

Sp	ecificatior		pprov	val
		<u>016/05/03</u> 根河		
	TAI-TECH P/N: UHP25	2012NF-R68MT01	I	
	CUSTOMER P/N:			
	DESCRIPTION:			
	QUANTITY:	pcs		
ſ	REMARK:			
	Customer Ap	proval Feedback		
	西 北 臺 慶 科 胡 <u>TAI-TECH Advance</u>			
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Power Inductor

UHP252012NF-R68MT01

		ECN HISTORY LIS	ST		
REV	DATE	DESCRIPTION	APPROVED	CHECKED	DRAWN
1.0	16/05/03	新發行	楊祥忠	詹偉特	孔妍暄
備					
註					

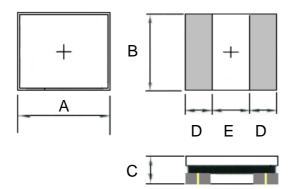
Power Inductor

UHP252012NF-R68MT01

1. Features

- 1. This specification applies Low Profile Power Inductors.
- 2. 100% Lead(Pb) & Halogen-Free and RoHS compliant.

2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
UHP252012NF	2.5 -0.1/+0.2	2.0 -0.1/+0.2	1.2 max.	0.85 ref.	0.80 ref.

Units: mm

3. Part Numbering

UHP	25201 2	2 NF -	R68	Μ	T01
А	В	С	D	Е	F
A: Series					
B: Dimension					
C: Lead Free		Materia	l		
D: Inductance		R68=0.6	38uH		
E: Inductance To	olerance	M=20%			
F: Control S/N					

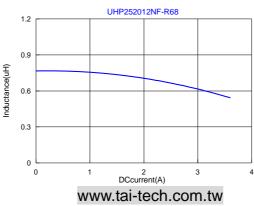
4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance (%)	Test Frequency (Hz)	DCR (Ω) ±20%	l sat (A) typ.	l sat (A) Max.	l rms (A) typ	l rms (A) Max.
UHP252012NF-R68MT01	0.68	±20%	0.1V/1M	0.036	3.00	2.70	3.30	3.00

Note:

Isat : Based on inductance change $~~(\bigtriangleup L/L0$: $\leqq 30\%\,)$ @ ambient temp. 25 $^\circ\! \mathbb{C}$

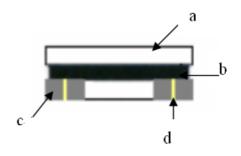
Irms : Based on temperature rise $(\triangle T : 40^{\circ}C.)$ Max





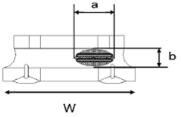
5. Material List

No.	Description	Specification
a.	Core	Ferrite Core
b.	Glue	Epoxy with magnetic powder
с	Termination	Tin (Pb Free)
d	Wire	Enameled Copper Wire



Void appearance tolerance Limit

Size of voids occurring to coating resin is specified below.

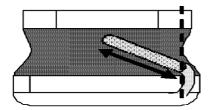


Appearance of exposed wire tolerance limit :

- 1. Width direction (dimension a): Acceptable when $a \leq w/2$
 - Nonconforming when a > w/2
- 2. Length direction (dimension b): Dimension b is not specified.
- 3. The total area of exposed wire occurring to each sides is not greater than 50% of coating resin area, and is acceptable.

External appearance criterion for exposed wire

Exposed end of the winding wire at the secondary side should be 2mm and below.



6. Reliability and Test Condition

Item	Performance	Test Condition
Operating temperature	-40~+125 $^\circ\!\!\mathbb{C}$ (Including self - temperature rise)	
Storage temperature	-40~+125℃ (on board)	
Electrical Performance Te	est	I
		HP4284A,CH11025,CH3302,CH1320,CH1320S
Inductance	Refer to standard electrical characteristics list.	LCR Meter.
DCR	_	CH16502, Agilent33420A Micro-Ohm Meter.
		Saturation DC Current (Isat) will cause L0
Saturation Current (Isat)	$\triangle L \leq 30\%$ typical.	to drop
		Heat Rated Current (Irms) will cause the coil temperature rise
Heat Rated Current (Irms)	Approximately $\triangle T \leq 40^{\circ}C$	1.Applied the allowed DC current(keep 1 min.).
		2.Temperature measured by digital surface thermometer
Dellebillar Teel		
Reliability Test		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles)
Life Test		Temperature: 125±2℃ Applied current:rated current Duration:1000±12hrs Measured at room temperature after placing for 24±2 hrs
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Humidity : 85±2%R.H, Temperature : 85℃±2℃ Duration : 1000hrs Min. with 100% rated current
Moisture Resistance	Appearance : No damage. Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±15% of initial value and shall not exceed the specification value	 Measured at room temperature after placing for 24±2 hrs Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at50°C for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3. Raise temperature to 65±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 4. Keep at 25°C for 2 hrs then keep at -10°C for 3 hrs 4. Keep at 25°C 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Thermal shock		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Condition for 1 cycle Step1 : $-40\pm2^\circ\mathbb{C}$ 30 ±5 min Step2 : $25\pm2^\circ\mathbb{C} \le 0.5$ min Step3 : $125\pm2^\circ\mathbb{C} 30\pm5$ min Number of cycles : 500
Vibration		Measured at room temperature after placing for 24±2 hrs Oscillation Frequency: 10 ~ 2K ~ 10Hz for 20 minutes Equipment : Vibration checker Total Amplitude:1.52mm±10% Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations)。

Item	Performance	Test Condition			
Shock	Appearance : No damage. Inductance : within±10% of initial value	Type Peak value (g' s) Normal duration (D) (ms) Wave form Velocity change (Vi)ft/sec SMD 50 11 Half-sine 11.3 Lead 50 11 Half-sine 11.3			
Bending	Q : Shall not exceed the specification value. RDC : within ±15% of initial value and shall not exceed the specification value	Shall be mounted on a FR4 substrate of the following dimensions: >=0805:40x100x1.2mm <0805:40x100x0.8mm Bending depth: >=0805:1.2mm <0805:0.8mm duration of 10 sec.			
Soderability	More than 95% of the terminal electrode should be covered with solder。	Preheat: 150°C,60sec.。 Solder: Sn96.5% Ag3% Cu0.5% Temperature: 245±5°C。 Flux for lead free: Rosin. 9.5%。 Dip time: 4±1sec。 Depth: completely cover the termination			
Resistance to Soldering Heat	Appearance : No damage. Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±15% of initial value and shall not exceed the specification value	Temperature (°C) Time(s) Temperature ramp/immersion and emersion rate 260 ±5(solder temp) 10 ±1 25mm/s ±6 mm/s			
Terminal Strength		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles With the component mounted on a PCB with the device to be tested, apply a force (>0805:1kg, <=0805:0.5kg)to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested.			
		DUT substrate press tool			

7. Soldering and Mounting

7-1. Soldering

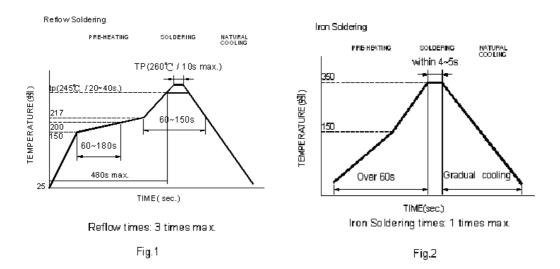
Mildly activated rosin fluxes are preferred. TAI-TECH terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

7-1.1 Solder re-flow:

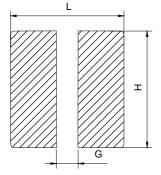
Recommended temperature profiles for re-flow soldering in Figure 1.

7-1.2 Soldering Iron(Figure 2):

- Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that
- a soldering iron must be employed the following precautions are recommended. Preheat circuit and products to 150°C Never contact the ceramic with the iron tip
- 355℃ tip temperature (max)
- 1.0mm tip diameter (max)
- · Use a 20 watt soldering iron with tip diameter of 1.0mm Limit soldering time to 4~5 sec.



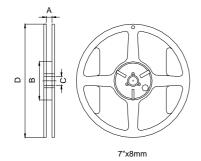
7-2. Recommended PC Board Pattern



L(mm)	G(mm)	H(mm)
2.9	0.8	2.4

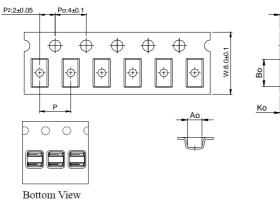
8. Packaging Information

8-1. Reel Dimension



Туре	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	8.4±1.0	50 min.	13±0.8	178±2

8-2. Tape Dimension / 8mm



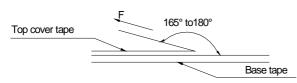
Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
UHP	252012	2.85±0.1	2.45±0.1	1.40±0.1	4.0±0.1	0.23±0.05

Bottom view

8-3. Packaging Quantity

Chip size	252012
Chip / Reel	2000

8-4. Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

Room Temp.	Room Humidity	Room atm	Tearing Speed	
(°C)	(%)	(hPa)	mm/min	
5~35	45~85	860~1060	300	

Application Notice

- Storage Conditions(component level)
 - To maintain the solderability of terminal electrodes:
 - 1. TAI-TECH products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
 - 2. Temperature and humidity conditions: Less than 40 $^\circ\!{\rm C}$ $\,$ and 60% RH.
 - 3. Recommended products should be used within 12 months form the time of delivery.
 - 4. The packaging material should be kept where no chlorine or sulfur exists in the air.

Transportation

- 1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- 2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
- 3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

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測試報告 號碼(No.): CE/2015/B1564 日期(Date): 2015/11/16 頁數(Page): 1 of 15 **Test Report** 西北臺慶科技股份有限公司 / TAI-TECH ADVANCED ELECTRONICS CO., LTD. (臺慶精密電子(昆山)有限公司 / TAI-TECH ADVANCED ELECTRONICS (KUN-SHAN) CO. LTD.) (耀鐀科技股份有限公司 / YOSONIC TECHNOLOGY CO., LTD.) (慶邦電子元器件(泗洪)有限公司 / TAIPAQ ELECTRONICS (SI-HONG) CO., LTD.) 桃園市楊梅區幼獅工業區幼四路1號 / NO. 1, YOU 4TH ROAD, YOUTH INDUSTRIAL DISTRICT, YANG-MEI, TAO-YUAN CITY, TAIWAN, R.O.C. (江蘇省昆山市篷朗昆嘉高科技工業區郭澤路 / GUO-ZE ROAD, KUNJIA HI-TECH INDUSTRIAL PARK, KUN-SHAN, JIANG-SU, CHINA) (桃園市中壢區中壢工業區長春六路15號 / NO. 15, CHANGCHUN 6TH RD., JHONGLI CITY, TAOYUAN COUNTY 320, TAIWAN) (江蘇省宿邊市泗洪縣經濟開發區金沙南路-高新技術產業園 / HIGH-TECH INDUSTRIAL DISTRICT, JINSHAJIANG ROAD, SIHONG COUNTY ECONOMIC, SUQIAN CITY, JIANGSU) 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): 樣品名稱(Sample Description) SMD POWER INDUCTOR . 樣品型號(Style/Item No.) $HPC(YHC \cdot DR) \cdot MDC \cdot FPC(YPC) \cdot FWP(YWP) \cdot SPC \cdot AHP \cdot UHP \cdot DFP \cdot DHP \cdot TLPC \cdot$ 5 TLPH . TLI SERIES 收件日期(Sample Receiving Date) 2015/11/10 :

测试期間(Testing Period) : 2015/11/10 TO 2015/11/16

测试结果(Test Results) : 請見下一頁 (Please refer to next pages).



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測試報告 Test Report^號

號碼(No.): CE/2015/B1564

日期(Date): 2015/11/16

頁數(Page): 2 of 15

西北臺慶科技股份有限公司 / TAI-TECH ADVANCED ELECTRONICS CO., LTD.

(臺慶精密電子(昆山)有限公司 / TAI-TECH ADVANCED ELECTRONICS (KUN-SHAN) CO. LTD.)

(耀鑽科技股份有限公司 / YOSONIC TECHNOLOGY CO., LTD.)

(慶邦電子元器件(泗洪)有限公司 / TAIPAQ ELECTRONICS (SI-HONG) CO., LTD.)

桃園市楊梅區幼獅工業區幼四路1號 / NO. 1, YOU 4TH ROAD, YOUTH INDUSTRIAL DISTRICT, YANG-MEI, TAO-YUAN CITY, TAIWAN, R.O.C. (江蘇省昆山市篷朗昆嘉高科技工業區郭澤路 / GUO-ZE ROAD, KUNJIA HI-TECH INDUSTRIAL PARK, KUN-SHAN, JIANG-SU, CHINA) (桃園市中壢區中壢工業區長春六路15號 / NO. 15, CHANGCHUN 6TH RD., JHONGLI CITY, TAOYUAN COUNTY 320, TAIWAN) (江蘇省宿邊市泗洪縣經濟開發區金沙南路-高新技術產業園 / HIGH-TECH INDUSTRIAL DISTRICT, JINSHAJIANG ROAD, SIHONG COUNTY ECONOMIC, SUQIAN CITY, JIANGSU)

<u>测试结果(Test Results)</u>

測試部位(PART NAME)No.1 : 整體混測 (MIXED ALL PARTS)

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
鎘 / Cadmium (Cd)	mg/kg	参考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.
鉛 / Lead (Pb)	mg/kg	参考IEC 62321-5: 2013方法, 以感應耦合 電浆原子發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n. d.
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.
六溴環十二烷及所有主要被辨別出的異構 物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	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 method. Analysis was performed by GC/MS.	5	n. d.

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測試報告 Test Report^號

號碼(No.): CE/2015/B1564

日期(Date): 2015/11/16

西北臺慶科技股份有限公司 / TAI-TECH ADVANCED ELECTRONICS CO., LTD. (臺慶精密電子(昆山)有限公司 / TAI-TECH ADVANCED ELECTRONICS (KUN-SHAN) CO. LTD.)

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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
聚氯乙烯 / PVC	**	以紅外光譜分析及焰色法檢測. / Analysis was performed by FTIR and FLAME Test.	<u>ш</u>	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		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	13	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	参考IEC 62321-6: 2015方法, 以氣相層析/	5	n. d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	質譜儀檢測. / With reference to IEC 62321-6: 2015 and performed by GC/MS.		n. d.
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg	02021 0. 2015 and performed by derms.	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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測試報告 Test Report^就

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西北臺慶科技股份有限公司 / TAI-TECH ADVANCED ELECTRONICS CO., LTD.

(臺慶精密電子(昆山)有限公司 / TAI-TECH ADVANCED ELECTRONICS (KUN-SHAN) CO. LTD.)

(耀鑽科技股份有限公司 / YOSONIC TECHNOLOGY CO., LTD.)

(慶邦電子元器件(泗洪)有限公司 / TAIPAQ ELECTRONICS (SI-HONG) CO., LTD.)

桃園市楊梅區幼獅工業區幼四路1號 / NO. 1, YOU 4TH ROAD, YOUTH INDUSTRIAL DISTRICT, YANG-MEI, TAO-YUAN CITY, TAIWAN, R.O.C. (江蘇省昆山市篷朗昆嘉高科技工業區郭澤路 / GUO-ZE ROAD, KUNJIA HI-TECH INDUSTRIAL PARK, KUN-SHAN, JIANG-SU, CHINA) (桃園市中壢區中壢工業區長春六路15號 / NO. 15, CHANGCHUN 6TH RD., JHONGLI CITY, TAOYUAN COUNTY 320, TAIWAN) (江蘇省宿遷市泗洪縣經濟開發區金沙南路-高新技術產業園 / HIGH-TECH INDUSTRIAL DISTRICT, JINSHAJIANG ROAD, SIHONG COUNTY ECONOMIC, SUQIAN CITY, JIANGSU)

測試項目 (Test Items)	單位 (Unit)	测試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No. 1
銻 / Antimony (Sb)	mg/kg	参考US EPA 3052方法,以感應耦合電漿原 子發射光譜儀檢測. / With reference to US EPA Method 3052. Analysis was performed by ICP-AES.	2	n. d.
鈹 / Beryllium (Be)	mg/kg	参考US EPA 3052方法,以感應耦合電漿原 子發射光譜儀檢測. / With reference to US EPA Method 3052. Analysis was performed by ICP-AES.	2	n. d.
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	参考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.	10	n. d.
全氟辛酸 / PFOA (CAS No.: 335-67-1)	mg/kg	参考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.	10	n. d.
鹵素 / Halogen				
鹵素(氟)/ Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	d	50	n. d.
鹵素 (氦) / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg	參考BS EN 14582:2007,以離子層析儀分 析. / With reference to BS EN	50	n. d.
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	14582:2007. Analysis was performed by IC.	50	n. d.
鹵素(碘)/ Halogen-Iodine (1) (CAS No.: 14362-44-8)	mg/kg		50	n. d.

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测試項目 (Test Items)	單位 (Unit)	测試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result) No.1
鄭苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg		50	n. d.
鄰苯二甲酸二丁酯 / DBP (Dibuty1 phthalate) (CAS No.: 84-74-2)	mg/kg	參考IEC 62321-8 (111/321/CD),以氣相層 析儀/質譜儀檢測之. / With reference to IEC 62321-8 (111/321/CD). Analysis was performed by GC/MS.	50	n. d.
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg		50	n. d.
鄰苯二甲酸二異丁酯 / DIBP (Di- isobutyl phthalate) (CAS No.: 84-69- 5)	mg/kg		50	n. d.
鄰苯二甲酸二異癸酯 / DIDP (Di- isodecyl phthalate) (CAS No.: 26761- 40-0; 68515-49-1)	mg/kg		50	n. d.
鄰苯二甲酸二異壬酯 / DINP (Di- isononyl phthalate) (CAS No.: 28553- 12-0; 68515-48-0)	mg/kg		50	n. d.
鄭苯二甲酸二正辛酯 / DNOP (Di-n- octyl phthalate) (CAS No.: 117-84-0)	mg/kg		50	n. d.
鄰苯二甲酸二正己酯 / DNHP (Di-n- hexyl phthalate) (CAS No.: 84-75-3)	mg/kg		50	n. d.

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ECONOMIC, SUQIAN CITY, JIANGSU)

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. Negative = Undetectable 陰性(未偵測到); Positive = Detectable 陽性(已偵測到)
- 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.)

PFOS参考資訊(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 semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above $1\mu g/m^2$.)

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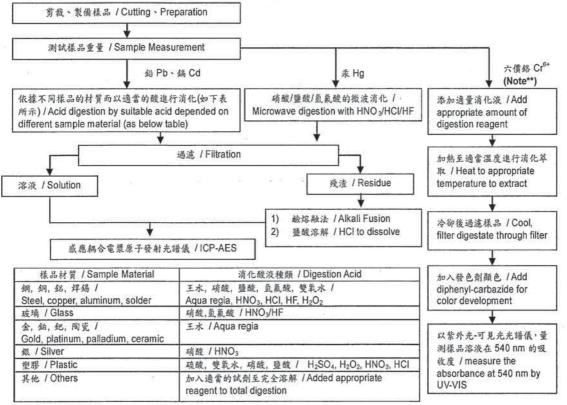
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 根據以下的流程圖之條件,樣品已完全溶解。(六價絡测試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)

- 2) 测试人员:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 测试負責人:張啟興 / Name of the person in charge of measurement: Troy Chang



Note** (For IEC 62321)

(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,加熱至沸腾萃取. / For metallic material, add pure water and heat to boiling.

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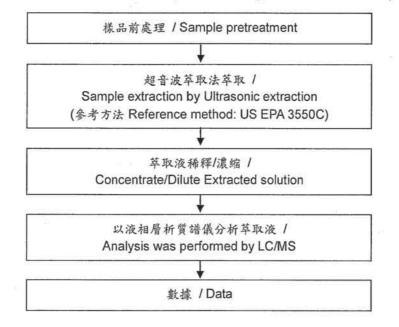
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全氟辛酸/全氟辛烷磺酸分析流程圖 / PFOA/PFOS analytical flow chart

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

测試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang



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- 根據以下的流程圖之條件,樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 測試人員:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 測試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang

元素以 ICP-AES 分析的消化流程圖 (Flow Chart of digestion for the elements analysis performed by ICP-AES) 剪裁、製備樣品 / Cutting、Preparation + 測試樣品重量 / Sample Measurement 依據不同樣品的材質而以適當的酸進行消化(如下表所示)/Acid digestion by suitable acid depended on different sample material (as below table) 過濾 / Filtration 殘渣 / Residue 溶液 / Solution 1) 鹼熔融法 / Alkali Fusion 2) 鹽酸溶解 / HCI to dissolve 感應耦合電漿原子發射光譜儀 / ICP-AES 鋼,銅,鋁,焊錫 / Steel, copper, aluminum, solder 王水,硝酸,鹽酸,氫氯酸,雙氧水 / Aqua regia, HNO₃, HCl, HF, H₂O₂ 玻璃 / Glass 硝酸,氫氯酸 / HNO3/HF 金,鉑,鈀,陶瓷 / Gold, platinum, palladium, ceramic 王水 / Aqua regia 銀 / Silver 硝酸 / HNO3

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塑膠 / Plastic

其他 / Others

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硫酸,雙氧水,硝酸,鹽酸 / H2SO4, H2O2, HNO3, HCI 加入適當的試劑至完全溶解 / Added appropriate

reagent to total digestion



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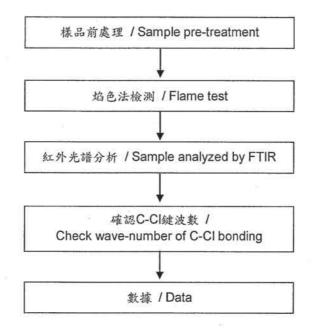
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聚氯乙烯物質判定分析流程圖 /

Analysis flow chart for determination of PVC in material

- 测试人員:林建宇 / Name of the person who made measurement: Roy Lin
- 測試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang



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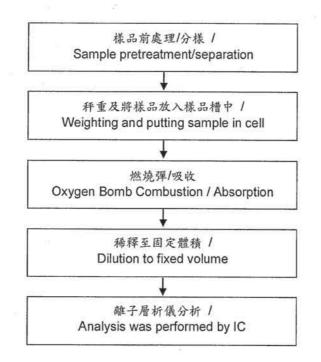
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鹵素分析流程圖 / Analytical flow chart of halogen content

■ 測試人員:陳恩臻 / Name of the person who made measurement: Rita Chen

■ 測試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang



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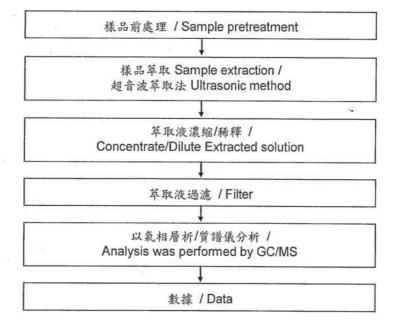
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六溴環十二烷分析流程圖 / HBCDD analytical flow chart

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

■ 測試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang



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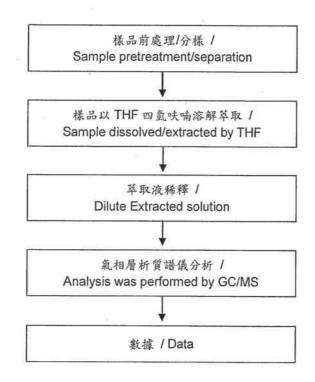
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可塑劑分析流程圖 / Analytical flow chart of phthalate content

■ 測試人員: 徐毓明 / Name of the person who made measurement: Andy Shu

■ 測試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang

【测試方法/Test method: IEC 62321-8】



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

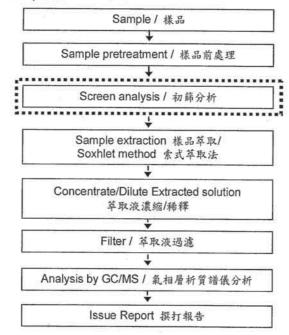
■ 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong

■ 测試負責人:張啟興 / 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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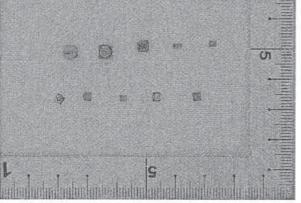
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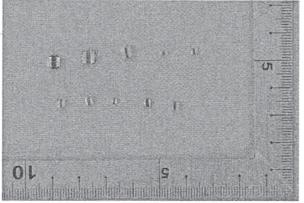
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> * 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. * (The tested sample / part is marked by an arrow if it's shown on the photo.)

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