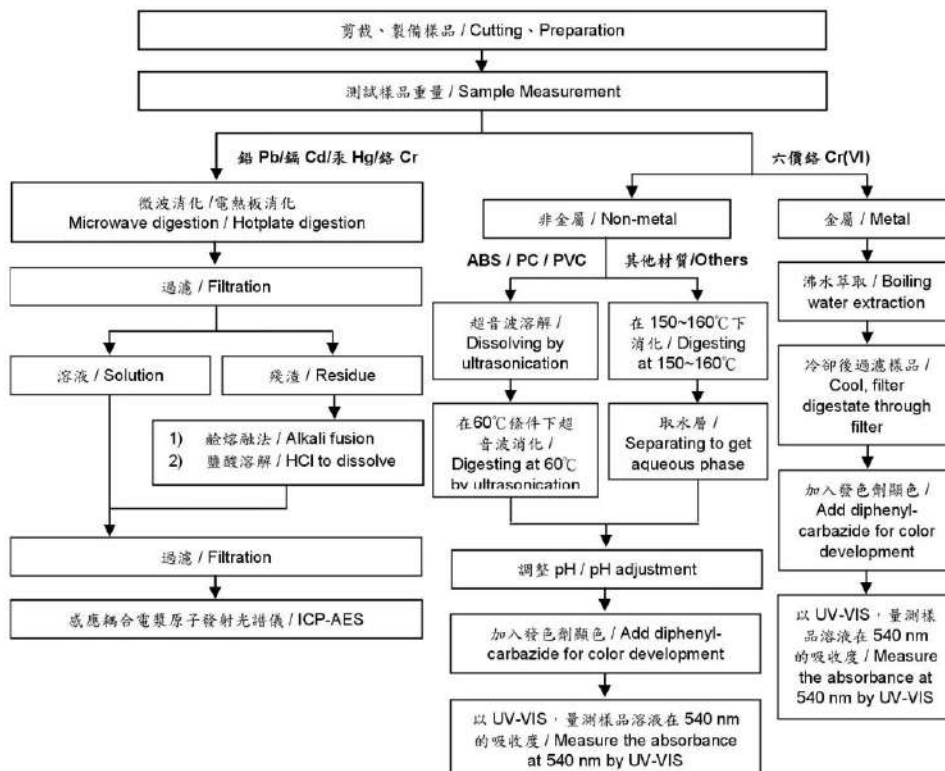
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### 重金屬流程圖 / Analytical flow chart of Heavy Metal

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)

- 測試人員：劉俊宏 / Technician: Jony Liu
- 測試負責人：張伯雲 / Supervisor: Ray Chang



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## 試驗報告 Test Report

號碼(No.) : KA/2017/51832

日期(Date) : 2017/06/01

頁數(Page): 6 of 7

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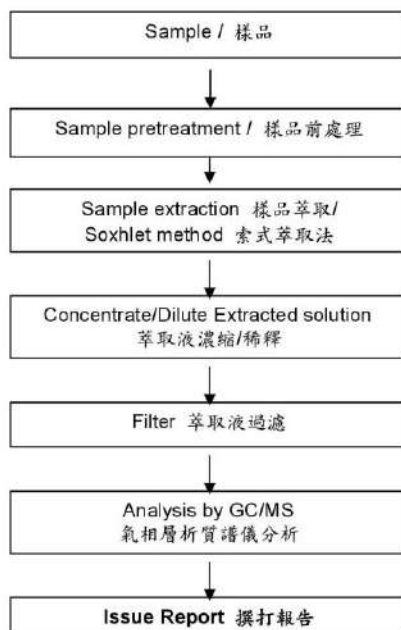
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### 多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART

1) 測試人員: 陳威錚 / Name of the person who made measurement: Dorothy Chen

2) 測試負責人: 張伯容 / Name of the person in charge of measurement: Ray Chang



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## 試驗報告 Test Report

號碼(No.) : KA/2017/51832

日期(Date) : 2017/06/01

頁數(Page): 7 of 7

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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.)

### KA/2017/51832



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