

亞 驪 企 業 股 份 有 限 公 司  
ARISTOTLE ENTERPRISES

承 認 申 請 書

ROHS COMPLIANCE

客戶名稱: 虹堡科技股份有限公司  
Customer  
廠商料號: RFAS87-PT1000G-12009  
Part No.  
品名: L=2M  
Description  
圖號: RFAS87-PT1000G-12009  
Drawing No.  
客戶料號: 311600204000  
Drawing No.

出廠簽章:

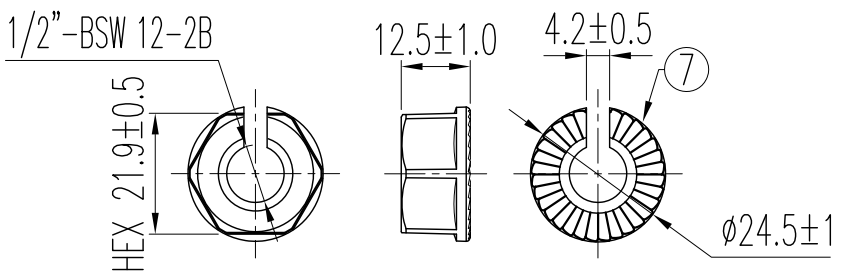
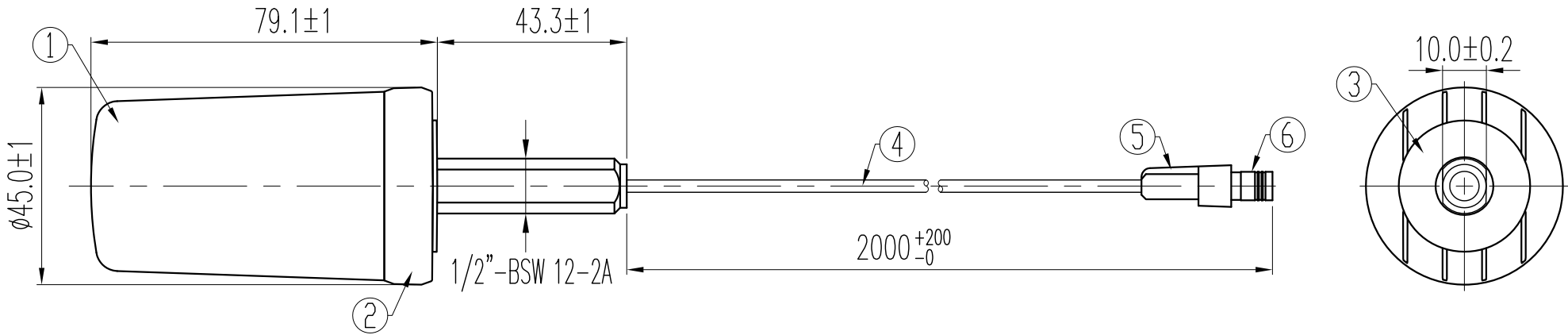
檢 查 TEST BY	核 對 CHECK BY	承 認 APPROVE BY
方美鑾	傅千玲	廖煥文

承認簽章:

檢 查 TEST BY	核 對 CHECK BY	承 認 APPROVE BY

地址:新北市中和區莒光路 63 號 8 樓  
電話:02-2225-8209  
傳真:02-2225-7523

NO.	NAME	FINSH	MAT'L	Q'TY	MEMO
1.	Tube	Black	PC	1	
2.	Base	Black	Nylon	1	
3.	Ruber Pad	Black	Ruber	1	
4.	Cable	Black	--	1	ULA100
5.	SR	Black	PVC	1	
6.	SMB PLUG	Plated Gold	Brass	1	
7.	Nut	Black	Nylon	1	



PROJECTION		TOLERANCE UNLESS OTHERWISE SPECIFIED		亞驪企業股份有限公司 ARISTOTLE ENTERPRISES INC.	
		LINER	ANGLE	TITLE	
UNITS		.X ±1.0	X° ±5°	RFAS87-PT1000G-12009	
MM		.XX ±0.5		DWG NO.	
		.XXX ±0.2		RFAS87-PT1000G-12009	
REV.	A	APPD.			
SHEET	1/1	CHKD.			
SIZE	SCALE	DESIGN			
REV.	ECN.	NAME	DATE	DRW	2022/12/1

3.			
2.			
1.			
REV.	ECN.	NAME	DATE

亞驪企業股份有限公司  
ARISTOTLE ENTERPRISES INC.

FAI Report

客戶簡稱	C606	客戶料號	311600204000	亞驪料號	RFAS87-PT1000G-12009	
項次	測量點	1	2	3	判定	備註
1	79.1±1	79.1	79.1	79.1	V	
2	Ø45.0±1	45.0	45.0	45.0	V	
3	43.3±1	43.3	43.3	43.3	V	
4	2000+200/-0	2030	2010	2050	V	
5	10.0±0.2	10.0	10.0	10.0	V	
6	21.9±0.5	21.9	21.9	21.9	V	
7	12.5±1.0	12.5	12.5	12.5	V	
8	4.2±0.5	4.2	4.2	4.2	V	
9	Ø24.5±1	24.5	24.5	24.5	V	
10						

備註：

# 產品照片&單重



單重:80.8g

## Antenna Type : monopole

## RFAS87-PT1000G-12009

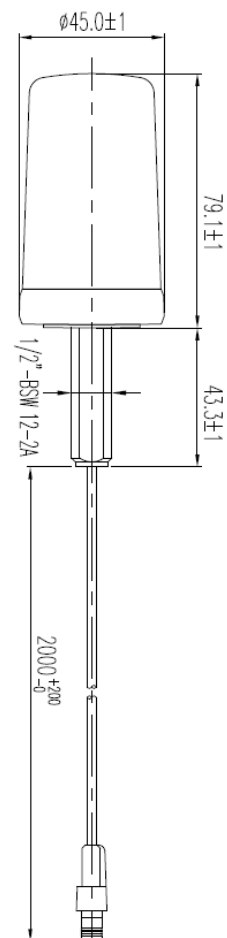
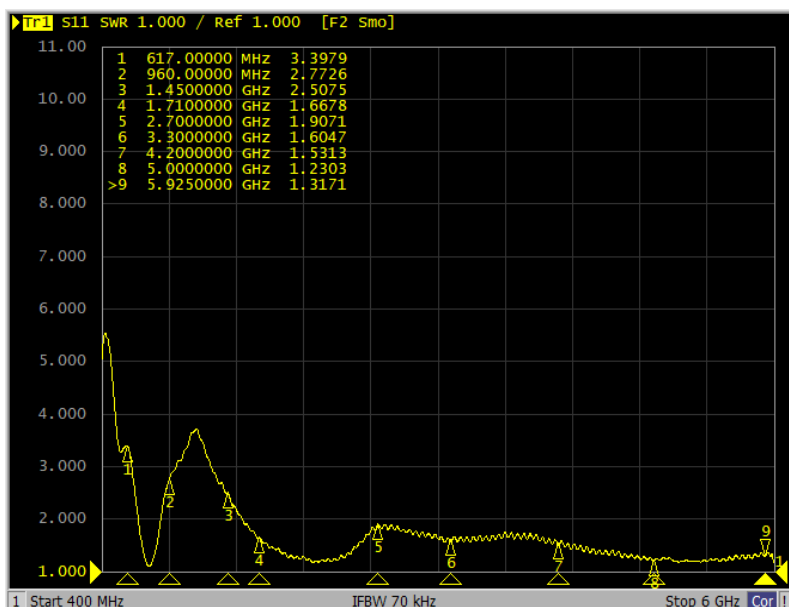
### Specifications

Frequency range	617-960 MHz	1452-1474 MHz	1710-2200 MHz	2300-2690 MHz	3300-5000 MHz	5150-5925 MHz
Peak gain	3.89 dBi	1.88 dBi	2.53 dBi	2.2 dBi	1.36 dBi	1.58 dBi
Average gain	-1.46 dBi	-3.25 dBi	-2.57 dBi	-3.1 dBi	-3.79 dBi	-4.81 dBi
VSWR	4.0 : 1 Max.	3.5 : 1 Max.	2.5 : 1 Max.	2.5 : 1 Max.	2.5 : 1 Max.	2.5 : 1 Max.
Polarization	Linear, vertical					
Impedance	50 Ω					
Cable	ULA100					
Cable Length	2M					
Connector	SMB PLUG					

### Environment & Mechanical Characteristics

Temperature	- 40°C to +85°C
Humidity	95% @ 25°C

### VSWR

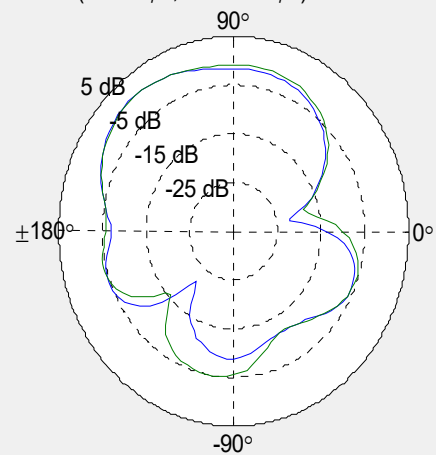
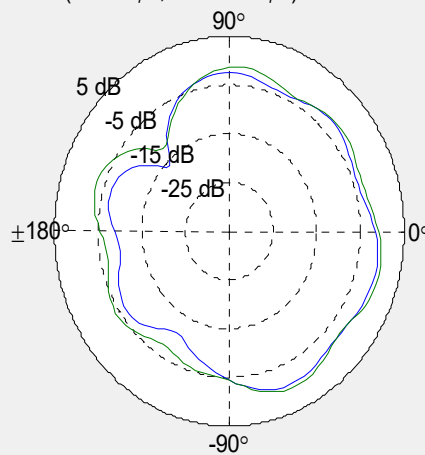


Radiation Pattern

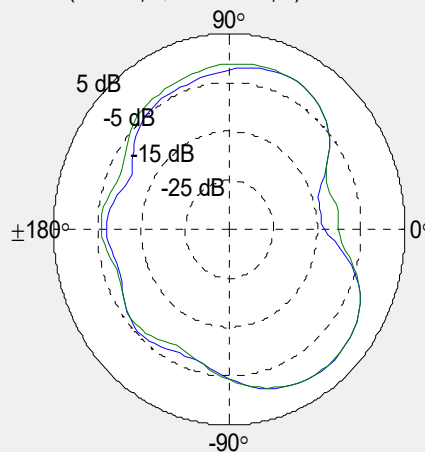
SUB6G-L1- = 600 - 651 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

— 617 MHz  
— 634.5 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

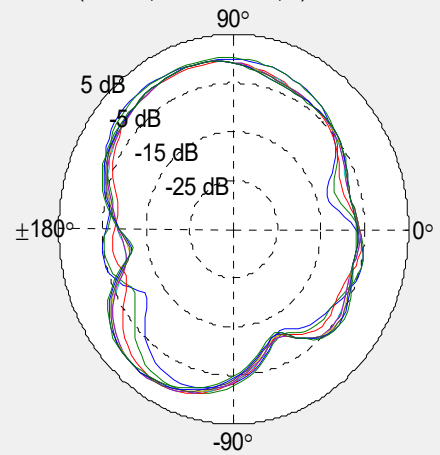
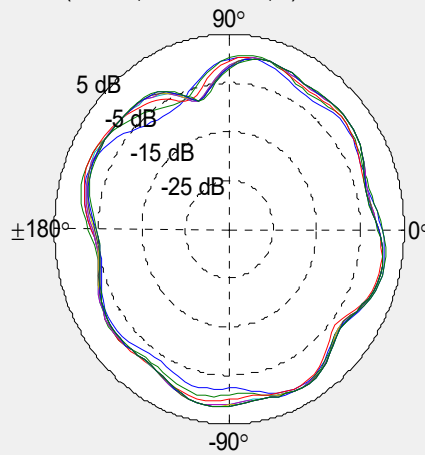


Radiation Pattern

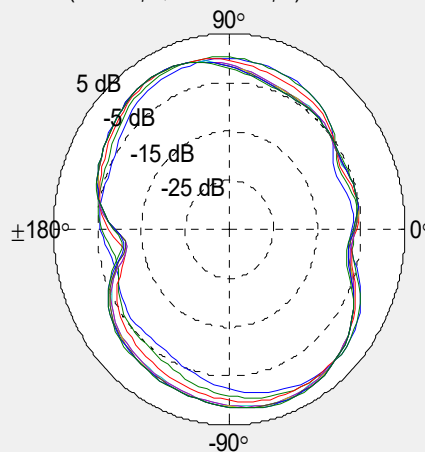
SUB6G-L1-1 = 652 - 710 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 652 MHz
- 663 MHz
- 680.5 MHz
- 698 MHz
- 699 MHz
- 703 MHz
- 704 MHz
- 707 MHz
- 710 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

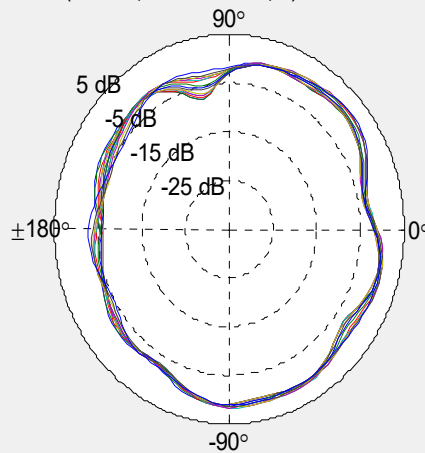


## Radiation Pattern

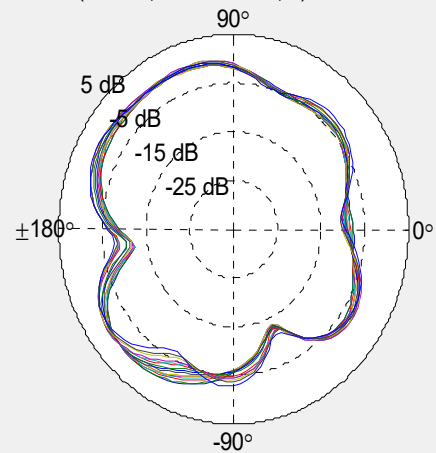
SUB6G-L1-2 = 716 - 763 MHz

- 716 MHz
- 717 MHz
- 722.5 MHz
- 725.5 MHz
- 728 MHz
- 729 MHz
- 734 MHz
- 737 MHz
- 740 MHz
- 746 MHz
- 748 MHz
- 751 MHz
- 756 MHz
- 758 MHz
- 763 MHz

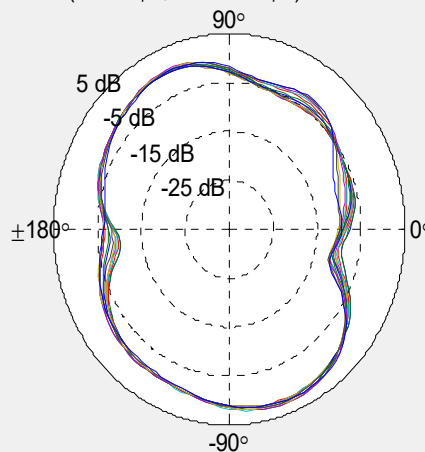
XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX



ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX



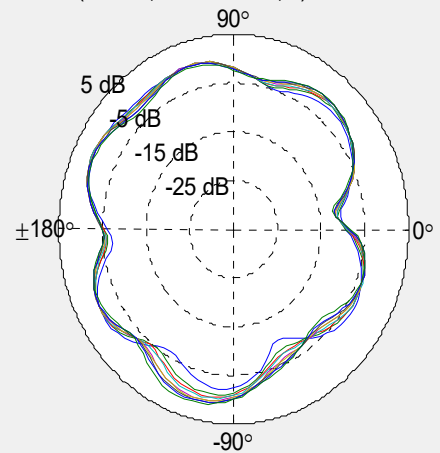
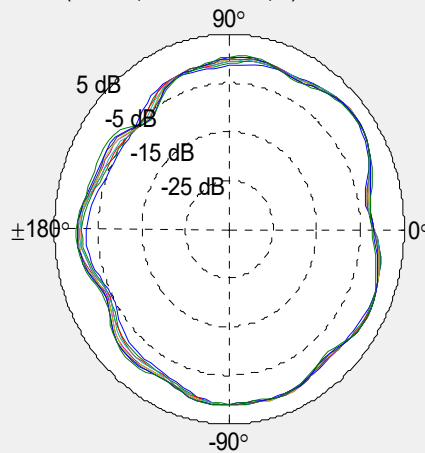


Radiation Pattern

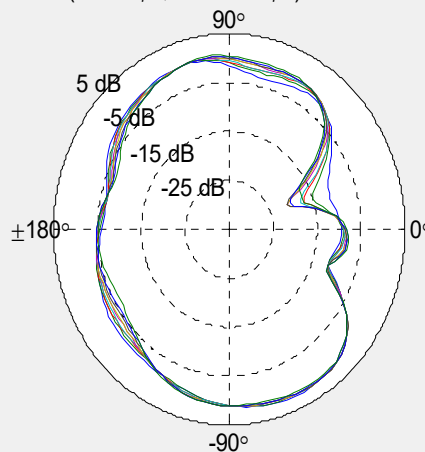
SUB6G-L1-3 = 768 - 798 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 768 MHz
- 777 MHz
- 780.5 MHz
- 782 MHz
- 787 MHz
- 788 MHz
- 791 MHz
- 793 MHz
- 798 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

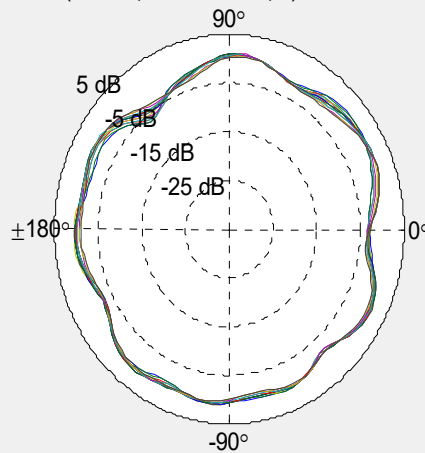


## Radiation Pattern

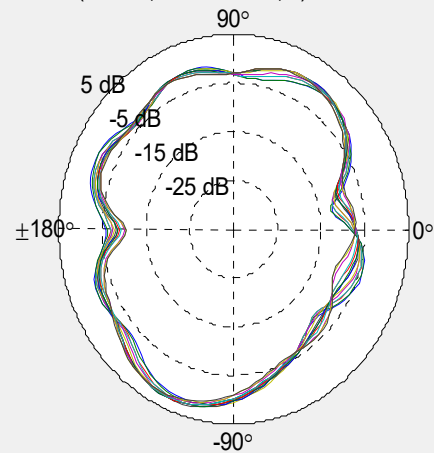
SUB6G-L2-1 = 803 - 849 MHz

- 803 MHz
- 806 MHz
- 814 MHz
- 815 MHz
- 821 MHz
- 824 MHz
- 830 MHz
- 831 MHz
- 832 MHz
- 836 MHz
- 837.5 MHz
- 845 MHz
- 847 MHz
- 849 MHz

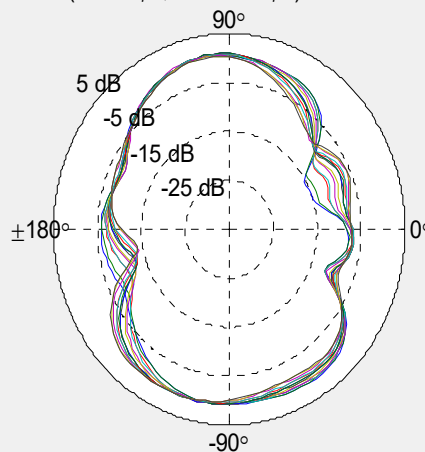
XY Plane (+X = 0°ϕX, +Y = +90°ϕX) / Elevation = 90°ϕX



ZX Plane (+Z = 0°ϕX, +X = +90°ϕX) / Azimuth = 0°ϕX



YZ Plane (+Z = 0°ϕX, +Y = +90°ϕX) / Azimuth = 90°ϕX

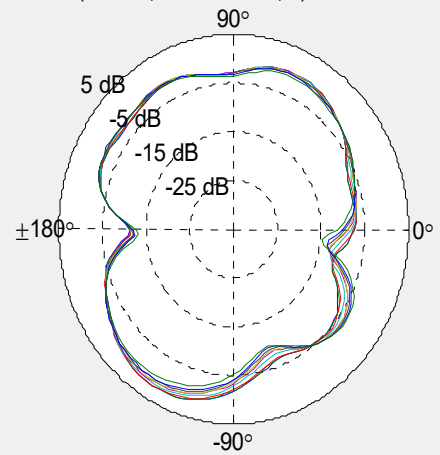
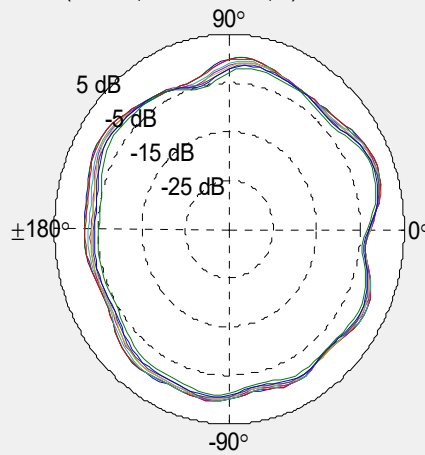


Radiation Pattern

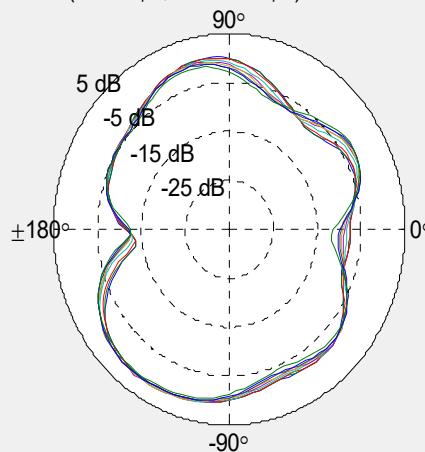
SUB6G-L2-2 = 859 - 890 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 859 MHz
- 860 MHz
- 862 MHz
- 869 MHz
- 875 MHz
- 876 MHz
- 880 MHz
- 882.5 MHz
- 890 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

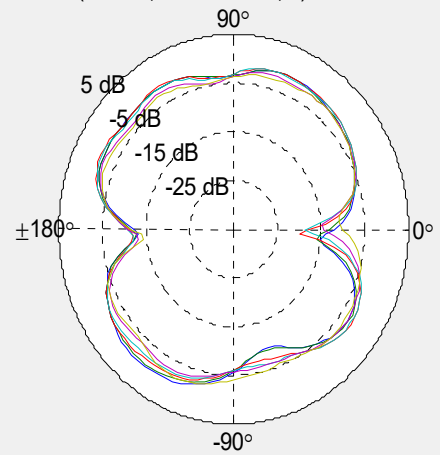
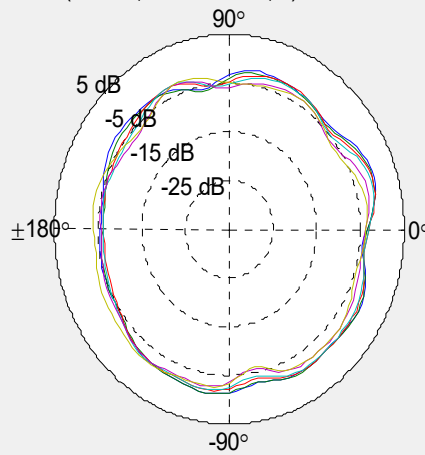


Radiation Pattern

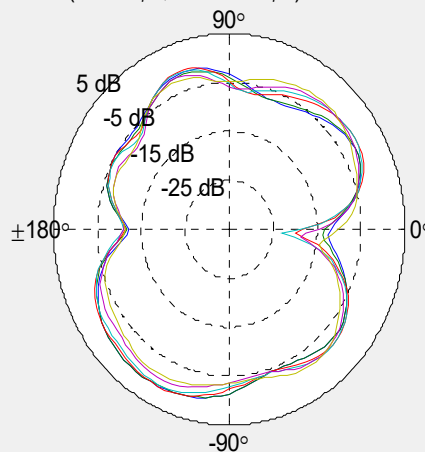
SUB6G-L2-3 = 894 - 960 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 894 MHz
- 900 MHz
- 915 MHz
- 925 MHz
- 940 MHz
- 960 MHz



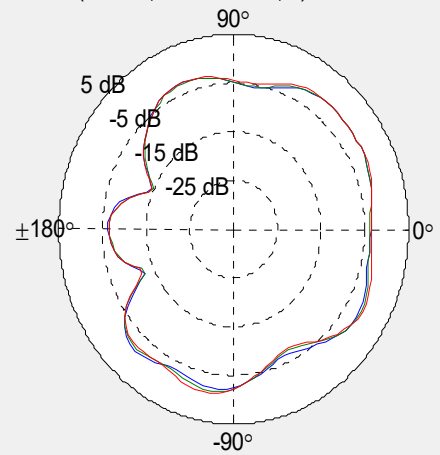
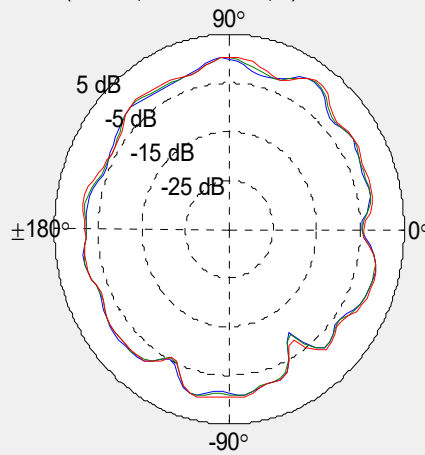
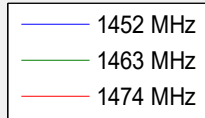
YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX



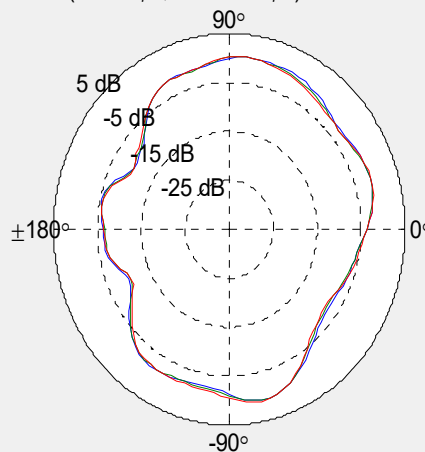
Radiation Pattern

SUB6G-GPS = 1000 - 1680 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

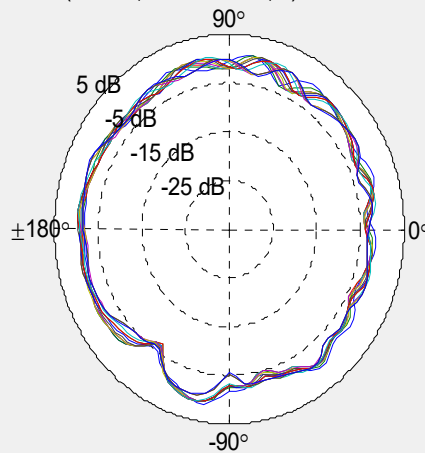


## Radiation Pattern

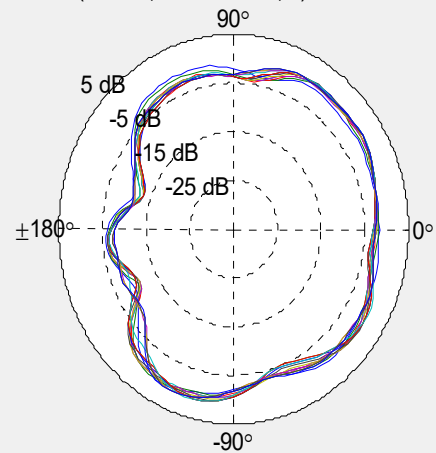
SUB6G-H1-1 = 1710 - 1850 MHz

- 1710 MHz
- 1730 MHz
- 1745 MHz
- 1747.5 MHz
- 1749.9 MHz
- 1755 MHz
- 1767.4 MHz
- 1780 MHz
- 1784.9 MHz
- 1785 MHz
- 1805 MHz
- 1840 MHz
- 1842.5 MHz
- 1844.9 MHz
- 1850 MHz

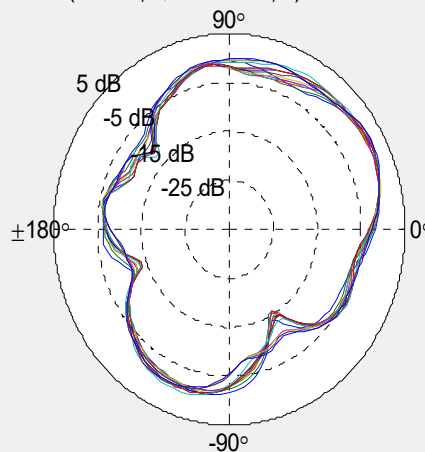
XY Plane (+X = 0°ϕX, +Y = +90°ϕX) / Elevation = 90°ϕX



ZX Plane (+Z = 0°ϕX, +X = +90°ϕX) / Azimuth = 0°ϕX



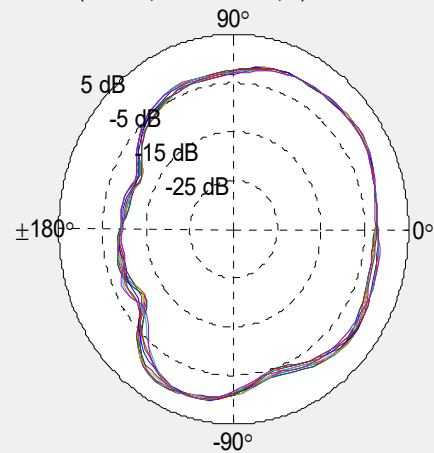
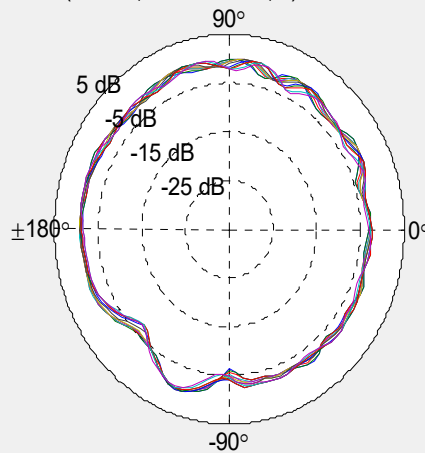
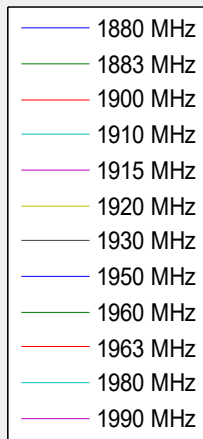
YZ Plane (+Z = 0°ϕX, +Y = +90°ϕX) / Azimuth = 90°ϕX



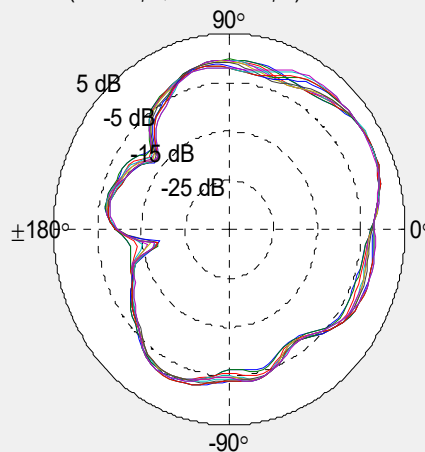
## Radiation Pattern

SUB6G-H1-2 = 1880 - 1990 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

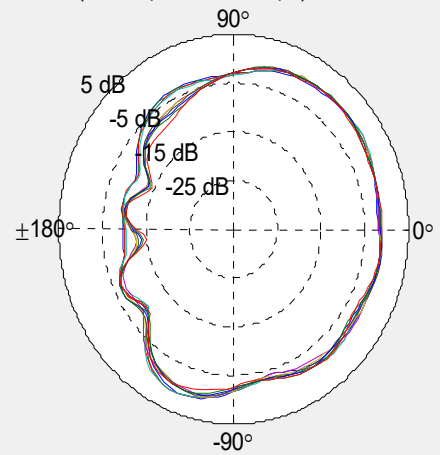
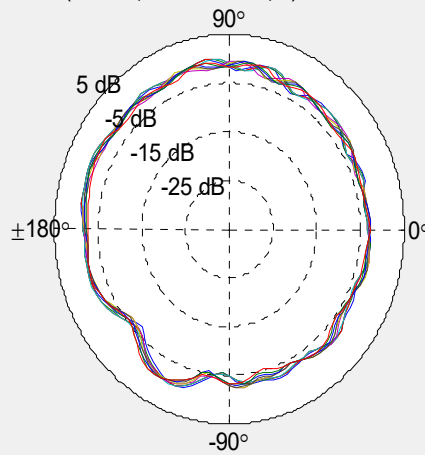


Radiation Pattern

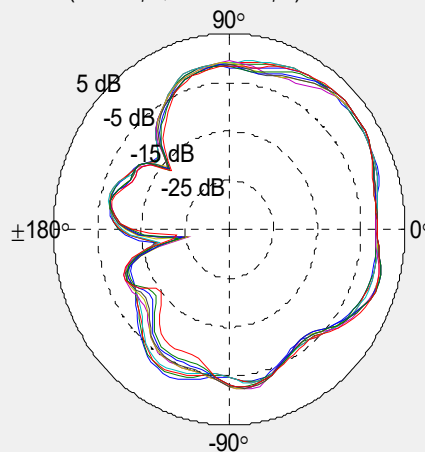
SUB6G-H1-3 = 1995 - 2200 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 1995 MHz
- 2010 MHz
- 2018 MHz
- 2025 MHz
- 2110 MHz
- 2130 MHz
- 2140 MHz
- 2155 MHz
- 2170 MHz
- 2200 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX



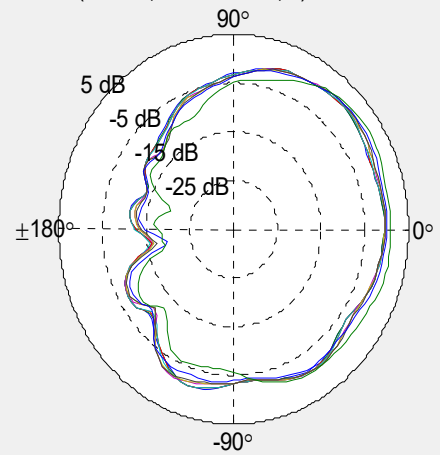
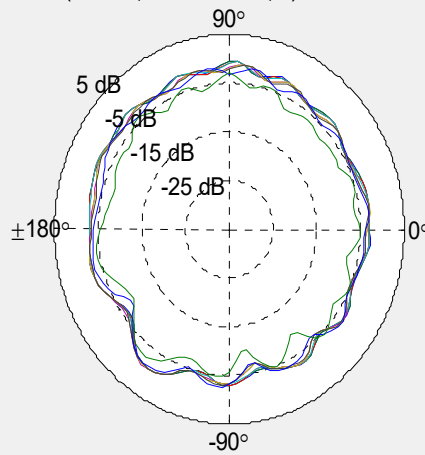


Radiation Pattern

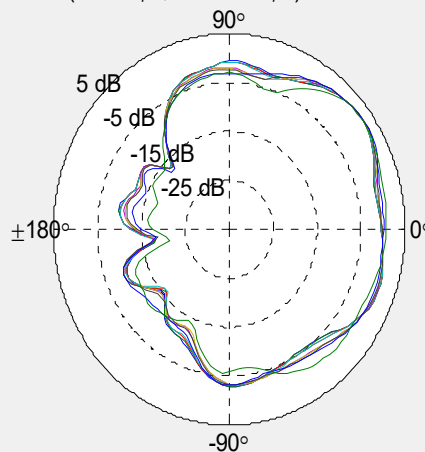
SUB6G-H2-1 = 2300 - 2496 MHz

XY Plane (+X = 0°ϕX, +Y = +90°ϕX) / Elevation = 90°ϕX    ZX Plane (+Z = 0°ϕX, +X = +90°ϕX) / Azimuth = 0°ϕX

- 2300 MHz
- 2305 MHz
- 2310 MHz
- 2315 MHz
- 2350 MHz
- 2355 MHz
- 2360 MHz
- 2400 MHz
- 2496 MHz



YZ Plane (+Z = 0°ϕX, +Y = +90°ϕX) / Azimuth = 90°ϕX

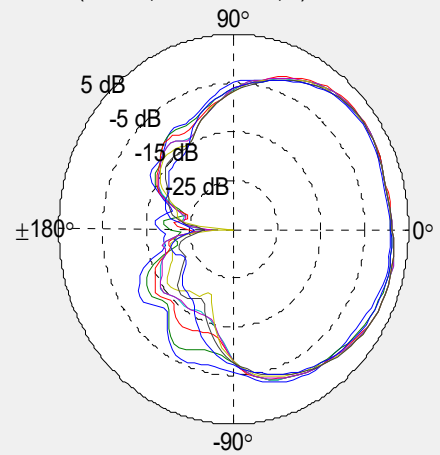
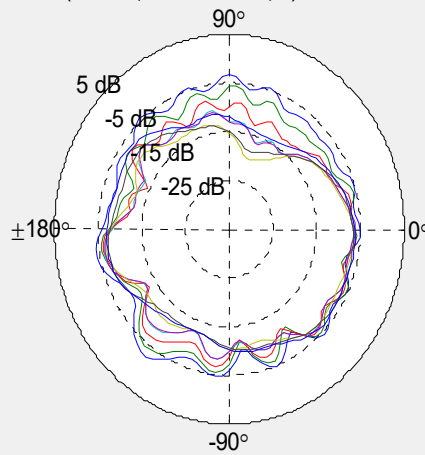


Radiation Pattern

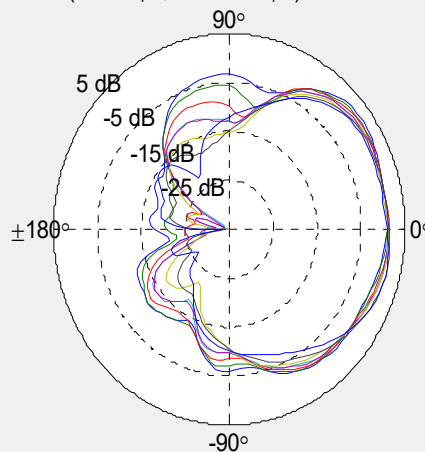
SUB6G-H2-2 = 2500 - 2690 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 2500 MHz
- 2535 MHz
- 2570 MHz
- 2593 MHz
- 2595 MHz
- 2620 MHz
- 2655 MHz
- 2690 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

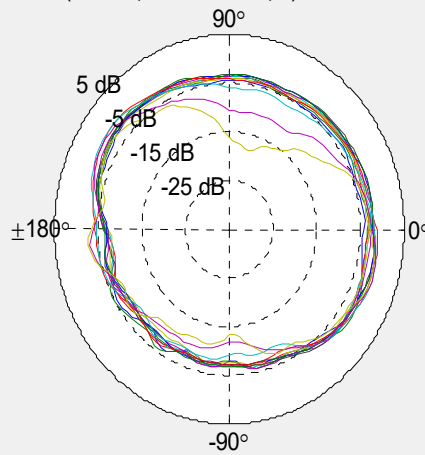


Radiation Pattern

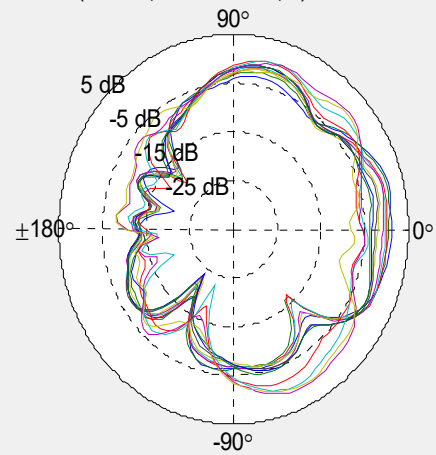
SUB6G-SHF-3 = 3000 - 5000 MHz

- 3300 MHz
- 3400 MHz
- 3500 MHz
- 3550 MHz
- 3600 MHz
- 3625 MHz
- 3700 MHz
- 3750 MHz
- 3800 MHz
- 4200 MHz
- 4400 MHz
- 4700 MHz
- 5000 MHz

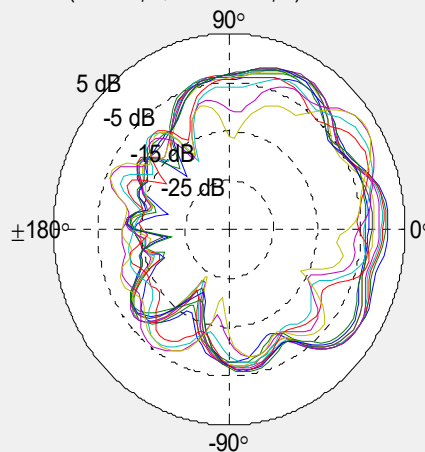
XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX



ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX

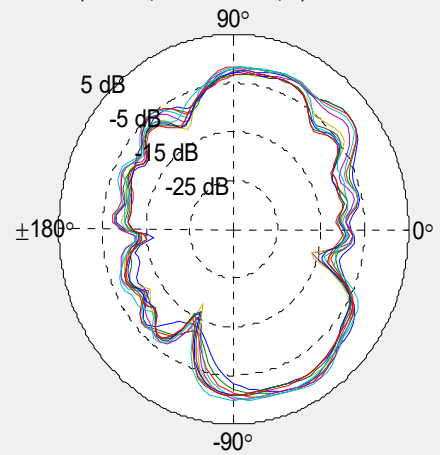
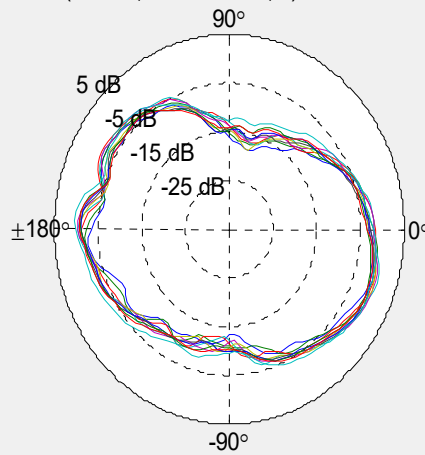


Radiation Pattern

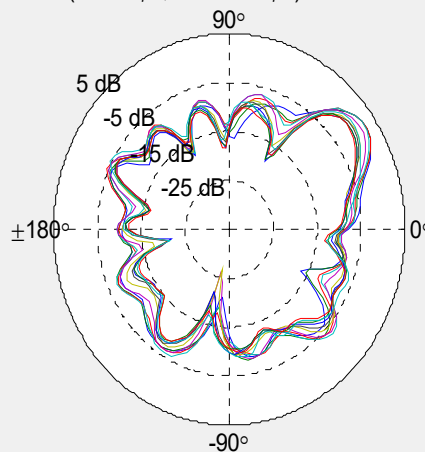
5G Band = 4900 - 5975 MHz

XY Plane (+X = 0φX, +Y = +90φX) / Elevation = 90 φX    ZX Plane (+Z = 0φX, +X = +90φX) / Azimuth = 0 φX

- 5000 MHz
- 5150 MHz
- 5250 MHz
- 5350 MHz
- 5470 MHz
- 5600 MHz
- 5725 MHz
- 5785 MHz
- 5850 MHz
- 5900 MHz
- 5925 MHz



YZ Plane (+Z = 0φX, +Y = +90φX) / Azimuth = 90 φX



# 亞驪企業股份有限公司

文件編號		文件名稱	<b>C606_RFAS87-PT1000G-12009</b>			發行版本	<b>A</b>	頁次	<b>1/1</b>
客戶代號：	C606		最小包裝	PCS	1				
客戶料號/品名：	311600204000		中包裝	PCS	10				
亞驪料號/品名：	RFAS87-PT1000G-12009		大包裝	PCS	120				
相關配件			備註						

## 1. 最小包裝(1PCS-夾鏈袋)



示意圖

## 2. 中包裝(10PCS-PE 袋)



示意圖

## 3. 大包裝(120PCS-1 箱)



示意圖



**NAN YA PLASTICS CORPORATION**  
 ELECTRONIC MATERIALS DIVISION.  
**COPPER CLAD LAMINATE DEPARTMENT**

**Glass cloth base epoxy resin  
 flame retardant copper clad laminate**

NO. 201. TUNG HWA N. ROAD,  
 TAIPEI, TAIWAN.

**NP-140TL**

**■ FEATURES**

- Multi-functional epoxy renders the material outstanding heat resistance, better dimensional stability, and through-hole reliability that benefit the performance of high layer count multilayer boards.
- HTE copper foil applied to prevent corner cracking.
- High luminance of epoxy contrast with copper for laser type A.O.I.
- UV solder mask may be applied simultaneously in order to increase yields.
- IPC-4101B specification is applicable.

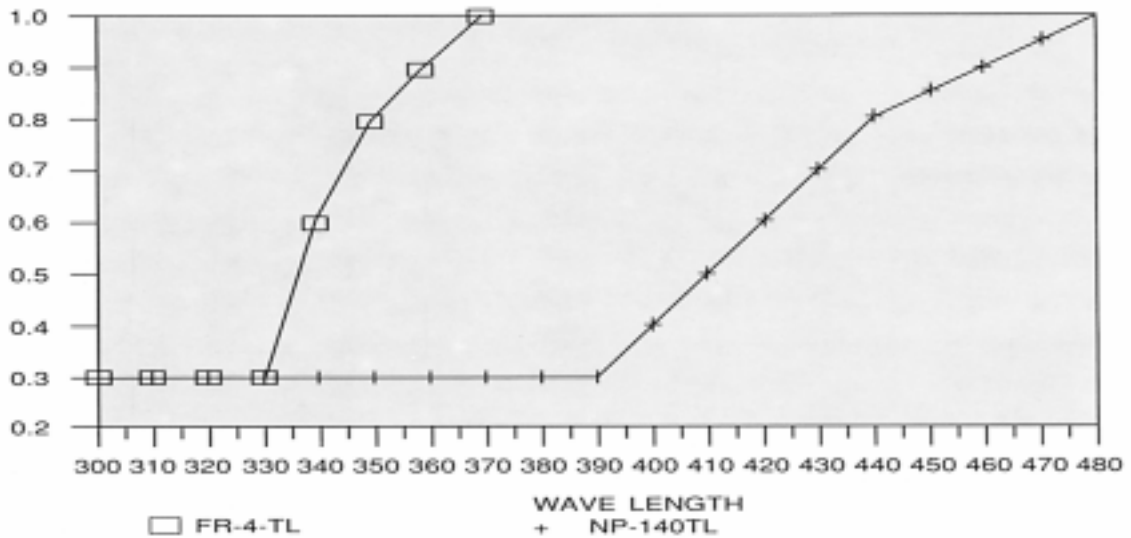
**■ PERFORMANCE LIST**

Characteristics	Unit	Conditioning	Typical Values	SPEC	Test Method
Volume resistivity	MΩ-cm	C-96/35/90	5.0 x10 <sup>9</sup>	10 <sup>6</sup> ↑	2.5.17
Surface resistivity	MΩ	C-96/35/90	5.0 x10 <sup>7</sup>	10 <sup>4</sup> ↑	2.5.17
Permittivity 1 MHZ	-	C-24/23/50	4.2-4.4	5.4 ↓	2.5.5.9
Permittivity 1 GHZ	-	C-24/23/50	3.8-4.0	-	2.5.5.9
Loss Tangent 1 MHZ	-	C-24/23/50	0.015-0.020	0.035 ↓	2.5.5.9
Loss Tangent 1 GHZ	-	C-24/23/50	0.012-0.014	-	2.5.5.9
Arc resistance	SEC	D-48/50+D-0.5/23	120 ↑	60 ↑	2.5.1
Dielectric breakdown	KV	D-48/50	60 ↑	40 ↑	2.5.6
Moisture absorption	%	D-24/23	0.20-0.30	0.35 ↓	2.6.2.1
Flammability	-	C-24/23/50+E-24/125	94V0	94V0	UL94
Peel strength 1 oz	lb/in	288 x10" solder floating	10-14	6 ↑	2.4.8
Thermal stress	SEC	288 solder dipping	90 ↑	10 ↑	2.4.13.1
Glass transition temp		DSC	140 ± 5	N/A	2.4.25
Dimensional stability X-Y axis	%	E 4/105	0.01-0.03	0.05 ↓	2.4.39
Coefficient of thermal expansion					
Z-axis before Tg	ppm/	TMA	50-70	N/A	2.4.24
Z-axis after Tg	ppm/	TMA	250-350		

Data shown are nominal values for reference only.

**NOTE:**  
 The average value in the table refers to samples of .020" 1/1.  
 Test method per IPC-TM-650

■ UV TRANSMISSION CURVE OF 0.2mm CCL



■ PRODUCT SIZE & THICKNESS

THICKNESS INCH(mm)	COPPER CLADDING OZ (µm)	SIZE		THICKNESS TOLERANCE
		INCH	mm	
0.004 (0.1)	0.5 (17)	48.8 x 36.6	1240 x 0930	CLASS C/M
to	1.0 (35)	48.8 x 40.5	1240 x 1030	
0.047(1.2)	2.0 (70)	48.8 x 42.5	1240 x 1080	

■ Keeping the core and prepreg in the same grain direction is crucial to ensure the flatness of multilayer boards.

Grain direction is shown on the Certificate of Conformance

■ CERTIFICATION UL

• UL File No. : E98983

**■ CONSTRUCTION:**

THICKNESS		CONSTRUCTION	THICKNESS		CONSTRUCTION
mm	mil		mm	mil	
0.08	3	2112 1 ply	0.45	18	7628 x 2 + 1080 x 1
0.10	4	1080 2 plies	0.46	18	7667 2 plies
0.11	4	2116 1 ply	0.50	20	7628 3 plies
0.13	5	1080 2 plies	0.53	21	7628 3 plies
0.13sp	5	2116 1 ply	0.60	24	7628 3 plies
0.15	6	1506 1 ply	0.77	31	7628 4 plies
0.16	6	2112 2 plies	0.8	32	7628 4 plies
0.21	8	7628 1 ply	0.9	36	7628 5 plies
0.26	10	2116 2 plies	1.0	39	7628 5 plies
0.30	12	2116 3 plies	1.1	43	7628 6 plies
0.30sp	12	1506 2 plies	1.2	47	7628 6 plies
0.35	14	7628 2 plies			
0.38	15	7628 2 plies			

\*1.2,1.1,1.0,0.9,0.77 mm, THICKNESS INCLUDES CLADDING. ALL OTHERS EXCLUDE CLADDING.



# 世通國際光電股份有限公司



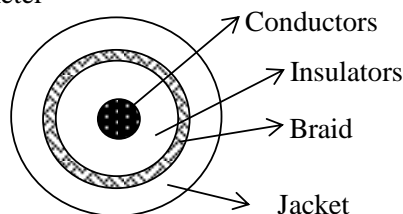
桃園市龍潭區中原路二段1號

電話：03-4716558

## CABLE SPECIFICATION (線材規格書)

SPEC No :	0.5BC+FOIL+6/0.10T*16			
Customer	亞驪	Customer NO.	C1293	樣單號碼 :
UL File NO.		UL Style :		Date : 2019.12.6 電腦編號 :
CSA File NO		CSA Style :		版本 : 1 業務編號 :
Construction Item 結構項目		結構項目		
Conductors 導體	Construction AWG(構造線規)	AWG	24AWG(0.5±0.008mm)	
	Material (導體材質)	----	Bare Copper Wire	
	Pitch(絞距)	mm	----	
	Filler Material (填充材質)	----	----	
	O.D.(絞合外徑)	mm	0.5mm	
Insulators 絕緣	Material (絕緣材質)	----	PEF	
	Diameter (芯線線徑)	mm	1.52±0.1mm	
	Average Thickness (平均厚度)	mm	0.51±0.05mm	
	Color (顏色)	----	Natural	
Inner - Shield 內部 遮蔽	Shield(遮蔽方式)	----	Aluminum Mylar	
	Construction AWG(構造線規)	----	----	
	Material (導體材質)	----	----	
	Coverage(遮蔽率)	%	125%	
Outside- Shield 遮蔽	Shield(遮蔽方式)	----	Braid	
	Construction AWG(構造線規)	----	38AWG	
	Conductors Size (導體尺寸)	mm	16/6/0.1T	
	Material (導體材質)	----	Tinned Copper Wire	
	Coverage(遮蔽率)	%	95%	
Outside Jacket 外部 被覆	Material (材質)	----	PE	
	Diameter (線徑)	mm	2.79±0.1mm	
	Average Thickness (平均厚度)	mm	0.44±0.05mm	
	Extrusion (押出方式)	----	Solid	
	Surface (外觀)	----	Round	
	Color (顏色)	----	Black	
	Marking Color (印字顏色)	----	White	
Marking 印字	Marking No.(印字)	Low Loss 100 COAXIAL CABLE		

Bending radius :20Time of cable outside diameter



頻率/M/Hz	30	50	150	220	450	900	1500	1800	2000	2500
dB	0.146	0.181	0.287	0.344	0.495	0.737	0.958	1.06	1.11	1.27

# 唯紘塑膠工業有限公司

品 名：低毒45P外模PVC膠粒

主 原 料：PVC粉·DHPH〈可塑劑〉·EPOXY·滑劑  
鈣鋅系安定劑·CCR膠鈣。

規格物性表

硬 度	45 PHR
耐 老 化	7 0 度
耐 脆 化	- 10 度
伸 長 率	150%
抗 張 強 度	1.6 kg/mm*mm
比 重	1.41
耐 燃 等 級	HB
LOI 值	24
ROHS	CE-2014-31928
REACH	CC-2014-30070B



## Technical Data Sheet

### XIAMETER™ RBB-6671-70 Base

70 Durometer, molding, general purpose, uncatalyzed silicone rubber base

#### Features & Benefits

- 70 JIS-Type A hardness
- Good processability
- Serviceable over wide temperature range
- Pigmentable (translucent color)
- Formulated to meet FDA 21 CFR 177.2600 and BfR XV
- UL-94 HB recognized
- Suitable for both addition reaction and peroxide cure system

#### Composition

- Silicone rubber (HCR)
- Uncatalyzed stock (U-stock)

#### Applications

- Molding
- Consumer goods
- Keypads
- Rollers
- Packings, gaskets
- Consumer electronics
- Sheets
- Food contacts

#### Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test <sup>1</sup>	Property	Unit	Result
	<b>As supplied</b>		
	Appearance		Milky white translucent
JIS K 6249	Plasticity	mm/100	260

1. JIS: Japanese Industrial Standard.

Properties obtained using 0.5 part of SILASTIC™ RC-4 50P FD Rubber Additive (2,5-bis(tert-butylperoxy)-2,5-dimethyl hexane, 50% masterbatch) per 100 parts of XIAMETER™ RBB-6671-70 Base: molded 10 minutes at 170°C (338°F) and post-cured 4 hours at 200°C (392°F).

## Typical Properties (Cont.)

Test	Property	Unit	Result
<b>As cured</b>			
JIS K 6249	Density	g/cm <sup>3</sup>	1.19
JIS K 6249	Durometer Hardness, JIS type A		70
JIS K 6249	Tensile strength, JIS#3	MPa	7.6
JIS K 6249	Elongation, JIS#3	%	320
JIS K 6249	Modulus at 100% elongation, JIS#3	MPa	2.93
JIS K 6249	Tear strength, crescent	N/mm	10
JIS K 6249	Tear strength, angle	N/mm	25
JIS K 6249	Linear shrinkage, disc <sup>2</sup>	%	3.4
JIS K 6249	Rebound, Lupke	%	55
JIS K 6249	Compression set, 180°C /22h	%	22
JIS K 6249	Dielectric strength	kV/mm	26
JIS K 6249	Volume resistance	TΩ·m	2

2. Linear shrinkage depends on the curing conditions such as type of curing agent, curing temperature and size of molded product.

## How to Use

### Milling

For adding vulcanizing agents, additives, and / or pigments or blending, milling with a two-roll mill is the most suitable process. Milling time should be carefully decided to secure uniformity of materials.

### Vulcanization

XIAMETER™ RBB-6671-70 Base requires the addition of a vulcanizing agent. SILASTIC™ RC-4 50P FD Rubber Additive is recommended for molding. Standard cure temperature is 170°C (338°F), and its cure time depends on the thickness of final products. Post-cure condition would be 4 hours at 200°C (392°F) after molding in most cases.

The addition reaction curing agents and other SILASTIC™ curing agents are also available for vulcanization.

### Compounding

XIAMETER™ RBB-6671-70 Base can be blended with other bases to modify the durometer of the compound. The physical properties of this product can be modified using a range of SILASTIC™ or XIAMETER™ additives. Further, XIAMETER™ RBB-6671-70 Base can be pigmented to almost any color shade desired.

## Food Contact

This product has been formulated to meet applicable food contact regulations and recommendations like FDA 21.CFR 177.2600 and BfR Recommendation XV.

Note: It remains the manufacturers' responsibility to test the final product.

For further details on the suitability of this product for food contact applications, please refer to the Food Regulatory Profile.

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XIAMETER™ RBB-6671-70 Base

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Handling Precautions	PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.
Usable Life and Storage	For further details on the suitability of this product for food contact applications, please refer to the Food Regulatory Profile.
Packaging Information	XIAMETER™ RBB-6671-70 Base is available in 20 kg (44 lb) boxes.
Limitations	This product is neither tested nor represented as suitable for medical or pharmaceutical uses.
Health and Environmental Information	To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.  For further information, please see our website, <a href="http://dow.com">dow.com</a> or consult your local Dow representative.
Disposal Considerations	Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.  It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.
Product Stewardship	Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.
Customer Notice	Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Table 1: Heat and Fluid Resistance of XIAMETER™ RBB-6671-70 Base

Test	Unit	Result
<b>Heat Aged, 72 Hours at 200°C (392°F)</b>		
Hardness Change	points	+3
Tensile Change	%	-8
Elongation Change	%	-33
<b>Heat Aged, 72 Hours at 250°C (482°F)</b>		
Hardness Change	points	+1
Tensile Change	%	-38
Elongation Change	%	-59
<b>IRM 901 Oil, 72 Hours at 150°C (302°F)</b>		
Hardness Change	points	-4
Tensile Change	%	-4
Elongation Change	%	-34
Volume Change	%	+6
<b>IRM 903 Oil, 72 Hours at 150°C (302°F)</b>		
Hardness Change	points	-23
Tensile Change	%	-8
Elongation Change	%	-34
Volume Change	%	+43

Properties obtained using 0.5 part of SILASTIC™ RC-4 50P FD Rubber Additive (2,5-bis(tert-butylperoxy)-2,5-dimethyl hexane, 50% masterbatch) per 100 parts of XIAMETER™ RBB-6671-70 Base: molded 10 minutes at 170°C (338°F) and post-cured 4 hours at 200°C (392°F).

dow.com

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## UV Stabilized PC WONDERLITE® PC-110U

產品敘述: UV Stabilized

物性	ISO 測試方法	測試條件	單位	PC-110U
熔融指數	1133	300°C × 1.2KG	ml/10 min	10
比重	1183	23 °C	g/cm <sup>3</sup>	1.2
拉伸強度	527	50 mm/min, yield	MPa	65
		50 mm/min, break	MPa	75
延伸率	527	50 mm/min	%	120
彎曲強度	178	2 mm/min	MPa	90
彎曲彈性模數		2 mm/min	GPa	2.4
IZOD 衝擊強度	180/1A	23°C, Notched, 1/8"	KJ/m <sup>2</sup>	75
		-30°C, Notched, 1/8"	KJ/m <sup>2</sup>	-
Charpy 衝擊強度	179	23 °C Notched	KJ/m <sup>2</sup>	75
		-30 °C Notched	KJ/m <sup>2</sup>	-
維氏軟化溫度	306	1 Kg, 50 °C/hr	°C	148
		5 Kg, 50 °C/hr	°C	143
熱變形溫度	75/A	1.8 MPa Unannealed	°C	127
		1.8 MPa Annealed	°C	142
線膨脹係數	11359	-	-	6.0-8.0x10 <sup>-5</sup>
燃燒等級	-	UL-94	-	1.5mm V-2
成型收縮率	294-4	-	%	0.5-0.7
標記	1043	-	-	>PC<

August 10, 2020

Notes : These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

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Vydyne 21SPC is a general-purpose, unfilled, lubricated, PA66 resin. Designed principally for injection-molding fabrication, this product offers a combination of engineering properties characterized by high strength; rigidity; good toughness; high melt point; good surface lubricity; abrasion resistance; and resistance to many chemicals, machine and motor oils, solvents and gasoline.

21SPC permits production of molded parts with good initial color plus good property and color retention when using regrind.

21SPC is intended for use in high-productivity applications. In many applications, the molding cycle can be reduced because parts may be removed from the cavity at higher temperatures. In difficult molds where parts have a tendency to stick in the cavity, 21SPC can reduce or eliminate the need for mold release sprays. Critical molded-part dimensions should be checked against specifications before implementing shorter molding cycles on a routine production basis.

General			
Regional Availability	• North America	• Europe	• Asia Pacific
Additive	• Lubricant		
Features	• Abrasion Resistance • Gasoline Resistant • Good Toughness • Lubricated	• Chemical Resistant • General Purpose • High Rigidity • Oil Resistant	• Fast Molding Cycle • Good Mold Release • High Strength • Solvent Resistant
Agency Rating	• ASTM, D4066 PA0111 • EU, 10/2011 • FED, L-P-410A • RoHS Compliant	• ASTM, D6779 PA0111 • EU, 2023/2006 • MIL, M-20693B • SAE, J1639 PA0121 Z6	• EC, 1935/2004 • FDA, 21 CFR 177.1500 • NSF, STD-51
Automotive Specifications	• GM QK 002921	• Toyota TSM5516G Class 2 (compliance)	
UL File Number	• E70062		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	dry	cond.	Unit	Test Standard
Density	1.14	-	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.7	*	%	
Flow : 23°C, 2.00 mm	1.8	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	*	%	
Equilibrium, 23°C, 50% RH	2.4	*	%	

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Outdoor Suitability	f2	-		UL 746C
<b>Mechanical</b>				
	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	2800	1800	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	86	56	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	56	46	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	4.8	22	%	ISO 527-2
Tensile Strain (Break, 23°C)	23	87	%	ISO 527-2
Flexural Modulus (23°C)	2900	1500	MPa	ISO 178
Flexural Strength (23°C)	80	50	MPa	ISO 178
Poisson's Ratio (23°C)	0.4		-	ISO 527-2
<b>Impact</b>				
	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	6	20	kJ/m <sup>2</sup>	
-30°C	5	7	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	N	N	kJ/m <sup>2</sup>	
-30°C	N	N	kJ/m <sup>2</sup>	
Notched Izod Impact Strength				ISO 180/1A
+23°C	6	20	kJ/m <sup>2</sup>	
-30°C	5	7	kJ/m <sup>2</sup>	
<b>Thermal</b>				
	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	70	-	°C	
0.45 MPa, Unannealed	200	-	°C	
Melting Temperature	260	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	100	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	100	*	E-6/K	
RTI Elec				UL 746
0.400 mm	130		°C	
0.710 mm	130		°C	
1.50 mm	130		°C	
3.00 mm	130		°C	
RTI Imp				UL 746
0.400 mm	75		°C	

0.710 mm	75		°C	
1.50mm	75		°C	
3.00 mm	75		°C	
RTI Str				UL 746
0.400 mm	75		°C	
0.710 mm	85		°C	
1.50 mm	85		°C	
3.00 mm	85		°C	
<b>Electrical</b>				
	dry	cond.	Unit	Test Standard
Volume Resistivity (1.00 mm)	1E11	-	Ohm*m	IEC 60093
Dielectric Strength (1.00 mm)	26	-	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	5		-	ASTM D 495
High Amp Arc Ignition (HAI)				UL 746
0.400 mm	PLC 1		-	
0.710 mm	PLC 0		-	
1.50 mm	PLC 0		-	
3.00 mm	PLC 0		-	
High Voltage Arc Tracking Rate (HVTR), 3.00 mm	PLC 0		-	UL 746
Hot-wire Ignition (HWI)				UL 746
0.400 mm	PLC 4		-	
0.710 mm	PLC 4		-	
1.50 mm	PLC 3		-	
3.00 mm	PLC 2		-	
<b>Flammability</b>				
	dry	cond.	Unit	Test Standard
Flammability				UL 94
0.400 mm	V-2		-	
0.710 mm	V-2		-	
1.50 mm	V-2		-	
3.00 mm	V-2		-	
Glow Wire Flammability Index				IEC 60695-2-12
0.400 mm	960		°C	
0.710 mm	960		°C	
1.50 mm	960		°C	
3.00 mm	960		°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.400 mm	825		°C	
0.710 mm	850		°C	
1.50 mm	850		°C	

3.00 mm	850		°C	
Oxygen index	25	*	%	EN ISO 4589-2

<b>Railway Application</b>	<b>dry</b>	<b>cond.</b>	<b>Unit</b>	<b>Test Standard</b>
Oxygen index	25	-	%	EN ISO 4589-2

<b>Injection</b>	<b>Value</b>	<b>Unit</b>
Drying Temperature	70	°C
Drying Time	1 - 3	h
Rear Temperature	260 - 280	°C
Middle Temperature	270 - 285	°C
Front Temperature	280 - 290	°C
Nozzle temperature	280 - 300	°C
Processing (Melt) Temperature	285 - 300	°C
Mold Temperature	65 - 95	°C



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CAUTION: Do not use Ascend Performance Materials Operations MED grades in medical applications involving implantation in the human body or contact with internal body fluids or tissues for extended periods of time.

# Zytel® 70G13L NC010

## NYLON RESIN

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

Zytel® 70G13L is a 13% glass fibre reinforced polyamide 66 resin for injection moulding.

### Product information

Resin Identification	PA66-GF13	ISO 1043
Part Marking Code	>PA66-GF13<	ISO 11469
ISO designation	ISO 16396-PA66,GF13,M1GNR,S14-050	

### Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.7/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.2/-	%	ISO 294-4, 2577

### Typical mechanical properties

	dry/cond.			
Tensile Modulus	5500/3500	MPa		ISO 527-1/-2
Stress at break	120/75	MPa		ISO 527-1/-2
Strain at break	3/13	%		ISO 527-1/-2
Flexural Modulus	4800/2900	MPa		ISO 178
Flexural Stress at 3.5%	165/90	MPa		ISO 178
Tensile creep modulus, 1h	*/3300	MPa		ISO 899-1
Tensile creep modulus, 1000h	*/2200	MPa		ISO 899-1
Charpy impact strength, 23°C	40/70	kJ/m <sup>2</sup>		ISO 179/1eU
Charpy impact strength, -30°C	40/30	kJ/m <sup>2</sup>		ISO 179/1eU
Charpy notched impact strength, 23°C	5/6	kJ/m <sup>2</sup>		ISO 179/1eA
Charpy notched impact strength, -30°C	4.5/4	kJ/m <sup>2</sup>		ISO 179/1eA
Charpy notched impact strength, -40°C	4.5/4	kJ/m <sup>2</sup>		ISO 179/1eA
Izod notched impact strength, 23°C	4.5/4	kJ/m <sup>2</sup>		ISO 180/1A
Izod notched impact strength, -30°C	4.5/3	kJ/m <sup>2</sup>		ISO 180/1A
Izod notched impact strength, -40°C	4.5/3	kJ/m <sup>2</sup>		ISO 180/1A
Izod impact strength, 23°C	40/55	kJ/m <sup>2</sup>		ISO 180/1U

# Zytel® 70G13L NC010

## NYLON RESIN

Izod impact strength, -30°C	35/28	kJ/m <sup>2</sup>	ISO 180/1U
Poisson's ratio	0.35/0.37		
Abrasion resistance	10/*	mm <sup>3</sup>	ISO 4649

### Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	262/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	80/20	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	235/*	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	255/*	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	205/*	°C	ISO 306
Ball pressure test	220/-	°C	IEC 60695-10-2
Coeff. of linear therm. expansion, parallel, -40-23°C	42/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel	40/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	26/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	77/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	93/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	149/*	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.75mm	125	°C	UL 746B
RTI, electrical, 1.5mm	125	°C	UL 746B
RTI, electrical, 3mm	125	°C	UL 746B
RTI, impact, 0.75mm	120	°C	UL 746B
RTI, impact, 1.5mm	120	°C	UL 746B
RTI, impact, 3mm	120	°C	UL 746B
RTI, strength, 0.75mm	125	°C	UL 746B
RTI, strength, 1.5mm	125/*	°C	UL 746B
RTI, strength, 3mm	125	°C	UL 746B

### Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB/*	class	IEC 60695-11-10
Thickness tested	1.5/*	mm	IEC 60695-11-10
UL recognition	yes/*		UL 94
Burning Behav. at thickness h	HB/*	class	IEC 60695-11-10
Thickness tested	0.71/*	mm	IEC 60695-11-10
UL recognition	yes/*		UL 94
Oxygen index	24/*	%	ISO 4589-1/-2
Glow Wire Flammability Index, 0.75mm	650/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	650/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3mm	800/-	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	675/-	°C	IEC 60695-2-13
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	27	mm/min	ISO 3795 (FMVSS 302)

# Zytel® 70G13L NC010

## NYLON RESIN

### Electrical properties

	dry/cond.		
Relative permittivity, 100Hz	3.9/-		IEC 62631-2-1
Relative permittivity, 1MHz	3.2/-		IEC 62631-2-1
Dissipation factor, 100Hz	130/-	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	150/-	E-4	IEC 62631-2-1
Volume resistivity	>1E13/-	Ohm.m	IEC 62631-3-1
Surface resistivity	* /1E15	Ohm	IEC 62631-3-2
Electric strength	25/-	kV/mm	IEC 60243-1
Electric Strength, Short Time, 2mm	25/-	kV/mm	IEC 60243-1

### Other properties

	dry/cond.		
Humidity absorption, 2mm	2.2/*	%	Sim. to ISO 62
Water absorption, 2mm	7.6/*	%	Sim. to ISO 62
Water absorption, Immersion 24h	1.7 <sup>[1]</sup> /*	%	Sim. to ISO 62
Density	1230/-	kg/m <sup>3</sup>	ISO 1183

[1]: 3.2mm wall thickness

### VDA Properties

Emission of organic compounds	6 µgC/g	VDA 277
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### Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.2 %
Melt Temperature Optimum	295 °C
Min. melt temperature	285 °C
Max. melt temperature	305 °C
Max. screw tangential speed	0.2 m/s
Mold Temperature Optimum	100 °C
Min. mould temperature	70 °C
Max. mould temperature	120 °C
Hold pressure range	50 - 100 MPa
Hold pressure time	3 s/mm
Ejection temperature	210 °C

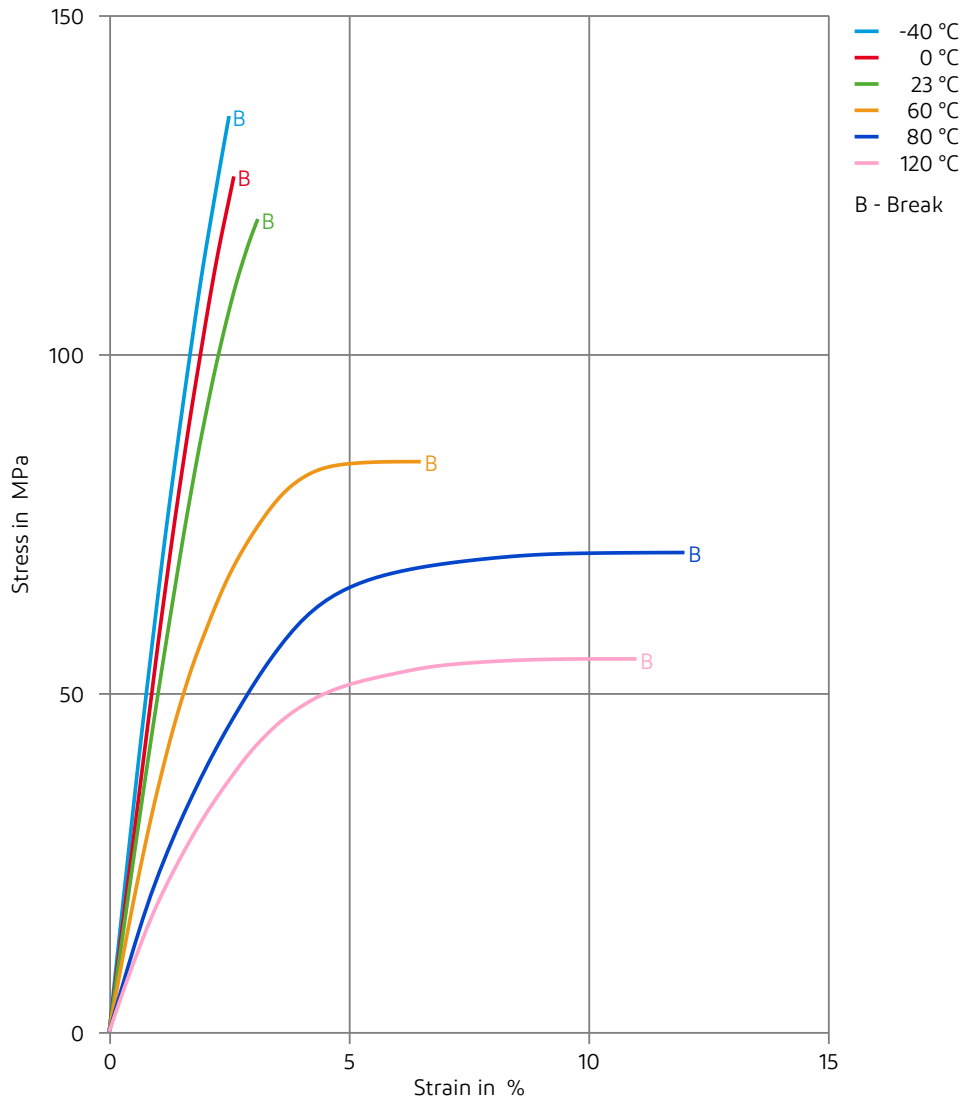
### Characteristics

Additives	Release agent
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# Zytel® 70G13L NC010

NYLON RESIN

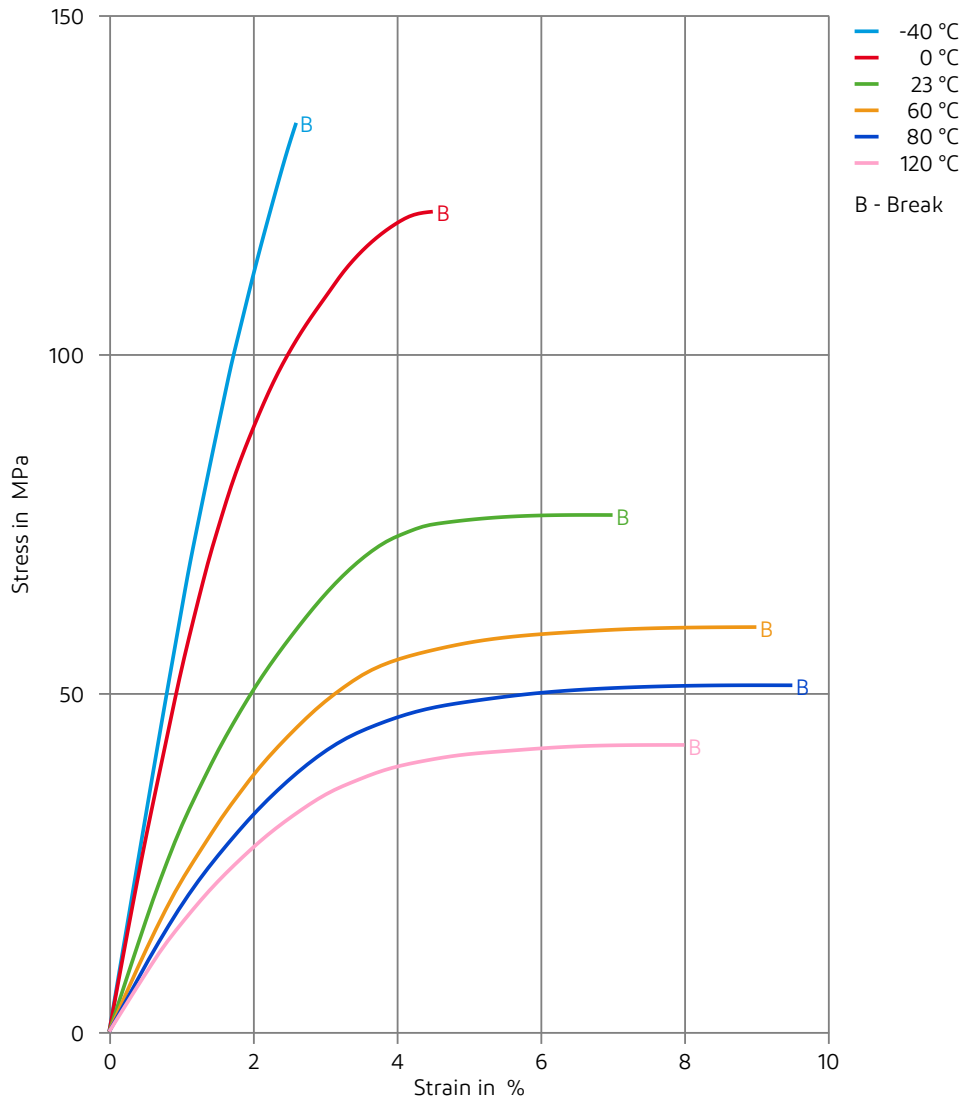
Stress-strain (dry)



# Zytel® 70G13L NC010

NYLON RESIN

Stress-strain (cond.)

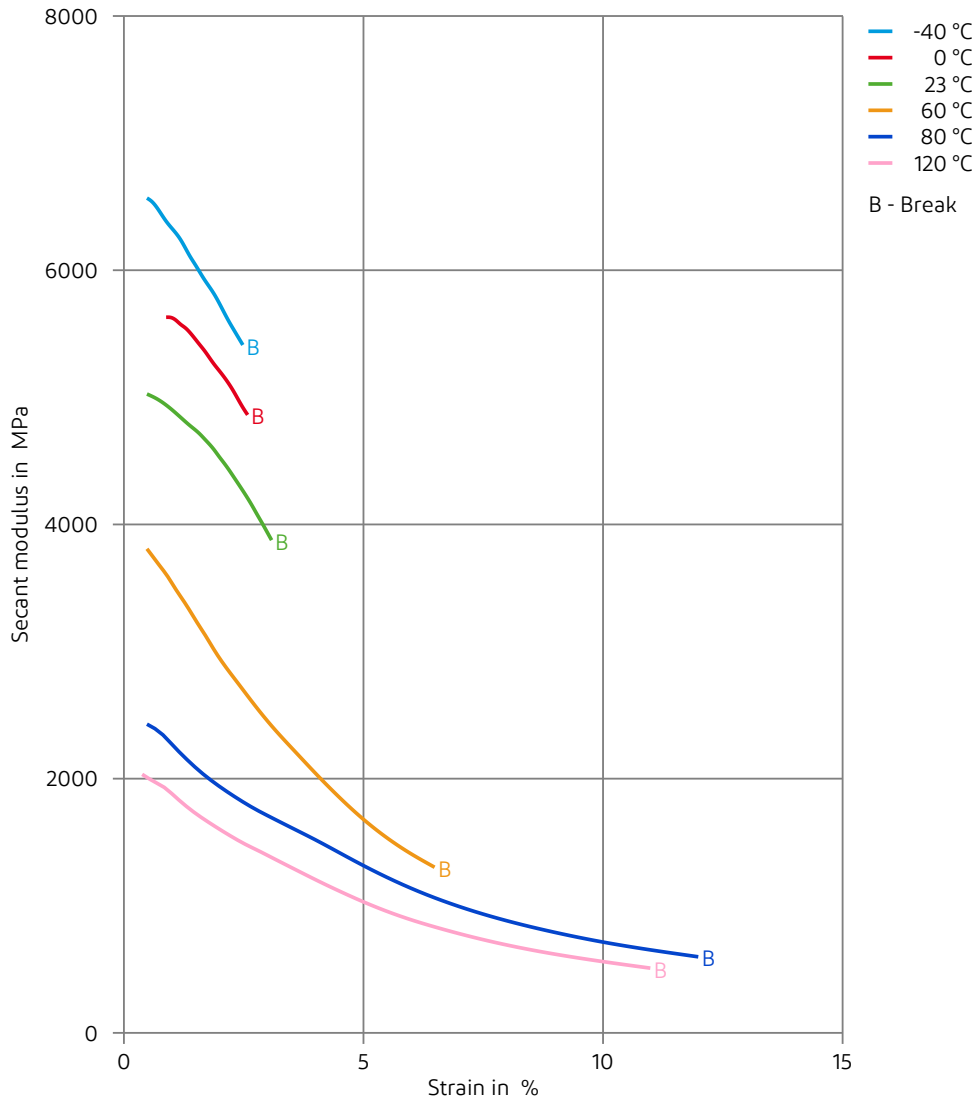




# Zytel® 70G13L NC010

NYLON RESIN

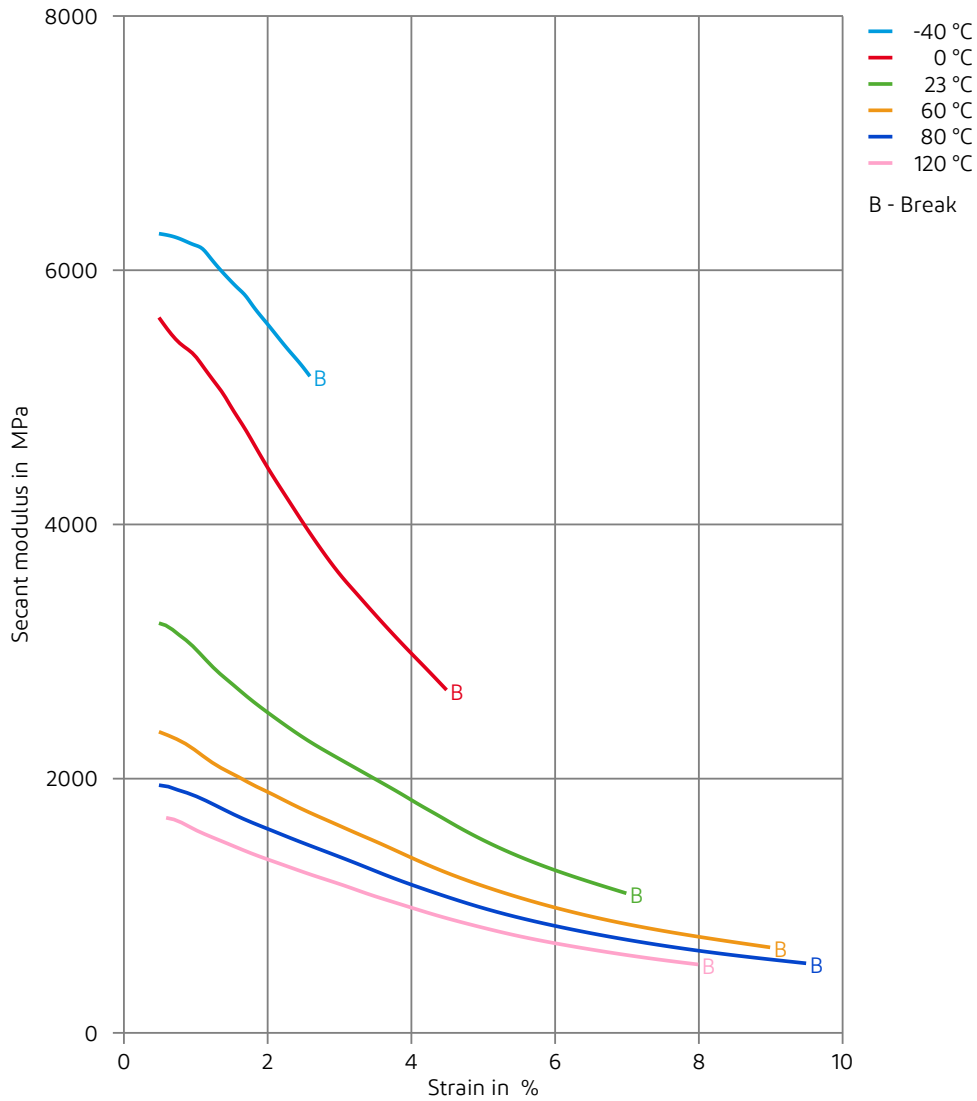
Secant modulus-strain (dry)



# Zytel® 70G13L NC010

NYLON RESIN

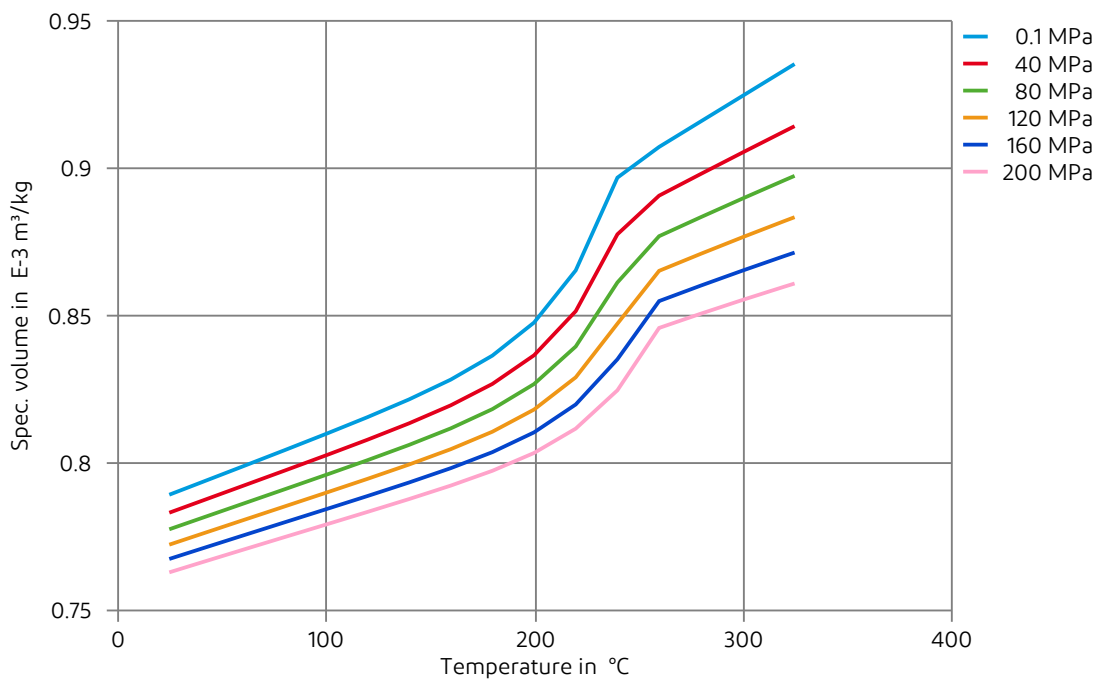
Secant modulus-strain (cond.)



# Zytel® 70G13L NC010

NYLON RESIN

Specific volume-temperature (pvT)



# Zytel® 70G13L NC010

## NYLON RESIN

### Chemical Media Resistance

#### Acids

- ✓ Acetic Acid (5% by mass), 23°C
- ✓ Citric Acid solution (10% by mass), 23°C
- ✓ Lactic Acid (10% by mass), 23°C
- ✗ Hydrochloric Acid (36% by mass), 23°C
- ✗ Nitric Acid (40% by mass), 23°C
- ✗ Sulfuric Acid (38% by mass), 23°C
- ✗ Sulfuric Acid (5% by mass), 23°C
- ✗ Chromic Acid solution (40% by mass), 23°C

#### Bases

- ✗ Sodium Hydroxide solution (35% by mass), 23°C
- ✓ Sodium Hydroxide solution (1% by mass), 23°C
- ✓ Ammonium Hydroxide solution (10% by mass), 23°C

#### Alcohols

- ✓ Isopropyl alcohol, 23°C
- ✓ Methanol, 23°C
- ✓ Ethanol, 23°C

#### Hydrocarbons

- ✓ n-Hexane, 23°C
- ✓ Toluene, 23°C
- ✓ iso-Octane, 23°C

#### Ketones

- ✓ Acetone, 23°C

#### Ethers

- ✓ Diethyl ether, 23°C

#### Mineral oils

- ✓ SAE 10W40 multigrade motor oil, 23°C
- ✓ SAE 10W40 multigrade motor oil, 130°C
- ✓ SAE 80/90 hypoid-gear oil, 130°C
- ✓ Insulating Oil, 23°C

#### Standard Fuels

- ✓ ISO 1817 Liquid 1 - E5, 60°C
- ✓ ISO 1817 Liquid 2 - M15E4, 60°C
- ✓ ISO 1817 Liquid 3 - M3E7, 60°C
- ✓ ISO 1817 Liquid 4 - M15, 60°C
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), >90°C

# Zytel® 70G13L NC010

## NYLON RESIN

### Salt solutions

- ✓ Sodium Chloride solution (10% by mass), 23°C
- ✗ Sodium Hypochlorite solution (10% by mass), 23°C
- ✓ Sodium Carbonate solution (20% by mass), 23°C
- ✓ Sodium Carbonate solution (2% by mass), 23°C
- ✗ Zinc Chloride solution (50% by mass), 23°C

### Other

- ✓ Ethyl Acetate, 23°C
- ✗ Hydrogen peroxide, 23°C
- ✓ DOT No. 4 Brake fluid, 130°C
- ✓ Ethylene Glycol (50% by mass) in water, 108°C
- ✓ 1% nonylphenoxy-polyethyleneoxy ethanol in water, 23°C
- ✓ 50% Oleic acid + 50% Olive Oil, 23°C
- ✓ Water, 23°C
- ✓ Water, 90°C
- ✗ Phenol solution (5% by mass), 23°C

### Symbols used:

- ✓ possibly resistant  
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).
- ✗ not recommended - see explanation  
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

## Mobility & Materials

The information set forth herein is furnished free of charge, is based on technical data that Celanese believes to be reliable, and represents typical values that fall within the normal range of properties. This information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in other processes. It is intended for use by persons having technical skill, at their own discretion and risk. This information should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards and comply with applicable law. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

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## 宮前五金股份有限公司

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TEL:(03)328-3068 FAX:(03)328-2515

## 檢驗報告表

2022年12月30日

廠商名稱	立字盛工業股份有限公司		
試材名稱	FREE CUTTING BRASS ROD		
合金編號	JIS H3250 C3604 BD (ROHS)		
項目	數據	標準值	實測值
化	Cu	57.0 - 61.0	58.11
學	Pb	1.8 - 3.7	3.52
成	Fe	< 0.5	0.37
份	Sn+Fe	< 1.0	0.81
%	Zn	REMAINDER	REMAINDER
ROHS	Cd	<75ppm	70ppm
備註			

# 材質證明書 CERTIFICATE OF COMPLIANCE



廠商名稱:宏庫貿易有限公司

物品名稱:鐵氟龍(PTFE)

規格尺寸:PTFE ROD

以此聲明，茲證明本批材料符合“鐵氟龍(PTFE)”同等性質之性能，特以本書面證明之。

下列材質特性僅供參考:

商 品 名			鐵氟龍
學 名			4 F
性質	單位	ASTM 試驗法	鐵氟龍
比重	gr/cm <sup>3</sup>	D-792	2.10-2.30
抗拉強度	kg/cm <sup>2</sup>	D-638	280-352
伸長率	%	D-638	200-400
抗拉彈性係數	kg/cm <sup>2</sup>	D-638	0.41×10 <sup>4</sup>
彎曲強度	kg/cm <sup>2</sup>	D-790	—
彎曲彈性係數	kg/cm <sup>2</sup>	D-790	
壓縮強度	kg/cm <sup>2</sup>	D-695	120
壓縮彈性係數	kg/cm <sup>2</sup>	D-695	0.50×10 <sup>4</sup>
硬度	ROCK well	D-785	塑氧 D55-55
衝擊強度 (有 V 缺口)	kg/cm	D-265	16.4
摩擦係數 1kgcs-17	mg/1000 回	D-1044	—
融點	°C		317-327
熱變形溫度 4.6kg/cm <sup>2</sup>	°C	D-648	260
絕緣破壞強度	kv/mm		45
熱傳導率 C/cm	10 <sup>-4</sup> cal /sec/cm <sup>2</sup>	C-117	5.9
熱膨脹係數	10 <sup>-5</sup> cm/cm°C	D-696	9.9
誘電率 10 <sup>6</sup> HZ		D-150	<2.1

AUTHORIZED BY: GRAND WARE TRADING CO., LTD.

## RoHS REPORT INDEX

	NAME	供應商	RoHS report
1	PCB	南亞塑膠工業股份有限公司	ETR22800034
2	Cable		
2-1	PE 外被	台灣聚合化學品股份有限公司	238551574b 001
2-2	裸銅線	紅帥工業股份有限公司	ETR22A02229
2-3	鍍錫銅線	紅帥工業股份有限公司	ETR22A02228
3	SR PVC	唯紘塑膠工業有限公司	ETR23203410
4	防水墊片	泓道膠業股份有限公司	ETR22504445
5	上蓋	CHI MEI CORPORATION	238550813k8 001
6	下蓋	Ascend Performance Materials	RoHS 聲明書
7	NUT	協祐股份有限公司	ETR23206227
8	SMB PLUG		
8-1	BRASS	宮前五金股份有限公司	ETR23104663
8-2	TEFLON	宏庫貿易有限公司	ETR22801913
8-3	鍍金產品	呈鎰金屬工藝有限公司	EKR23101542



## 測試報告

## Test Report

號碼(No.): ETR22800034

日期(Date): 08-Aug-2022

頁數(Page): 1 of 38

南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

南亞電子材料(昆山)有限公司 (NANYA ELECTRONIC MATERIALS (KUNSHAN) CORP. LTD.)

南亞電子材料(惠州)有限公司 (NAN YA ELECTRONIC MATERIALS (HUIZHOU) CORP., LTD)

台北市松山區敦化北路201號 (NO. 201 TUNG HWA NORTH ROAD, SONGSHAN DIST., TAIPEI, TAIWAN, R.O.C.)

江蘇省昆山市昆山經濟技術開發區長江南路201號 (201 CHANG JIANG ROAD(S) KUNSHAN ECONOMIC & TECHNICAL DEVELOPMENT ZONE, KUNSHAN, JIANG SU, CHINA 215300)

廣東省惠州市博羅縣石灣鎮永石大道230號 (NO. 230, YONGSHI BOULEVARD SHIWAN TOWN BOLUO COUNTY HUIZHOU CITY GUANG DONG)

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 the applicant as) :

送樣廠商(Sample Submitted By) : 南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

樣品名稱(Sample Name) : LAMINATE (UL E98983)

樣品型號(Style/Item No.) : NP-140R/NP-140TL

訂單編號(Order No.) : 2522256

收件日(Sample Receiving Date) : 01-Aug-2022

測試期間(Testing Period) : 01-Aug-2022 to 08-Aug-2022

測試需求(Test Requested) : (1) 依據客戶指定·參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

(2) 其他測試項目請見下一頁。(Please refer to next pages for the other item(s).)

測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages.)

結論(Conclusion) : (1) 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, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求。(Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)

  
Troy Chang / Department Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory - Taipei



PIN CODE: 9B9BD425

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# 測試報告

## Test Report

號碼(No.): ETR22800034

日期(Date): 08-Aug-2022

頁數(Page): 2 of 38

南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

南亞電子材料(昆山)有限公司 (NANYA ELECTRONIC MATERIALS (KUNSHAN) CORP. LTD.)

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廣東省惠州市博羅縣石灣鎮永石大道230號 (NO. 230, YONGSHI BOULEVARD SHIWAN TOWN BOLUO COUNTY HUIZHOU CITY GUANG DONG)

### 測試部位敘述 (Test Part Description)

No.1 : 銅色/棕色板子 (COPPER/BROWN SHEET)

### 測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
鎘 (Cd) (Cadmium (Cd)) (CAS No.: 7440-43-9)	參考IEC 62321-5: 2013 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	100
鉛 (Pb) (Lead (Pb)) (CAS No.: 7439-92-1)		mg/kg	2	3.71	1000
汞 (Hg) (Mercury (Hg)) (CAS No.: 7439-97-6)	參考IEC 62321-4: 2013+ AMD1: 2017 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	1000
六價鉻 Cr(VI) (Hexavalent Chromium Cr(VI)) (CAS No.: 18540-29-9)	參考IEC 62321-7-2: 2017 · 以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.)	mg/kg	8	n.d.	1000
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440-41-7)	參考US EPA 3052: 1996 · 以感應耦合電漿發射光譜儀分析。(With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	-
氧化鈹 (BeO) (Beryllium oxide (BeO)) (CAS No.: 1304-56-9)	由鈹結果計算得之。(Calculated from the result of Beryllium.)	mg/kg	2▲	n.d.	-
聚氯乙烯 (Polyvinylchloride) (PVC)	參考ASTM E1252: 2013 · 以傅立葉轉換紅外線光譜儀及焰色法分析。(With reference to ASTM E1252: 2013, analysis was performed by FT-IR and Flame Test.)	**	-	Negative	-

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南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

南亞電子材料(昆山)有限公司 (NANYA ELECTRONIC MATERIALS (KUNSHAN) CORP. LTD.)

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廣東省惠州市博羅縣石灣鎮永石大道230號 (NO. 230, YONGSHI BOULEVARD SHIWAN TOWN BOLUO COUNTY HUIZHOU CITY GUANG DONG)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
一溴聯苯 (Monobromobiphenyl)	參考IEC 62321-6: 2015 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	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.	-
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.	1000
一溴聯苯醚 (Monobromodiphenyl ether)	參考IEC 62321-6: 2015 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	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.	-
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.	1000
多氯聯苯 (PCBs) (Polychlorinated biphenyls (PCBs))	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	0.5	n.d.	-
多氯萘 (PCNs) (Polychlorinated naphthalene (PCNs))		mg/kg	5	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
多氯三聯苯 (PCTs) (Polychlorinated terphenyls (PCTs))	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	0.5	n.d.	-
短鏈氯化石蠟(C10-C13) (SCCP) (Short Chain Chlorinated Paraffins(C10-C13) (SCCP)) (CAS No.: 85535-84-8)	參考ISO 18219: 2015 · 以氣相層析儀/質譜儀分析。(With reference to ISO 18219: 2015, analysis was performed by GC/MS.)	mg/kg	50	n.d.	-
<b>石綿 (Asbestos)</b>					
白石綿/溫石綿 (Chrysotile) (CAS No.: 12001-29-5)	參考EPA 600/R-93/116: 1993 · 以立體顯微鏡 (SM)與分散染色式偏光顯微鏡(DS-PLM)及X光繞射光譜分析法(XRD)分析。(With reference to EPA 600/R-93/116: 1993, analysis was performed by Stereo Microscope (SM), Dispersion Staining Polarized Light Microscope (DS-PLM) and X-ray Diffraction Spectrometer (XRD).)	-	-	Negative	-
褐石綿/鐵石綿 (Amosite) (CAS No.: 12172-73-5)		-	-	Negative	-
青石綿 (Crocidolite) (CAS No.: 12001-28-4)		-	-	Negative	-
斜方角閃石綿 (Anthophyllite) (CAS No.: 77536-67-5)		-	-	Negative	-
透閃石綿 (Tremolite) (CAS No.: 77536-68-6)		-	-	Negative	-
陽起石綿 (Actinolite) (CAS No.: 77536-66-4)	-	-	-	Negative	-
三丁基錫 (TBT) (Tributyl tin (TBT))	參考ISO 17353: 2004 · 以氣相層析儀/火焰光度偵測器分析。(With reference to ISO 17353: 2004, analysis was performed by GC/FPD.)	mg/kg	0.03	n.d.	-
三苯基錫 (TPT) (Triphenyl tin (TPT))		mg/kg	0.03	n.d.	-
二丁基錫 (DBT) (Dibutyl tin (DBT))		mg/kg	0.03	n.d.	-
二辛基錫 (DOT) (Diocetyl tin (DOT))		mg/kg	0.03	n.d.	-
氧化雙三丁基錫 (TBTO) (Bis(tributyltin) oxide (TBTO)) (CAS No.: 56-35-9)	由三丁基錫結果計算得之。(Calculated from the result of Tributyl Tin (TBT).)	mg/kg	0.03▲	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
偶氮染料 (AZO Dyes)					
4-氨基二苯 (4-aminodiphenyl) (CAS No.: 92-67-1)	參考EN ISO 14362-1: 2017 · 以氣相層析質譜儀及高效液相層析儀/二極體陣列偵測器分析。 (With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.)	mg/kg	3	n.d.	-
聯苯胺 (Benzidine) (CAS No.: 92-87-5)		mg/kg	3	n.d.	-
4-氯鄰甲苯胺 (4-chloro-o-toluidine) (CAS No.: 95-69-2)		mg/kg	3	n.d.	-
2-萘胺 (2-naphthylamine) (CAS No.: 91-59-8)		mg/kg	3	n.d.	-
鄰-胺基偶氮甲苯 (o-aminoazotoluene) (CAS No.: 97-56-3)		mg/kg	3	n.d.	-
2-胺基-4-硝基甲苯 (5-nitro-o-toluidine) (CAS No.: 99-55-8)		mg/kg	3	n.d.	-
4-氯苯胺 (4-chloroaniline) (CAS No.: 106-47-8)		mg/kg	3	n.d.	-
2,4-二氨基苯甲醚 (2,4-diaminoanisole) (CAS No.: 615-05-4)		mg/kg	3	n.d.	-
4,4'-二胺基二苯甲烷 (4,4'-diaminodiphenylmethane (MDA)) (CAS No.: 101-77-9)		mg/kg	3	n.d.	-
3,3'-二氯聯苯胺 (3,3'-dichlorobenzidine) (CAS No.: 91-94-1)		mg/kg	3	n.d.	-
3,3'-二甲氧基聯苯胺 (3,3'-dimethoxybenzidine) (CAS No.: 119-90-4)		mg/kg	3	n.d.	-
3,3'-二甲基聯苯胺 (3,3'-dimethylbenzidine) (CAS No.: 119-93-7)		mg/kg	3	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
3,3'-二甲基-4,4'-二胺基二苯甲烷 (3,3'-dimethyl-4,4'-diaminodiphenylmethane) (CAS No.: 838-88-0)	參考EN ISO 14362-1: 2017 · 以氣相層析質譜儀及高效液相層析儀/二極體陣列偵測器分析。 (With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.)	mg/kg	3	n.d.	-
2-甲氧基-5-甲基苯胺 (2-methoxy-5-methylaniline) (CAS No.: 120-71-8)		mg/kg	3	n.d.	-
4,4'-亞甲雙(2-氯苯胺) (4,4'-methylene-bis-(2-chloroaniline)) (CAS No.: 101-14-4)		mg/kg	3	n.d.	-
4,4'-二胺基二苯醚 (4,4'-oxydianiline) (CAS No.: 101-80-4)		mg/kg	3	n.d.	-
4,4'-硫二苯胺 (4,4'-thiodianiline) (CAS No.: 139-65-1)		mg/kg	3	n.d.	-
鄰-甲苯胺 (o-toluidine) (CAS No.: 95-53-4)		mg/kg	3	n.d.	-
2,4-甲苯二胺 (2,4-diaminotoluene) (CAS No.: 95-80-7)		mg/kg	3	n.d.	-
2,4,5-三甲苯胺 (2,4,5-trimethylaniline) (CAS No.: 137-17-7)		mg/kg	3	n.d.	-
鄰-甲氧基苯胺 (o-anisidine) (CAS No.: 90-04-0)		mg/kg	3	n.d.	-
2,4-二甲基苯胺 (2,4-xylidine) (CAS No.: 95-68-1)		mg/kg	3	n.d.	-
2,6-二甲基苯胺 (2,6-xylidine) (CAS No.: 87-62-7)		mg/kg	3	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
4-苯基偶氮基苯胺 (4-aminoazobenzene) (CAS No.: 60-09-3)	參考EN ISO 14362-1: 2017 or/and EN ISO 14362-3: 2017 · 以氣相層析質譜儀及高效液相層析儀/二極體陣列偵測器分析。(With reference to EN ISO 14362-1: 2017 or/and EN ISO 14362-3: 2017, analysis was performed by GC/MS & HPLC/DAD.)	mg/kg	3	n.d.	-
全氟辛烷磺酸及其鹽類 (PFOS and its salts) (CAS No.: 1763-23-1 and its salts)	參考CEN/TS 15968: 2010 · 以液相層析串聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
全氟辛酸及其鹽類 (PFOA and its salts) (CAS No.: 335-67-1 and its salts)		mg/kg	0.01	n.d.	-
2-[2-羥基-3',5'-二叔-丁基苯基]-苯並三唑 (紫外線吸收劑320) (2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)) (CAS No.: 3846-71-7)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
富馬酸二甲酯 (DMFu) (Dimethyl fumarate (DMFu)) (CAS No.: 624-49-7)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	0.1	n.d.	-
磷酸三(2-氯乙基)酯 (TCEP) (Tris(2-chloroethyl) phosphate (TCEP)) (CAS No.: 115-96-8)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
磷酸三(1-氯-2-丙基)酯 (TCPP) (Tris(1-chloro-2-propyl) phosphate (TCPP)) (CAS No.: 13674-84-5)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
磷酸三(1,3-二氯異丙基)酯 (Tris(1,3-dichloro-2-propyl) phosphate) (CAS No.: 13674-87-8)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-

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南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

南亞電子材料(昆山)有限公司 (NANYA ELECTRONIC MATERIALS (KUNSHAN) CORP. LTD.)

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廣東省惠州市博羅縣石灣鎮永石大道230號 (NO. 230, YONGSHI BOULEVARD SHIWAN TOWN BOLUO COUNTY HUIZHOU CITY GUANG DONG)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
六溴環十二烷及所有主要被辨別出的異構物(HBCDD) (α- HBCDD, β- HBCDD, γ- HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α- HBCDD, β- HBCDD, γ- HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	參考IEC 62321: 2008 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321: 2008, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
<b>氫氟碳化合物 (Hydrofluorocarbon) (HFCs)</b>					
HFC-23 (CHF3) (CAS No.: 75-46-7)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
HFC-32 (CH2F2) (CAS No.: 75-10-5)		mg/kg	1	n.d.	-
HFC-41 (CH3F) (CAS No.: 593-53-3)		mg/kg	1	n.d.	-
HFC-43-10mee (C5H2F10)		mg/kg	1	n.d.	-
HFC-125 (C2HF5)		mg/kg	1	n.d.	-
HFC-134 (C2H2F4)		mg/kg	1	n.d.	-
HFC-134a (CH2FCF3) (CAS No.: 811-97-2)		mg/kg	1	n.d.	-
HFC-143 (CH3F3)		mg/kg	1	n.d.	-
HFC-143a (CH3F3)		mg/kg	1	n.d.	-
HFC-152a (C2H4F2) (CAS No.: 75-37-6)		mg/kg	1	n.d.	-
HFC-227ea (C3HF7) (CAS No.: 431-89-0)		mg/kg	1	n.d.	-
HFC-236fa (C3H2F6)		mg/kg	1	n.d.	-
HFC-236ea (C3H2F6) (CAS No.: 431-63-0)		mg/kg	1	n.d.	-
HFC-245ca (C3H3F5)		mg/kg	1	n.d.	-
HFC-245fa (C3H3F5)		mg/kg	1	n.d.	-
HFC-365mfc (C4H5F5)		mg/kg	1	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
全氟化碳 (Perfluorocarbon) (PFCs)					
四氟甲烷 (Freon-14) (CAS No.: 75-73-0)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
六氟乙烷 (Fluorocarbon 116) (CAS No.: 76-16-4)		mg/kg	1	n.d.	-
八氟丙烷 (Freon 218) (CAS No.: 76-19-7)		mg/kg	1	n.d.	-
十氟丁烷 (Decafluorobutane) (CAS No.: 355-25-9)		mg/kg	1	n.d.	-
八氟環丁烷 (Freon C318) (CAS No.: 115-25-3)		mg/kg	1	n.d.	-
全氟-1-丁烯 (Perfluor-1-butene) (CAS No.: 357-26-6)		mg/kg	1	n.d.	-
全氟異丁烯 (Perfluorisobutene) (CAS No.: 382-21-8)		mg/kg	1	n.d.	-
1,4-二氫八氟丁烷 (1,4-dihydrooctafluorobutane) (CAS No.: 377-36-6)		mg/kg	1	n.d.	-
2-全氟甲基丁烷 (Nonfluor-2-(trifluoromethyl)butane) (CAS No.: 594-91-2)		mg/kg	1	n.d.	-
全氟戊烷 (Perfluoro-n-pentane) (CAS No.: 678-26-2)		mg/kg	1	n.d.	-
2-全氟甲基戊烷 (2-Perfluoromethylpentane) (CAS No.: 355-04-4)		mg/kg	1	n.d.	-
全氟己烷 (Perfluorohexane) (CAS No.: 355-42-0)		mg/kg	1	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)	
				No.1		
氟氯碳化物 (Chlorofluorocarbons) (CFCs)						
CFC-11	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-	
CFC-12		mg/kg	1	n.d.	-	
CFC-113		mg/kg	1	n.d.	-	
CFC-114		mg/kg	1	n.d.	-	
CFC-115		mg/kg	1	n.d.	-	
CFC-13		mg/kg	1	n.d.	-	
CFC-111		mg/kg	1	n.d.	-	
CFC-112		mg/kg	1	n.d.	-	
CFC-211		mg/kg	1	n.d.	-	
CFC-212		mg/kg	1	n.d.	-	
CFC-213		mg/kg	1	n.d.	-	
CFC-214		mg/kg	1	n.d.	-	
CFC-215		mg/kg	1	n.d.	-	
CFC-216		mg/kg	1	n.d.	-	
CFC-217		mg/kg	1	n.d.	-	
氟氯氫烷碳化物 (Hydrochlorofluorocarbons) (HCFCs)						
HCFC-21		參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
HCFC-22	mg/kg		1	n.d.	-	
HCFC-31	mg/kg		1	n.d.	-	
HCFC-121	mg/kg		1	n.d.	-	
HCFC-122	mg/kg		1	n.d.	-	
HCFC-123	mg/kg		1	n.d.	-	
HCFC-124	mg/kg		1	n.d.	-	
HCFC-131	mg/kg		1	n.d.	-	

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
HCFC-132b	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
HCFC-133a		mg/kg	1	n.d.	-
HCFC-141b		mg/kg	1	n.d.	-
HCFC-142b		mg/kg	1	n.d.	-
HCFC-221		mg/kg	1	n.d.	-
HCFC-222		mg/kg	1	n.d.	-
HCFC-223		mg/kg	1	n.d.	-
HCFC-224		mg/kg	1	n.d.	-
HCFC-225ca		mg/kg	1	n.d.	-
HCFC-225cb		mg/kg	1	n.d.	-
HCFC-226		mg/kg	1	n.d.	-
HCFC-231		mg/kg	1	n.d.	-
HCFC-232		mg/kg	1	n.d.	-
HCFC-233		mg/kg	1	n.d.	-
HCFC-234		mg/kg	1	n.d.	-
HCFC-235		mg/kg	1	n.d.	-
HCFC-241		mg/kg	1	n.d.	-
HCFC-242		mg/kg	1	n.d.	-
HCFC-243		mg/kg	1	n.d.	-
HCFC-244		mg/kg	1	n.d.	-
HCFC-251		mg/kg	1	n.d.	-
HCFC-252		mg/kg	1	n.d.	-
HCFC-253		mg/kg	1	n.d.	-
HCFC-261		mg/kg	1	n.d.	-
HCFC-262		mg/kg	1	n.d.	-
HCFC-271		mg/kg	1	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
HCFC-141	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
HCFC-142		mg/kg	1	n.d.	-
HCFC-151		mg/kg	1	n.d.	-
HCFC-225		mg/kg	1	n.d.	-
溴甲烷 (Methyl Bromide) (CAS No.: 74-83-9)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
<b>海龍 (Halons)</b>					
海龍-1211 (Halon-1211) (CAS No.: 353-59-3)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
海龍-1301 (Halon-1301) (CAS No.: 75-63-8)		mg/kg	1	n.d.	-
海龍-2402 (Halon-2402) (CAS No.: 124-73-2)		mg/kg	1	n.d.	-
<b>不完全鹵化氟溴化物 (Hydrobromofluorocarbons)</b>					
HBFC-21B2 (CHFBr <sub>2</sub> ) (CAS No.: 1868-53-7)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
HBFC-22B1 (CHF <sub>2</sub> Br) (CAS No.: 1511-62-2)		mg/kg	1	n.d.	-
HBFC-31B1 (CH <sub>2</sub> FBr) (CAS No.: 373-52-4)		mg/kg	1	n.d.	-
HBFC-121B4 (C <sub>2</sub> HFBr <sub>4</sub> )		mg/kg	1	n.d.	-
HBFC-122B3 (C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub> )		mg/kg	1	n.d.	-
HBFC-123B2 (C <sub>2</sub> HF <sub>3</sub> Br <sub>2</sub> )		mg/kg	1	n.d.	-
HBFC-124B1 (C <sub>2</sub> HF <sub>4</sub> Br)		mg/kg	1	n.d.	-
HBFC-131B3 (C <sub>2</sub> H <sub>2</sub> FBr <sub>3</sub> )		mg/kg	1	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
HBFC-132B2 (C2H2F2Br2)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
HBFC-133B1 (C2H2F3Br)		mg/kg	1	n.d.	-
HBFC-141B2 (C2H3FBr2)		mg/kg	1	n.d.	-
HBFC-142B1 (C2H3F2Br)		mg/kg	1	n.d.	-
HBFC-151B1 (C2H4FBr)		mg/kg	1	n.d.	-
HBFC-221B6 (C3HFBr6)		mg/kg	1	n.d.	-
HBFC-222B5 (C3HF2Br5)		mg/kg	1	n.d.	-
HBFC-223B4 (C3HF3Br4)		mg/kg	1	n.d.	-
HBFC-224B3 (C3HF4Br3)		mg/kg	1	n.d.	-
HBFC-225B2 (C3HF5Br2)		mg/kg	1	n.d.	-
HBFC-226B1 (C3HF6Br)		mg/kg	1	n.d.	-
HBFC-231B5 (C3H2FBr5)		mg/kg	1	n.d.	-
HBFC-232B4 (C3H2F2Br4)		mg/kg	1	n.d.	-
HBFC-233B3 (C3H2F3Br3)		mg/kg	1	n.d.	-
HBFC-234B2 (C3H2F4Br2)		mg/kg	1	n.d.	-
HBFC-235B1 (C3H2F5Br)		mg/kg	1	n.d.	-
HBFC-241B4 (C3H3FBr4)		mg/kg	1	n.d.	-
HBFC-242B3 (C3H3F2Br3)		mg/kg	1	n.d.	-
HBFC-243B2 (C3H3F3Br2)		mg/kg	1	n.d.	-
HBFC-244B1 (C3H3F4Br)		mg/kg	1	n.d.	-
HBFC-251B3 (C3H4FBr3)		mg/kg	1	n.d.	-
HBFC-252B2 (C3H4F2Br2)		mg/kg	1	n.d.	-
HBFC-253B1 (C3H4F3Br)		mg/kg	1	n.d.	-
HBFC-261B2 (C3H5FBr2)		mg/kg	1	n.d.	-
HBFC-262B1 (C3H5F2Br)		mg/kg	1	n.d.	-
HBFC-271B1 (C3H6FBr)	mg/kg	1	n.d.	-	

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南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

南亞電子材料(昆山)有限公司 (NANYA ELECTRONIC MATERIALS (KUNSHAN) CORP. LTD.)

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江蘇省昆山市昆山經濟技術開發區長江南路201號 (201 CHANG JIANG ROAD(S) KUNSHAN ECONOMIC & TECHNICAL DEVELOPMENT ZONE, KUNSHAN, JIANG SU, CHINA 215300)

廣東省惠州市博羅縣石灣鎮永石大道230號 (NO. 230, YONGSHI BOULEVARD SHIWAN TOWN BOLUO COUNTY HUIZHOU CITY GUANG DONG)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
氯碳氫化物 (Chlorinate hydrocarbon)					
1,1,1,2-四氯乙烷 (1,1,1,2-Tetrachloroethane) (CAS No.: 630-20-6)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
1,1,1-三氯乙烷 (1,1,1-Trichloroethane) (CAS No.: 71-55-6)		mg/kg	1	n.d.	-
1,1,2,2-四氯乙烷 (1,1,2,2-Tetrachloroethane) (CAS No.: 79-34-5)		mg/kg	1	n.d.	-
1,1,2-三氯乙烷 (1,1,2-Trichloroethane) (CAS No.: 79-00-5)		mg/kg	1	n.d.	-
1,1-二氯乙烷 (1,1-Dichloroethane) (CAS No.: 75-34-3)		mg/kg	1	n.d.	-
1,1-二氯乙烯 (1,1-Dichloroethylene) (CAS No.: 75-35-4)		mg/kg	1	n.d.	-
1,1-二氯丙烯 (1,1-Dichloropropene) (CAS No.: 563-58-6)		mg/kg	1	n.d.	-
1,2,3-三氯丙烷 (1,2,3-Trichloropropane) (CAS No.: 96-18-4)		mg/kg	1	n.d.	-
1,2-二氯乙烷 (1,2-Dichloroethane) (CAS No.: 107-06-2)		mg/kg	1	n.d.	-
1,2-二氯丙烷 (1,2-Dichloropropane) (CAS No.: 78-87-5)		mg/kg	1	n.d.	-
1,3-二氯丙烷 (1,3-Dichloropropane) (CAS No.: 142-28-9)		mg/kg	1	n.d.	-
2,2-二氯丙烷 (2,2-Dichloropropane) (CAS No.: 594-20-7)		mg/kg	1	n.d.	-

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廣東省惠州市博羅縣石灣鎮永石大道230號 (NO. 230, YONGSHI BOULEVARD SHIWAN TOWN BOLUO COUNTY HUIZHOU CITY GUANG DONG)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
四氯甲烷(四氯化碳) (Carbon tetrachloride) (CAS No.: 56-23-5)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
氯乙烷 (Chloroethane) (CAS No.: 75-00-3)		mg/kg	1	n.d.	-
氯仿 (Chloroform) (CAS No.: 67-66-3)		mg/kg	1	n.d.	-
氯甲烷 (Chloromethane) (CAS No.: 74-87-3)		mg/kg	1	n.d.	-
順-1,2-二氯乙烯 (cis-1,2-Dichloroethene) (CAS No.: 156-59-2)		mg/kg	1	n.d.	-
順-1,3-二氯丙烯 (cis-1,3-Dichloropropene) (CAS No.: 10061-01-5)		mg/kg	1	n.d.	-
六氯-1,3-丁二烯 (Hexachlorobutadiene) (CAS No.: 87-68-3)		mg/kg	1	n.d.	-
二氯甲烷 (Dichloromethane) (CAS No.: 75-09-2)		mg/kg	1	n.d.	-
四氯乙烯 (Tetrachloroethene) (CAS No.: 127-18-4)		mg/kg	1	n.d.	-
反-1,2-二氯乙烯 (trans-1,2-Dichloroethene) (CAS No.: 156-60-5)		mg/kg	1	n.d.	-
反-1,3-二氯丙烯 (trans-1,3-Dichloropropene) (CAS No.: 10061-02-6)		mg/kg	1	n.d.	-
三氯乙烯 (Trichloroethylene) (CAS No.: 79-01-6)		mg/kg	1	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
六氟化硫 (Sulfur hexafluoride) (CAS No.: 2551-62-4)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
砷 (Arsenic) (As) (※ E)	參考RSTS-EE-SVHC-007 · 以感應耦合電漿發射光譜儀分析。(With reference to RSTS-EE-SVHC-007, analysis was performed by ICP-OES.)	mg/kg	50	n.d.	-
五氧化二砷 (As <sub>2</sub> O <sub>5</sub> ) (Diarsenic pentoxide (As <sub>2</sub> O <sub>5</sub> )) (CAS No.: 1303-28-2)	由砷結果計算得之。(Calculated from the result of Arsenic.)	mg/kg	50▲	n.d.	-
三氧化二砷 (As <sub>2</sub> O <sub>3</sub> ) (Diarsenic trioxide (As <sub>2</sub> O <sub>3</sub> )) (CAS No.: 1327-53-3)	由砷結果計算得之。(Calculated from the result of Arsenic.)	mg/kg	50▲	n.d.	-
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP)) (CAS No.: 85-68-7)	參考IEC 62321-8: 2017 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	1000
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP)) (CAS No.: 84-74-2)		mg/kg	50	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP)) (CAS No.: 117-81-7)		mg/kg	50	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP)) (CAS No.: 84-69-5)		mg/kg	50	n.d.	1000
鄰苯二甲酸二異癸酯 (DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40-0, 68515-49-1)		mg/kg	50	n.d.	-
鄰苯二甲酸二異壬酯 (DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12-0, 68515-48-0)		mg/kg	50	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
鄰苯二甲酸二正辛酯 (DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)	參考IEC 62321-8: 2017 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	-
鄰苯二甲酸二正己酯 (DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)		mg/kg	50	n.d.	-
鄰苯二甲酸二(支鏈與直鏈)己基酯 (DHP) (1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DHP)) (CAS No.: 68515-50-4)		mg/kg	50	n.d.	-
鄰苯二甲酸二(C6-8支鏈)烷基酯 · 富C7 (DIHP) (1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)) (CAS No.: 71888-89-6)		mg/kg	50	n.d.	-
鄰苯二甲酸二(C7-11支鏈與直鏈)烷基酯 (DHNUP) (1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)) (CAS No.: 68515-42-4)		mg/kg	50	n.d.	-
鄰苯二甲酸雙(2-甲氧基乙基)酯 (DMEP) (Bis(2-methoxyethyl) phthalate (DMEP)) (CAS No.: 117-82-8)		mg/kg	50	n.d.	-
鄰苯二甲酸二異戊酯 (DIPP) (Diisopentyl phthalate (DIPP)) (CAS No.: 605-50-5)		mg/kg	50	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
鄰苯二甲酸二(支鏈及直鏈戊基)酯 (DPP) (1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (DPP)) (CAS No.: 84777-06-0)	參考IEC 62321-8: 2017 · 以氣相層析儀/質譜 儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	-
鄰苯二甲酸二正戊酯 (DNPP) (Di-n- pentyl phthalate (DNPP)) (CAS No.: 131-18-0)		mg/kg	50	n.d.	-
鄰苯二甲酸正戊異戊酯 (NPIPP) (N- pentyl iso-pentyl phthalate (NPIPP)) (CAS No.: 776297-69-9)		mg/kg	50	n.d.	-
鄰苯二甲酸二甲酯 (DMP) (Dimethyl phthalate (DMP)) (CAS No.: 131-11- 3)		mg/kg	50	n.d.	-
鄰苯二甲酸二環己酯 (DCHP) (Di- cyclohexyl phthalate (DCHP)) (CAS No.: 84-61-7)		mg/kg	50	n.d.	-
鄰苯二甲酸二苯酯 (DPhP) (Diphenyl phthalate (DPhP)) (CAS No.: 84-62-8)		mg/kg	50	n.d.	-
鄰苯二甲酸二苯甲基酯 (Dibenzyl phthalate) (CAS No.: 523-31-9)		mg/kg	50	n.d.	-
鄰苯二甲酸二異辛酯 (DIOP) (Diisooctyl phthalate (DIOP)) (CAS No.: 27554- 26-3)		mg/kg	50	n.d.	-
鄰苯二甲酸二丙酯 (DPrP) (Dipropyl phthalate (DPrP)) (CAS No.: 131-16- 8)		mg/kg	50	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
鄰苯二甲酸二正壬酯 (DNNP) (Di-n-nonyl phthalate (DNNP)) (CAS No.: 84-76-4)	參考IEC 62321-8: 2017 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	-
鄰苯二甲酸二乙酯 (DEP) (Di-ethyl phthalate (DEP)) (CAS No.: 84-66-2)		mg/kg	50	n.d.	-
二氯化鈷 (CoCl <sub>2</sub> ) (Cobalt dichloride (CoCl <sub>2</sub> )) (CAS No.: 7646-79-9)	以感應耦合電漿發射光譜儀 · 離子層析儀分析；由氯、鈷的結果計算得之。(Analysis was performed by ICP-OES, IC. Calculated from the results of Cobalt, Chlorine.)	mg/kg	50▲	n.d.	-
全氟己基磺酸及其鹽類 (PFHxS) (Perfluorohexane-1-sulphonic acid and its salts (PFHxS)) (CAS No.: 355-46-4)	參考CEN/TS 15968: 2010 · 以液相層析串聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
紅磷 (Red Phosphorus)	以熱裂解-氣相層析儀/質譜儀分析。(Analysis was performed by Pyrolyzer-GC/MS.)	**	-	Negative	-
二乙二醇二甲醚 (DEGDME) (Diethylene glycol dimethyl ether (DEGDME)) (CAS No.: 111-96-6)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	10	n.d.	-
N, N-二甲基乙醯胺 (DMAC) (N,N-Dimethylacetamide (DMAC)) (CAS No.: 127-19-5)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	10	n.d.	-
乙二醇二甲醚 (Ethylene glycol dimethyl ether) (CAS No.: 110-71-4)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	10	n.d.	-
磷酸三(二甲苯)酯 (Trixylyl phosphate) (CAS No.: 25155-23-1)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	25	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
對特辛基苯酚 (4-Tert-octylphenol) (CAS No.: 140-66-9)	參考US EPA 3550C: 2007 · 以液相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by LC/MS.)	mg/kg	10	n.d.	-
N-苯基苯胺與苯乙烯和2,4,4-三甲基戊烯的反應物 (Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene) (CAS No.: 68921-45-9)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	100	n.d.	-
2-(2'-羥基-3',5'-二-叔-戊基苯基)苯並三唑 (紫外線吸收劑328) (2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)) (CAS No.: 25973-55-1)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
溴氯甲烷 (Bromochloromethan) (CAS No.: 74-97-5)	參考US EPA 5021A: 2014 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.)	mg/kg	1	n.d.	-
中鏈氯化石蠟(C14-C17) (MCCP) (Medium Chain Chlorinated Paraffins(C14-C17) (MCCP)) (CAS No.: 85535-85-9)	參考ISO 18219: 2015 · 以氣相層析儀/質譜儀分析。(With reference to ISO 18219: 2015, analysis was performed by GC/MS.)	mg/kg	50	n.d.	-
溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)	參考BS EN 14582: 2016 · 以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	49600	-
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)		mg/kg	50	345	-

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### 備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL
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. 石綿定性分析試驗範圍： <0.1%~100% · 石綿鑑定的判定基準是以檢出含有石綿纖維為『Positive』 · 未檢出石綿纖維為『Negative』。(Testing range of asbestos qualitative analysis is from less than 0.1% to 100%. The judgment criterion: asbestos fibers being found is shown as "Positive"; asbestos fibers not being found is shown as "Negative".)
8. ▲ : MDL是針對元素/測試化合物之評估。(The MDL was evaluated for element / tested substance.)

換算公式 (Conversion Formula) :  $AX = A \times F$

AX	A	F
五氧化二砷 (Diarsenic pentaoxide)	砷 (Arsenic)	1.5339
三氧化二砷 (Diarsenic trioxide)	砷 (Arsenic)	1.3203
氧化鈹 (Beryllium oxide (BeO))	鈹 (Beryllium)	2.7753
氧化雙三丁基錫 (Bis(tributyltin)oxide) (TBTO)	三丁基錫 (Tributyl Tin) (TBT)	1.0276

參數換算表 (Parameter Conversion Table) :

[https://eecloud.sgs.com/Region\\_TW/DocDownload.aspx#otherDoc](https://eecloud.sgs.com/Region_TW/DocDownload.aspx#otherDoc)

9. 全氟辛烷磺酸及其鹽類包含 (PFOS and its salts including) :  
CAS No.: 29081-56-9, 2795-39-3, 29457-72-5, 70225-14-8, 56773-42-3, 251099-16-8, 307-35-7.
10. 全氟辛酸及其鹽類包含 (PFOA and its salts including) :  
CAS No.: 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0.
11. (※ E): 被萃取出之溶出砷是以感應耦合電漿發射光譜儀檢測得之。(The extracted soluble Arsenic is detected by ICP-OES.)
12. (※ H): 水合硼酸鈉: 依照歐洲化學總署解釋以無水四硼酸二鈉數據作為代表(歐洲化學總署回信編號 Ref no.: INC 000000032519) / Tetraboron disodium heptaoxide, hydrate: Only anhydrous form of disodium tetraborate is relevant and considered according to ECHA explanation (Ref no.: INC 000000032519).

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13. 鈹青銅是一種主要成份為鈹及銅的合金, 當偵測不到總鈹含量時, 亦表示不含鈹青銅。  
(Since beryllium copper is a metal alloy of copper and beryllium and the test result is n.d. for beryllium, we can have conclusion that the beryllium copper is n.d..)
14. 除非另有說明, 參照ILAC-G8:09/2019, 採用簡單二元(w=0)允收規則進行符合性判定; 根據此規則, 符合性結果之判定係以測試結果與限值做比較。(Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)
15. 本報告部份測試結果係引用自報告 ETR22800033 之樣品測試結果。(The some test results of this report were quoted from ETR22800033)

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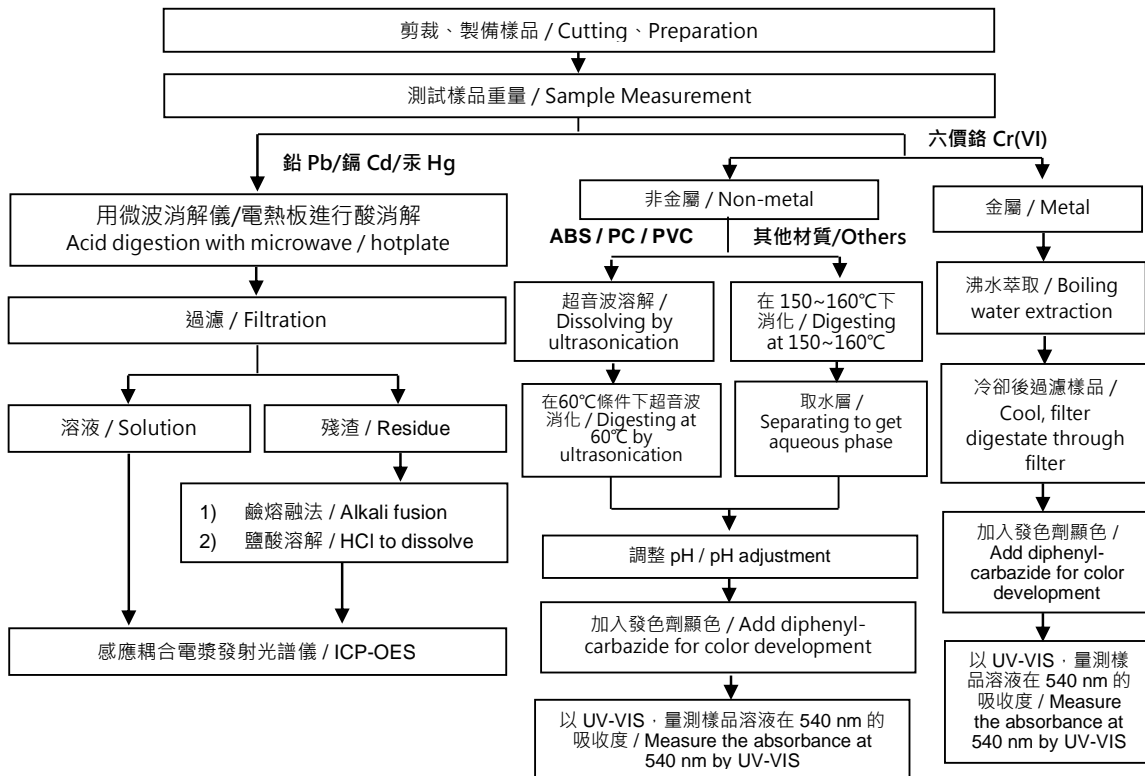
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## 重金屬流程圖 / Analytical flow chart of Heavy Metal

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)



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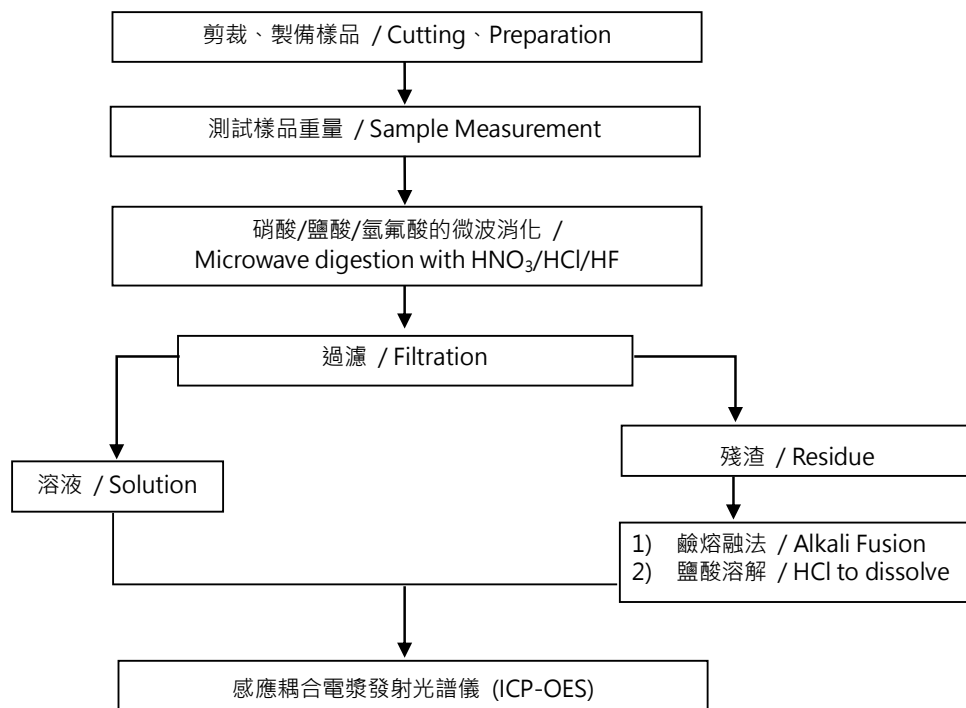
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## 元素(含重金屬)分析流程圖 / Analytical flow chart of Elements (Heavy metal included)

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.

【參考方法/Reference method : US EPA 3051A、US EPA 3052】



\* US EPA 3051A 方法未添加氫氟酸 / US EPA 3051A method does not add HF.

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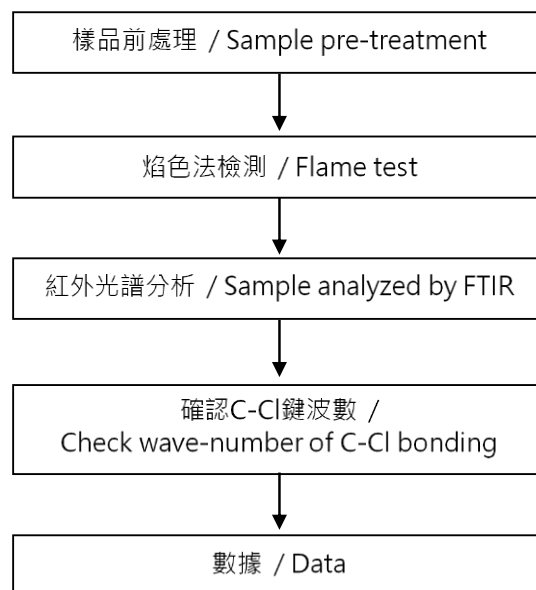
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### 聚氯乙烯物質判定分析流程圖 / Analysis flow chart - PVC



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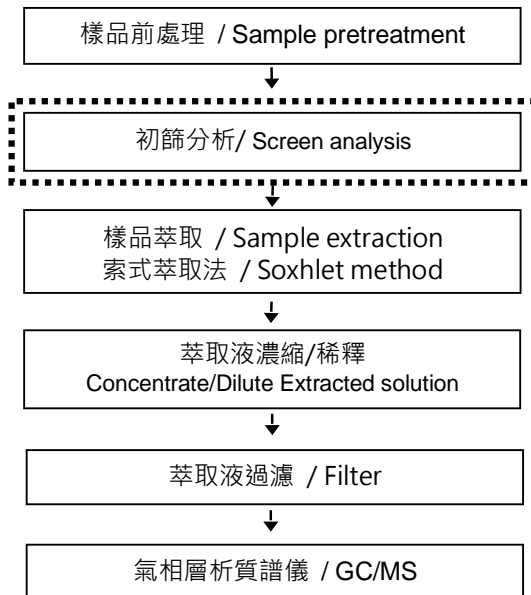
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### 多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs

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

號碼(No.): ETR22800034

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南亞塑膠工業股份有限公司 (NAN YA PLASTICS CORPORATION)

南亞電子材料(昆山)有限公司 (NANYA ELECTRONIC MATERIALS (KUNSHAN) CORP. LTD.)

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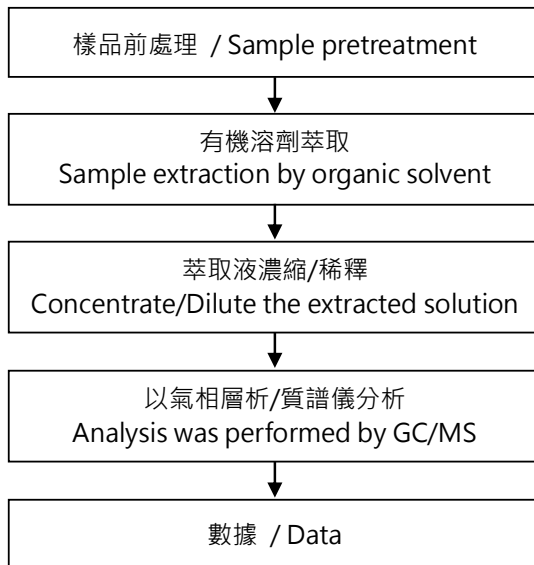
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## 分析流程圖 / Analytical flow chart

【適用於：多氯聯苯、多氯奈、多氯三聯苯、滅蟻靈、氯化石蠟、DBBT】

\*Apply to: PCBs, PCNs, PCTs, Mirex, Chlorinated Paraffins, DBBT



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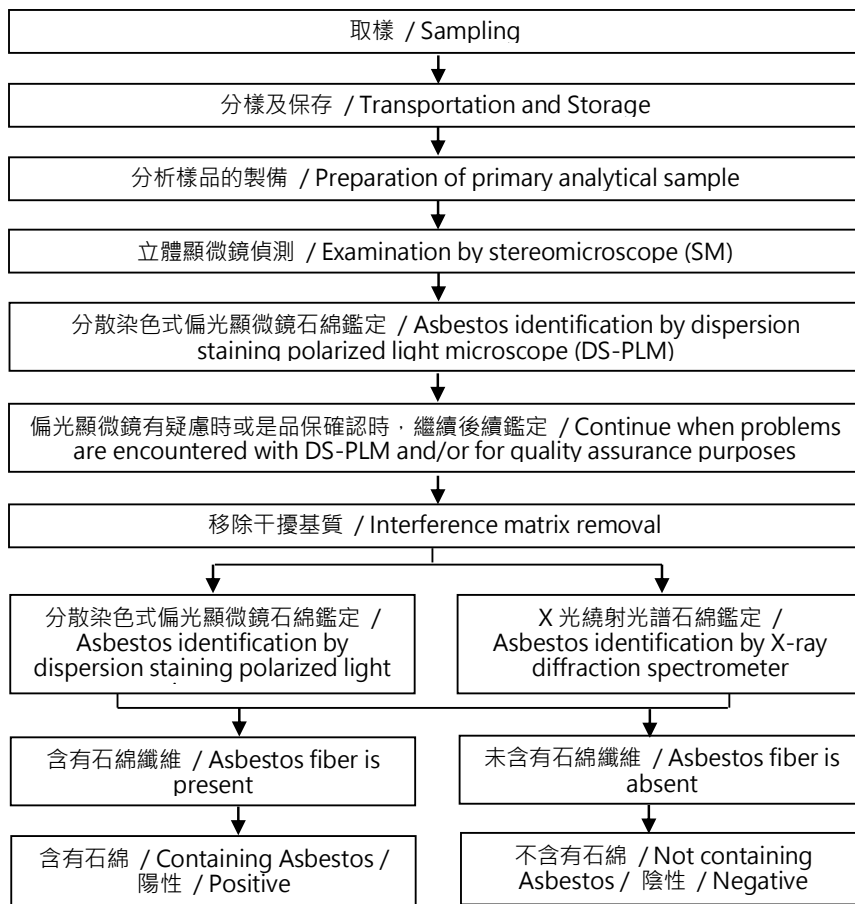
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## 石綿鑑定分析流程圖 / Analysis flow chart for determination of Asbestos

【參考方法(Reference method): EPA 600/R-93/116】



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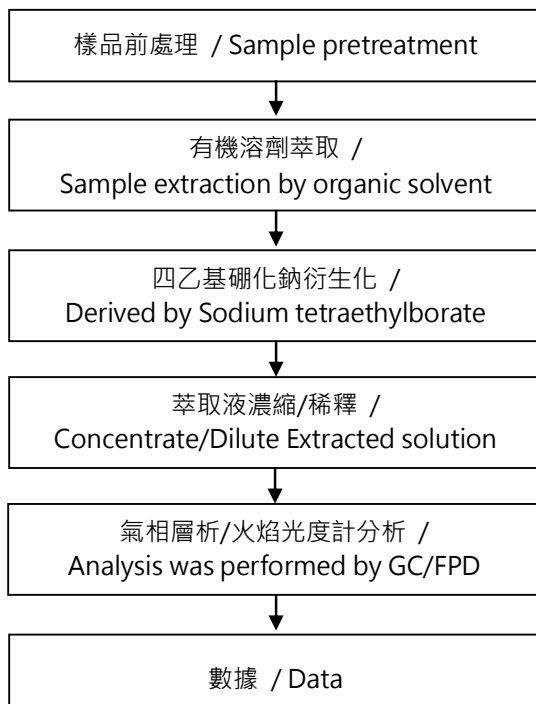
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## 有機錫分析流程圖 / Analytical flow chart - Organic-Tin



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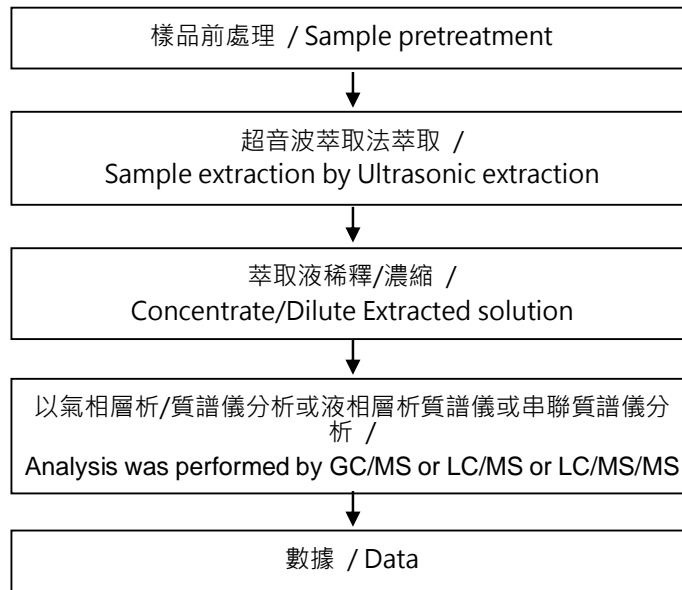
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全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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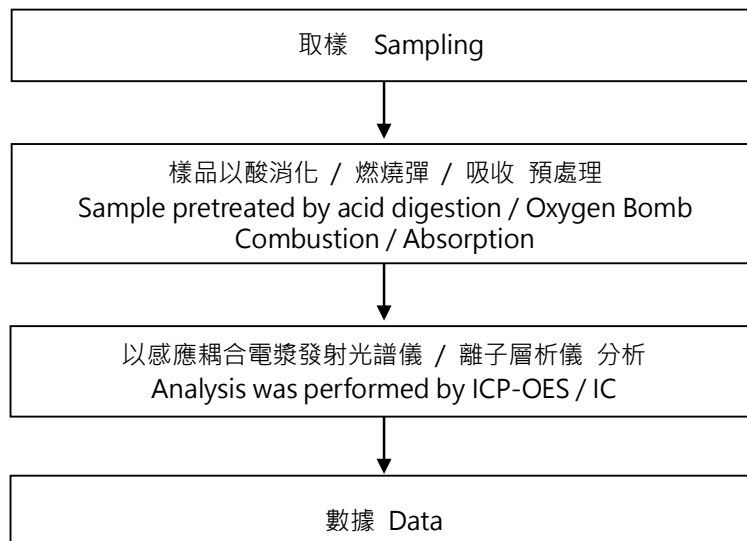
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### 二氯化鈷分析流程圖 / Analytical flow chart - Cobalt dichloride



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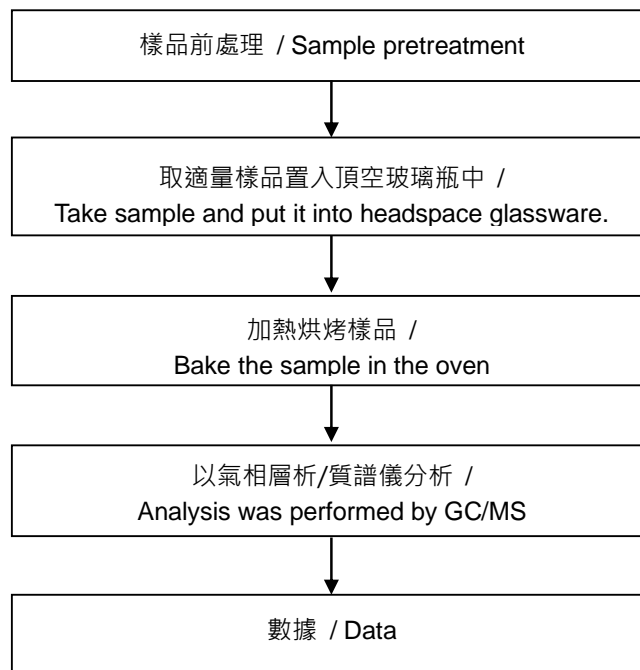
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揮發性有機化合物分析流程圖 /  
Analytical flow chart of volatile organic compounds (VOCs)

【參考方法/Reference method : US EPA 5021A】



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