亞旭電腦股份有限公司
樣品確認單

■ 一般承認　□ 條件承認　□ 退　件　　94年5月13日

料　號：3907-001850　　序　號：研 9406209

種　類：ANTENNA　　使用機種：RTA1025W

廠　牌：WHA YU　是否指定 ☑YES □NO　　供應商：譁裕

規　格：ANTENNA,SMD,C407-510316-A,2.4~2.5GHz 50R 1.5+-0.25dBi ϕ1.13 CABLE L=85mm murky gray,WHA YU譁裕

外　觀	■完全確認 □條件確認 □退件
驗證結果：	
電　氣	■完全確認 □條件確認 □退件
驗證結果：	
模　具	■完全確認 □條件確認 □退件
驗證結果：	
印　刷	■完全確認 □條件確認 □退件
驗證結果：	
顏　色	■完全確認 □條件確認 □退件
驗證結果：	
零件環保狀態	□無　□有化驗報告:　說明:
PCB LAYOUT方式：	□Power PCB　□Pads　□THE OTHERS:_____
安規控制零件	□是　□否
安規證書如下:	□UL □CUL □CSA □TUV □VDE □BSI □BABT □SEMKO □NEMKO □FIMKO □DEMKO □THE OTHERS:_____
證書期限	□是 何種證書:_____　□否

品檢重點及其它應特別注意事項：　　附樣欄：

整行文字需與控管字元完全相同，不可有多字或少字

1.請依承認書檢驗

輸入編號
RD0940628-02

確認單位	產品工程: □台灣 □大陸 研展: □台灣 □大陸 平面: □台灣 □大陸
分發單位	■供應商 □THE OTHERS:_____

核准	朱逸光	確認	黃晨宇	工程師	陳建汶

PRBD05-AH

亞旭電腦股份有限公司
原 物 料 樣 品 測 試 報 告

17 線材、機構、雜項類 (REV.01)　　DATE: 94 / 05 / 13

料 號	3907-001850	品名規格	ANTENNA,SMD,C407-510316-A,2.4~2.5GHz 50R 1.5+-0.25dBi ϕ1.13 CABLE L=85mm murky gray,WHA YU 譁裕

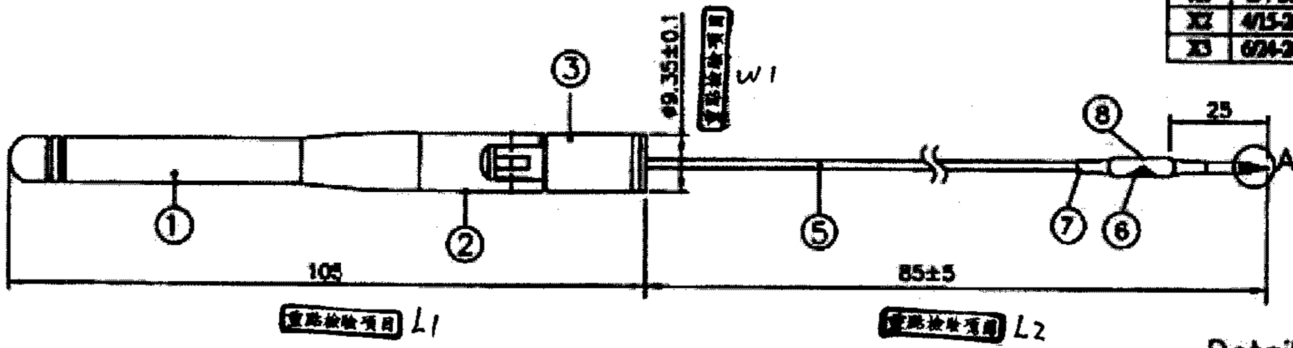
一.機構測量(單位：mm)&電氣測量

	實 測 項 目	規 格		#1	#2	#3	#4	#5	結 果
◉	長度	L1	105+ 5	104.50	104.68	104.66	104.73	104.60	■OK□FAIL
◉	底部直徑	W1	9.35+-0.1	9.34	9.34	9.36	9.33	9.34	■OK□FAIL
◉	高度								□OK□FAIL
○	PIN 腳Φ值								□OK□FAIL
○	PIN 腳之長度								□OK□FAIL
◉	PIN 腳之距離								□OK□FAIL
	天線長度	L2	85+-5	85.64	86.47	86.30	85.37	85.86	■OK□FAIL
	頂端直徑	W2	7.8+-1	7.79	7.78	7.80	7.78	7.78	■OK□FAIL
	底部至 90° 長度	L3	82.5+-1	82.83	82.43	82.69	82.96	82.89	■OK□FAIL
									□OK□FAIL
									□OK□FAIL
									□OK□FAIL
									□OK□FAIL
									□OK□FAIL
									□OK□FAIL
◉	焊錫性(Solderability)								□OK□FAIL
◉	抗焊錫熱(Resistanee to Soldering Heat)								□OK□FAIL
○	外觀			OK	OK	OK	ok	ok	■OK□FAIL
○	實裝於產品上，確認機構尺寸								□OK□FAIL

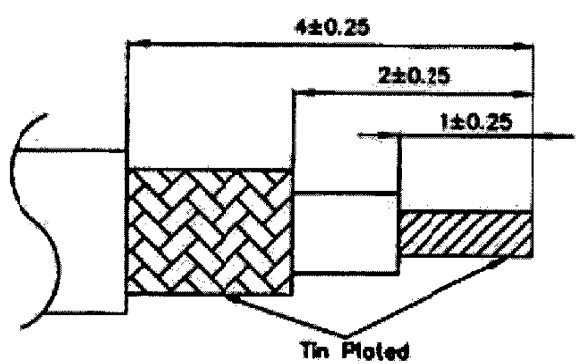
重要項目：◉　　次重要項目：○　　工程師 陳建汝

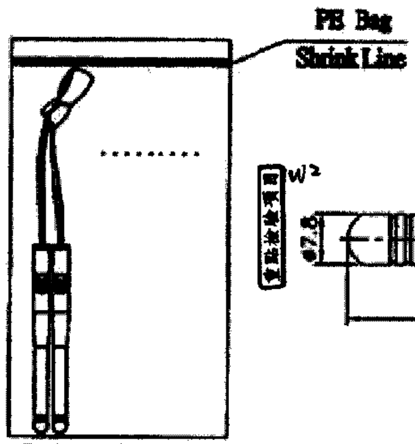
CG-

REV	DATE	DESCRIPTION
X1	2/4-2003	New Issue
X2	4/15-2005	Modify Rivet Material
X3	6/24-2005	Modify Cox location

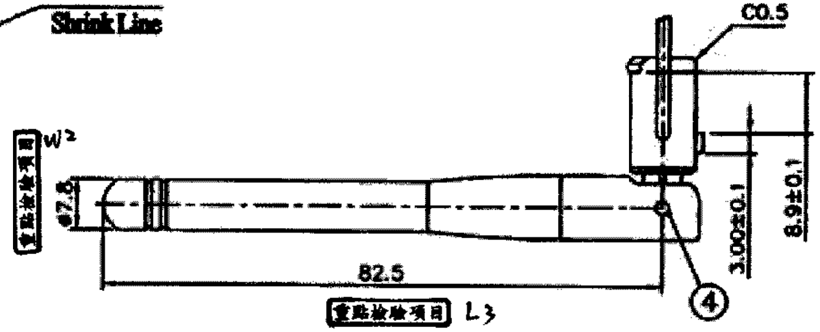


Detail A





Packing : 25 pcs/bag



NO		DESCRIPTION	QTY	REMARK
8	Tube	Heat Shrink Tube	1	
7	Tube	Heat Shrink Tube	1	
6	Cox	RH 4*10*2	1	
5	Cable	φ1.13 Coaxial Cable	1	
4	Rivet	Brass ; Zn Plated (Black)	2	
3	Antenna Base	PC Color : Murky Gray	1	
2	Antenna Base	PC Color : Murky Gray	1	
1	Antenna Body	TPE Color : Murky Gray	1	

CUSTOMER SIGNATURE

APPROVED

CHECKED

DRAWING

XX	[illegible]
X	[illegible]
.X	[illegible]
.XX	[illegible]
.XXX	[illegible]

CUSTOMER: [illegible]

PART NO :

PARTNAME: RF Antenna Cable Assembly

W.Y P/NO : C407-510316A

REV	UNIT	FILE :
X3	m/m	SHEET : 1/1

Wha Yu INDUSTRIAL CO.,LTD.

華裕實業股份有限公司

WHA YU INDUSTRIAL CO., LTD. (HEAD OFFICE)
TAI HWA ELECTRONIC CO., LTD.(CHINA)
SHANGHAI HUA YU ELECTRONIC CO., LTD.(CHINA)
AEON TECH CO., LTD. (CHINA)

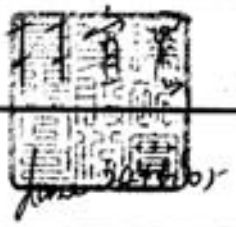
SPECIFICATION FOR APPROVAL

CUSTOMER: *亞旭科技股份有限公司*

PART NAME: ***RF Antenna Cable Assembly***

PART NO.: ***REVISION:***

W. Y. P/NO.: ***C407-510316-A*** ***REV.:*** ***X3***

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :		

WHA YU GROUP

WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)
譁裕實業股份有限公司
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Fax:+ 886-3-5713853 · + 886-3-5723600

TAI HWA ELECTRONC CO., LTD. (CHINA)
台樺電業制品廠
Address: Pak Ho District, Hiu Street Town, Dong Guan City, Guangdong, China
Tel: + 86-769-5599375 · + 86-769-5912375
Fax: + 86-769-5599376

HUA HONG INTERNATIONAL LTD.
華弘國際有限公司
Rm.1103A,President Commercial Centre,608 Nathan Road,Mong Kok,Kowloon,Hong Kong
Tel: + 86-852-27712210
Fax: + 86-852-23843747

SHANGHAI HUA YU ELECTRONIC CO., LTD. (CHINA)
上海譁裕電子有限公司
Address:3586,Wai Qing Song Road, Qing Pu County, Shanghai China
Tel: + 86-21-59741348 · + 86-21-59744101~4
Fax: + 86-21-59741347

SU ZHOU AEON TECH CO., LTD. (CHINA)
蘇州華廣電通有限公司
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Wujiang City,Jiangsu Province,China
Tel: + 86-512-63627980
Fax: + 86-512-63627981

Contents

RF Antenna Cable Assembly

Specification

1. Electrical Properties :

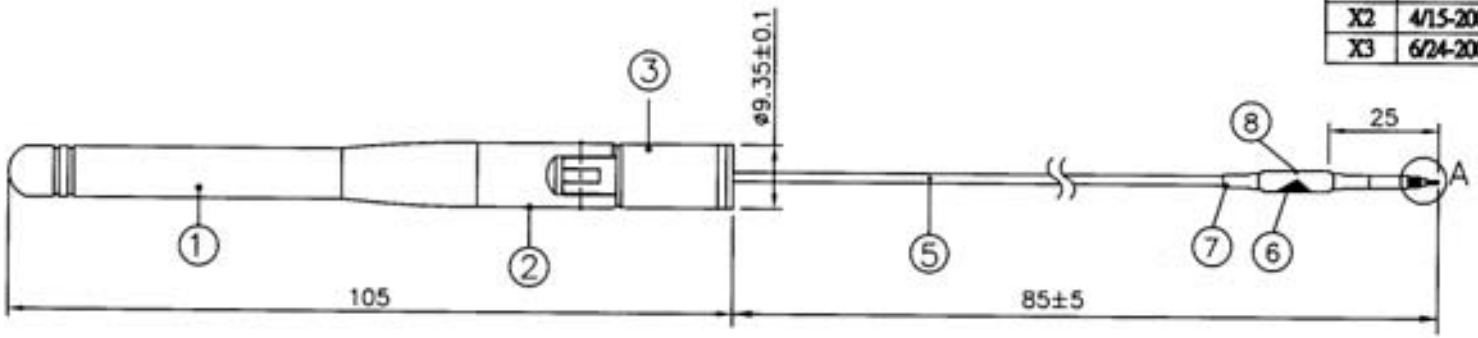
1.1	Frequency Range……	2.4GHz ~ 2.5GHz
1.2	Impedance ……	50Ω Nominal
1.3	VSWR ……	1.92 Max.
1.4	Return Loss……	-10 dB Maximum
1.5	Electrical Wave……	1/2 λ Dipole
1.6	Antenna Gain……	1.5±0.25dBi
1.7	Admitted Power……	1W
1.8	Polarization……	Linear

2. Physical Properties :

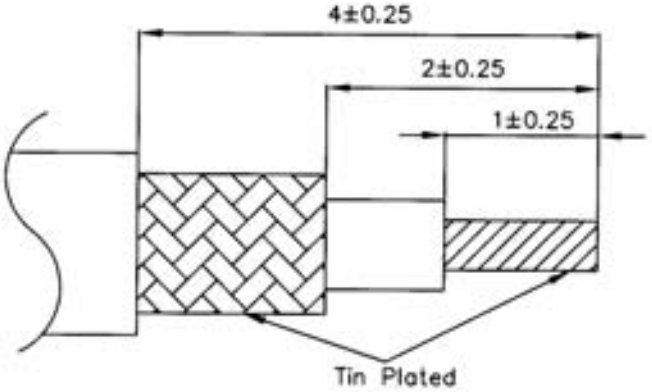
2.1	Cable……	φ1.13 Coaxial Cable
2.2	Antenna Cover……	TPE
2.3	Antenna Base……	PC
2.4	Operating Temp. ……	-20℃ ~ +65℃
2.5	Storage Temp. ……	-30℃ ~ +75℃
2.6	Color ……	Murky Gray
2.7	Core…..……	RH 4*10*2

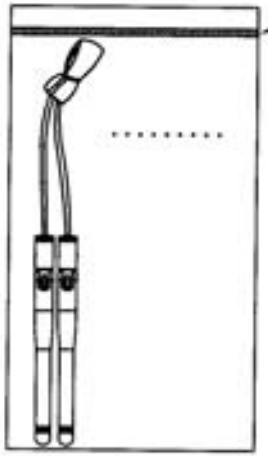
CG-

REV	DATE	DESCRIPTION
X1	2/4-2005	New Issue
X2	4/15-2005	Modify Rivet Material
X3	6/24-2005	Modify Core location



Detail A

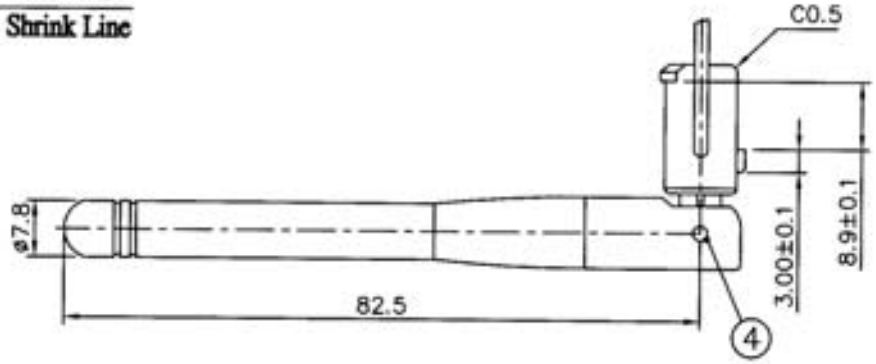




PE Bag

Shrink Line

Packing : 25 pcs/bag



NO	DESCRIPTION		QTY	REMARK
8	Tube	Heat Shrink Tube	1	
7	Tube	Heat Shrink Tube	2	
6	Core	RH 4*10*2	1	
5	Cable	ø1.13 Coaxial Cable	1	
4	Rivet	Brass ; Zn Plated (Black)	2	
3	Antenna Base	PC Color : Murky Gray	1	
2	Antenna Base	PC Color : Murky Gray	1	
1	Antenna Body	TPE Color : Murky Gray	1	

CUSTOMER'S SINGATURE

XX.	±3.0
X.	±2.0
X	±1.0
XX	±0.5
XXX	±0.1

APPROVED

CHECKED

DRAWING

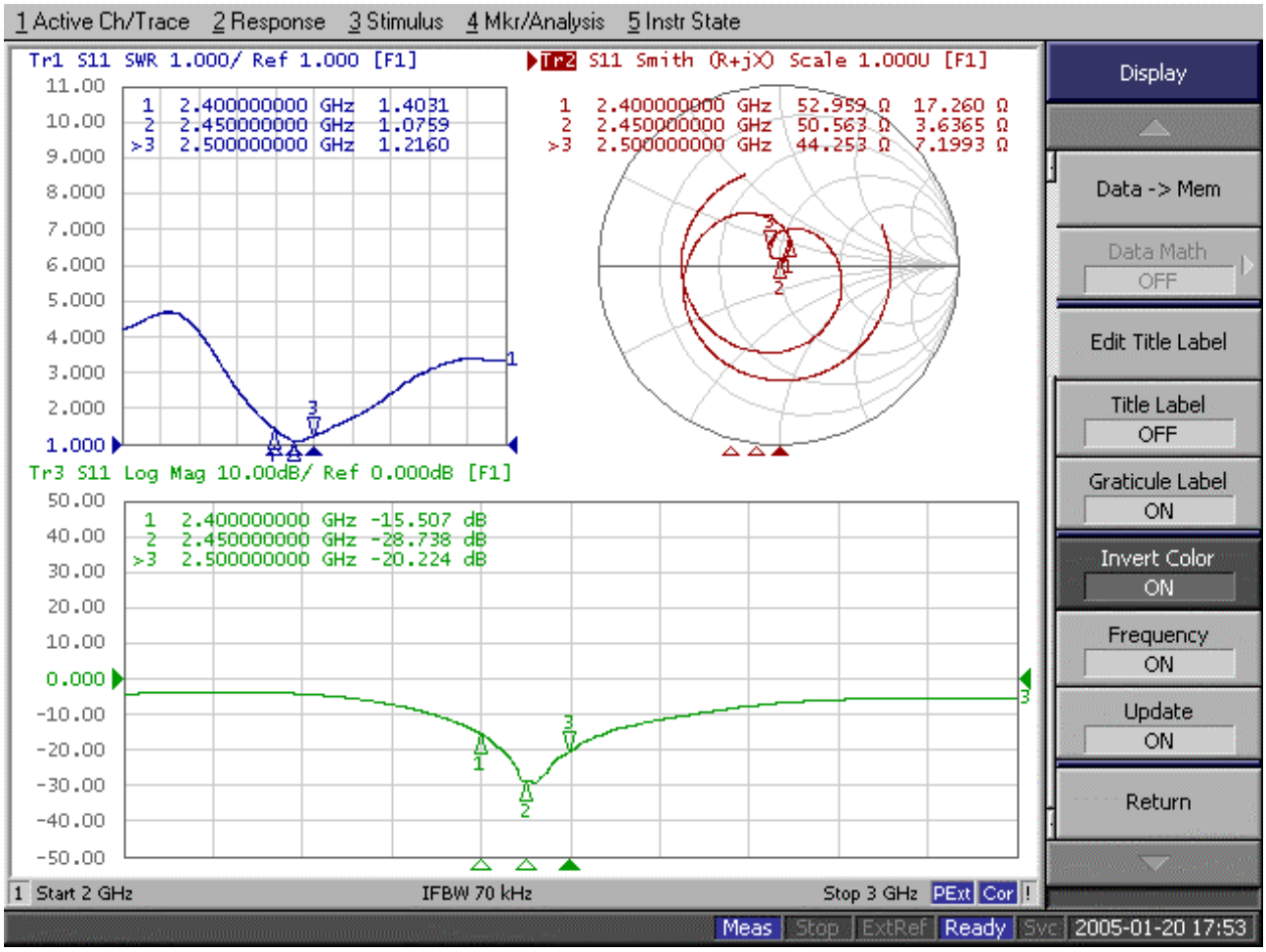
CUSTOMER:	亞旭科技股份有限公司		
PART NO :			
PARTNAME:	RF Antenna Cable Assembly		
W.Y P/NO :	C407-510316-A		
REV	UNIT	FILE :	
X3	m/m	SHEET :	1/1

Wha Yu
INDUSTRIAL CO.,LTD.
譁裕實業股份有限公司

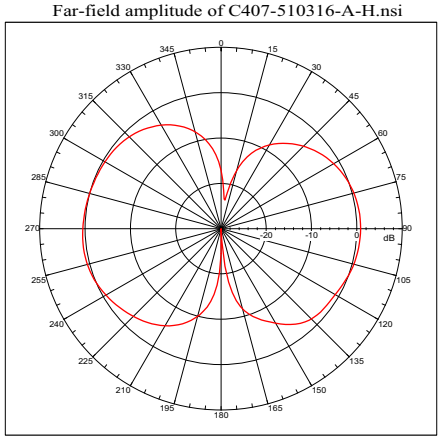
華裕實業股份有限公司
WHA YU INDUSTRIAL CO., LTD

RF Antenna Assembly

P/NO :C407-510316-A SPEC : 2.4GHz

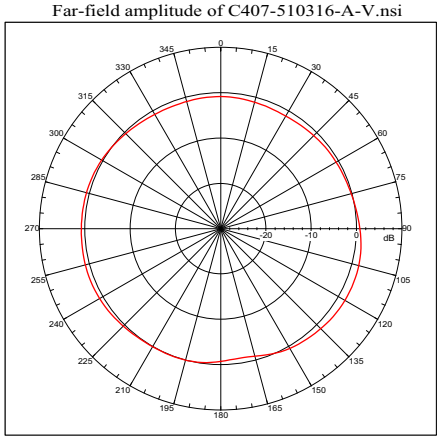


Far-field amplitude of C407-510316-A-H.nsi



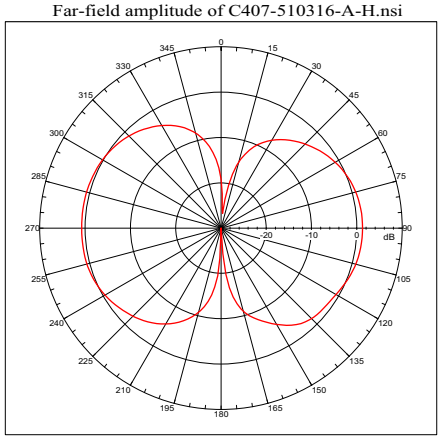
2.4GHz Gain = 0.7922 dBi

Far-field amplitude of C407-510316-A-V.nsi



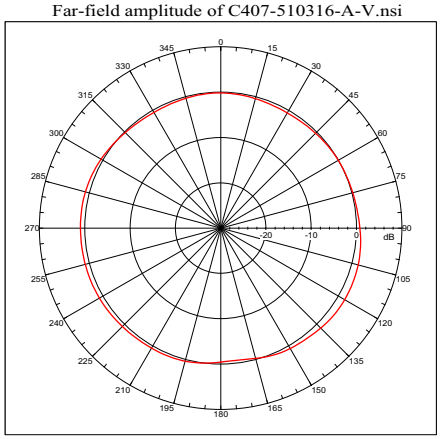
2.4GHz Gain = 1.64414 dBi

Far-field amplitude of C407-510316-A-H.nsi



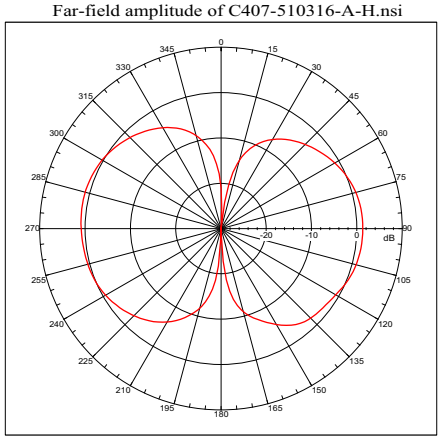
2.45GHz Gain = 1.21506 dBi

Far-field amplitude of C407-510316-A-V.nsi



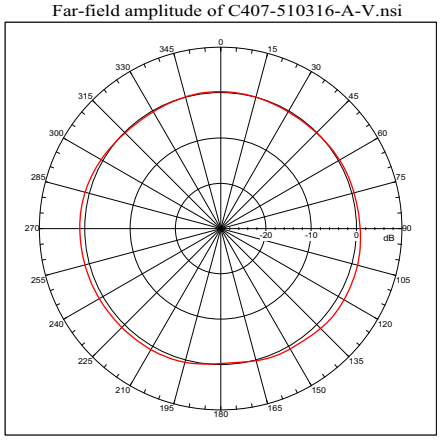
2.45GHz Gain = 1.56572 dBi

Far-field amplitude of C407-510316-A-H.nsi



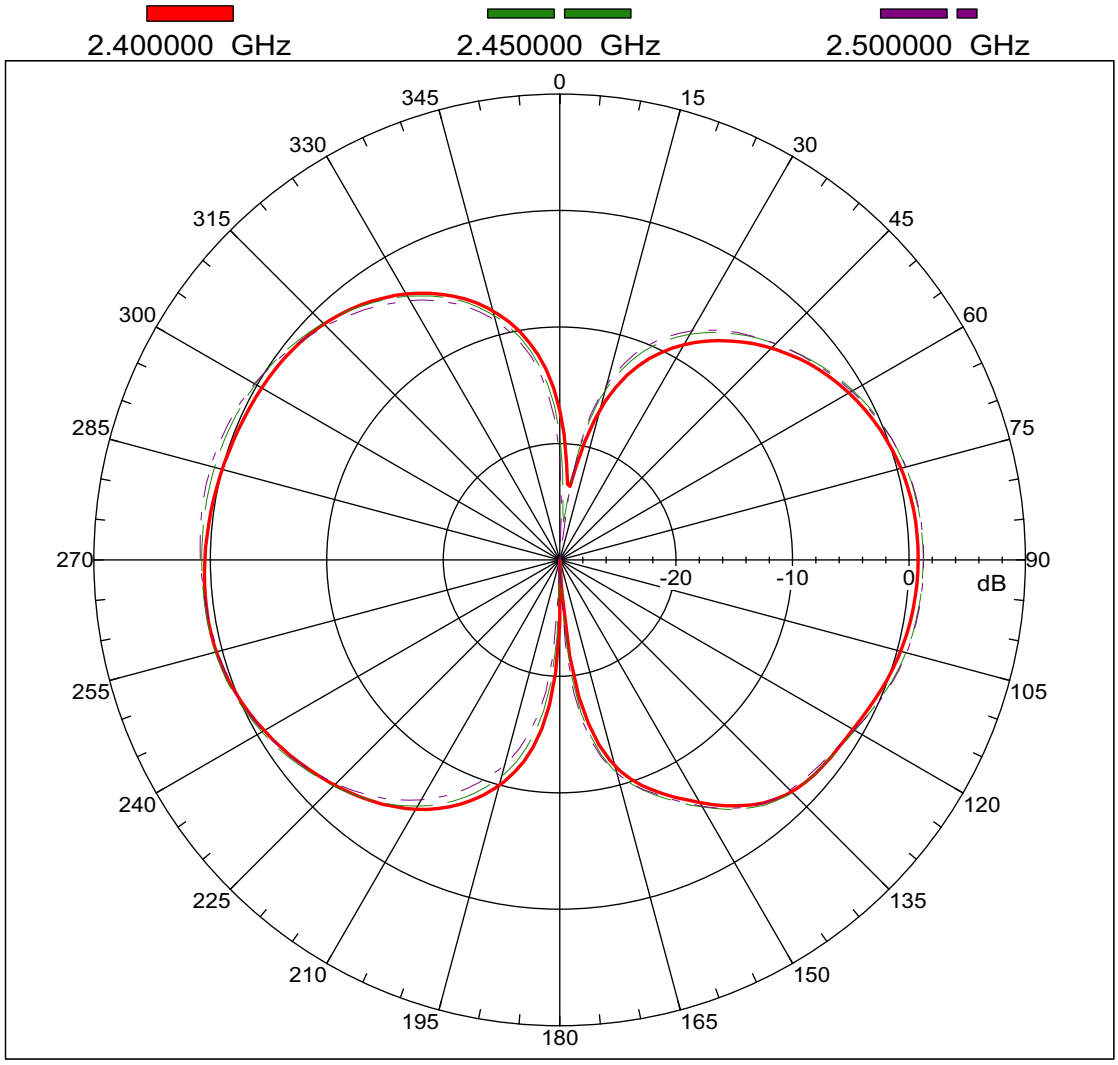
2.5GHz Gain = 1.26798 dBi

Far-field amplitude of C407-510316-A-V.nsi

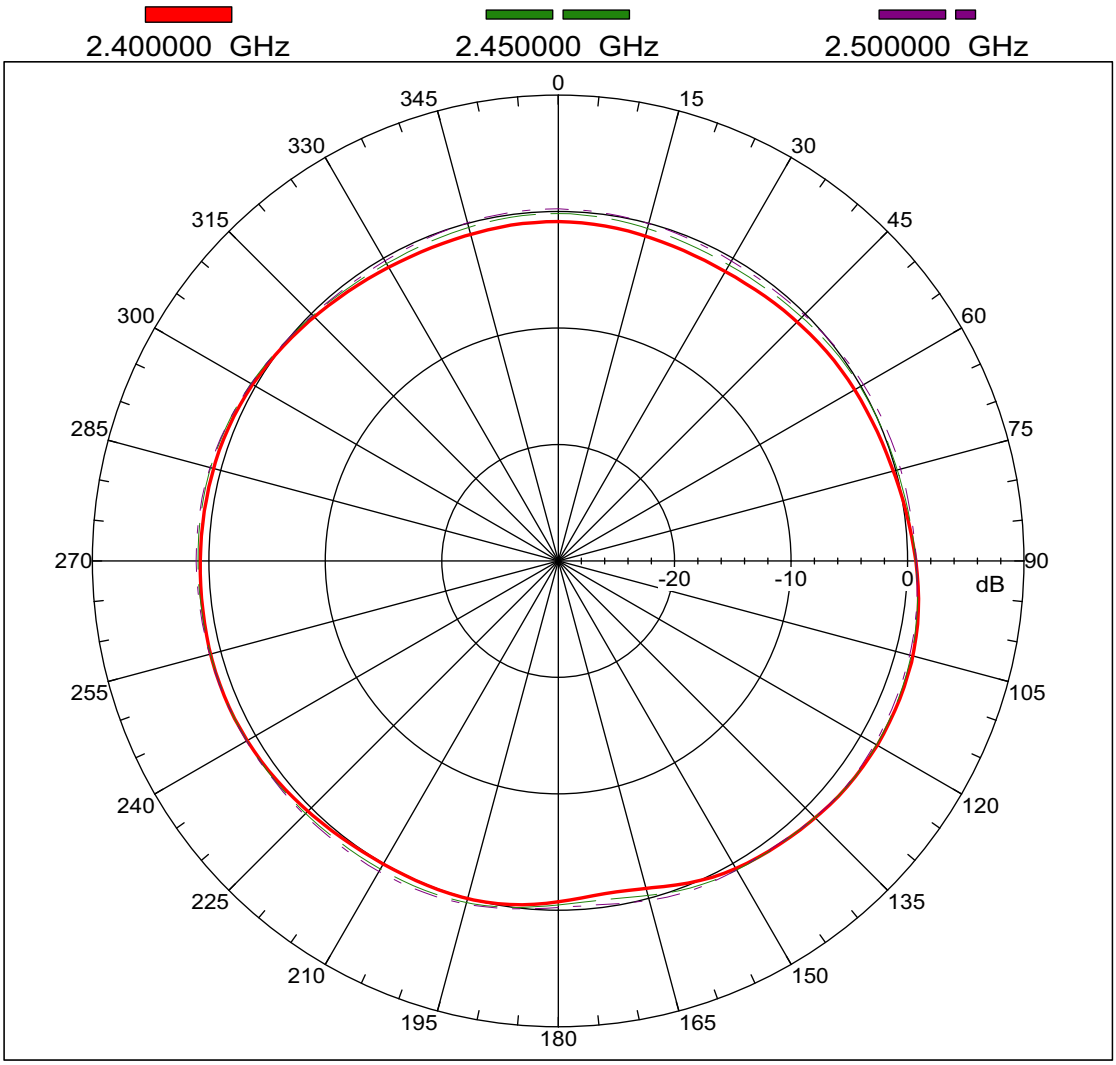


2.5GHz Gain = 1.42087 dBi

Far-field amplitude of C407-510316-A-H.nsi



Far-field amplitude of C407-510316-A-V.nsi



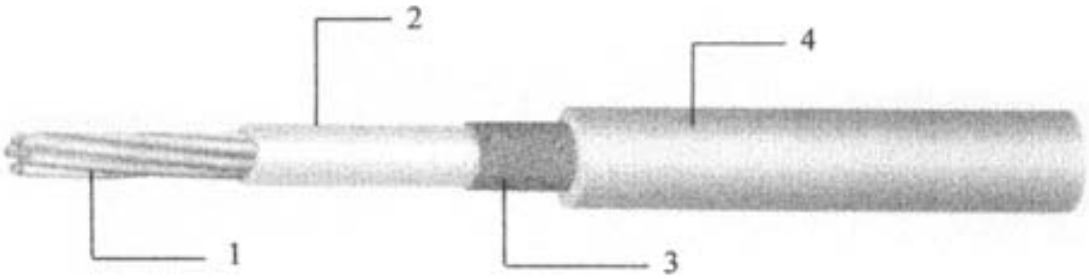
Nizing Electric Co., Ltd. 11-15 Santai Rd., Hsinchuang, Taipei Hsien, 242, Taiwan, R.O.C.
Tel: 02-29016164 Fax: 29050644 E-mail: shenbinnizing@yahoo.com.tw

A3132PS001	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE	PAGE	1 / 2
PRODUCT STANDARD		ISSUED	21. Oct. 2003
		REVISED	

I - Scope

This specification presents a FEP insulated high-frequency coaxial cable AWG 32, 1.13 mm O.D. for internal wiring of electronic equipment, such as Computer / Notebook with wireless communication systems.

II - Construction



Item		Unit	Details
1. Inner Conductor	Material	—	Silver coated copper
	Composition	No./mm	AWG 32 or 7 × 0.08
	Dia. (approx.)	mm	0.24
2. Dielectric	Material	—	Extruded FEP
	Thickness	mm	0.22
	Nom. O.D.	mm	0.68 ± 0.02
	Color	—	Natural
3. Outer Conductor	Material	—	Silver coated copper
	Composition	—	Braided (16 / 4 / 0.05)
	Dia. (approx)	mm	0.90 ± 0.03
4. Jacket	Material	—	Extruded FEP
	Thickness	mm	0.10
	Dia.	mm	1.13 + 0.05 / -0.08
	Color	—	Standard colors are Light Grey, Black, Dark Grey

Note :

MADE BY	Phoebe Liu
APPROVALS	Shen Bin Chao

Nizing Electric Co., Ltd. 11-15 Santai Rd., Hsinchuang, Taipei Hsien, 242, Taiwan, R.O.C.
Tel: 02-29016164 Fax: 29050644 E-mail: shenbinnizing@yahoo.com.tw

III – Characteristics

Item	Unit	Specified Value	Note
Temperature Rating	℃	200	
Voltage Lasting	V	250	
Dielectric strength	—	Dielectric core: No breakdown at AC 1.5 kV for 0.15 sec.	Spark test
		Jacket: No breakdown at AC 1.5 kV for 0.15 sec.	Spark test
		No breakdown at AC 500V for 1 min.	Outer conductor to inner conductor
Inner conductor resistance	Ω / km	525	at 20℃
Insulation resistance	MΩ / km	Min. 1500	at 20℃
Characteristic Impedance	Ω	50 ± 2	TDR method
Capacitance	pF / m	98	at 1 kHz
Attenuation. (nom.)	dB / m	2.0	1.0 GHz
		2.9	2.0 GHz
		3.6	3.0 GHz
		4.2	4.0 GHz
		4.7	5.0 GHz
		5.2	6.0 GHz
Approx. Weight	g / m	3.15	

Note :

MADE BY	Rocke Liu
APPROVALS	Shen Bin Lab

KURABE NDUSTRIAL CO., LTD

SP3831K		PAGE	1/4
PRODUCT STANDARD		ISSUED	17-10-2003

1. SCOPE

This standard covers "FEP insulated High-Frequency coaxial cable".

These cable are approved by UL as Style 1979 AWM (File E-46702)

[UL1979:105℃, 30V]

Use: Internal wiring of Class 2 Circuits of Electronic Equipment.

2. CONSTRUCTION

Construction and dimensions of the cable are shown in Figure.1 and Table 1.

3. PERFORMANCE

Performance of the finished cable is shown in Table 2. The test methods are in accordance with applicable test methods described in JIS C 3005.

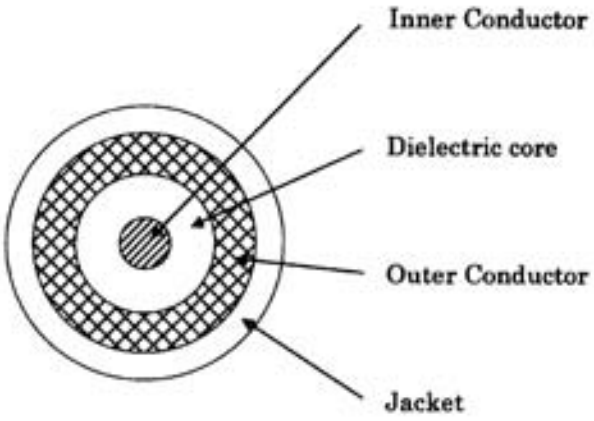


Figure 1.

NOTE :	MADE BY	
	APPROVALS	

SP3831K		PAGE	2/4
PRODUCT STANDARD		ISSUED	17-10-2003

Table 1. Construction

Item		Unit	Specified Value
Inner Conductor	Material	—	Silver coated annealed copper wire
	Stranding	No./mm	7/0.08
	Dia.(approx.)		0.24
Dielectric Core	Material	—	FEP
	Thick.(nom.)	mm	0.22
	Dia.	mm	0.68±0.05
	Color	—	Natural
Outer Conductor	Material	—	Tinned annealed copper wire
	Type	—	Braid (16/4/0.05)
	Dia.(approx)	mm	0.93
Jacket	Material	—	FEP
	Thick.(nom.)	mm	0.10
	Dia.	mm	1.13 +0.10/-0.06
	Color	—	Standard colors are white,black,brown,and gray.

Table 2. Performance

Item	Unit	Specified Value	Note
Appearance	—	Faultless in visible	
Inner conductor resistance	Ω/km	Max.597	at 20℃
Insulation resistance	MΩ·km	Min.1500	at 20℃
Dielectric strength	—	Dielectric core: No breakdown at AC1.5kV for 0.15sec.	Spark test
		Jacket: No breakdown at AC1.5kV for 0.15sec.	Spark test
		No breakdown at AC500V for 1min.	Outer conductor to inner conductor
Heat resistance for solder	—	Shrink or expansion of dielectric core are not more than 0.5mm	※
Capacitance	pF/m	nom. 98	at 1kHz
Characteristic impedance	Ω	50±2	TDR method
Attenuation (nom.)	dB/m	2.0	1.0GHz
		2.9	2.0GHz
		3.2	2.4GHz
		3.7	3.0GHz
		4.3	4.0GHz
		4.8	5.0GHz
		5.3	6.0GHz

※ After immersion of dielectric core, 10mm into soldering pot which is 255℃±5℃ for 5 seconds, shrinkage or expansion of the dielectric core must not exceed 0.5mm.

NOTE :	MADE BY	
	APPROVALS	

SP3831K		PAGE	3/4
PRODUCT STANDARD		ISSUED	17-10-2003

4. INSPECTION

An inspection is took place in accordance with applicable test methods. The cable has to pass the specifications described Table 1 and Table 2.

5. TEST METHOD

The test methods are in accordance with applicable test methods described in JIS C 3005 (Test methods for rubber or plastic insulated wires and cables).

6. TEMPERATURE RATING

105 ℃

7. VOLATGE RATING

30 V

8. MARKING ON TAG

Each reel of finished cable is tagged to indicate following information:

(1) Designation of the cable (Style No. designation),,
(2) Maximum working voltage,
(3) Maximum working temperature,
(4) Conductor size,
(5) Nominal insulation thickness,
(6) Length,
(7) Date of manufacture or LOT No.,
(8) Manufacture's name,
(9) Specification No.,and
(10) Use of cable, and

9. PACKAGE

The finished cables are cut into a shipping length of 200 meters, reeled to paper bobbin and packed securely to prevent injuries during transportation.

Note: Odd length of the finished wires, which are not shorter than 50 meters may be accepted for shipping.

NOTE :	MADE BY	
	APPROVALS	

SP3831K	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5030) UL 1979	PAGE	4/4
PRODUCT STANDARD		ISSUED	17-10-2003
		REVISED	

10. APPLICATION NOTES

10-1. For use other than the use mutually agreed, compatibility should be carefully confirmed in each practical use by user.

10-2. It is recommended to make a trial run for each practical application.

10-3. In case a design for use of cable is changed, please contact our sales department, if necessary. Do not use under extreme mechanical stress such as hard bending, tightening, and twisting. The use under extreme mechanical stress may cause not only shortening the life span of cable but also troubles such as decline of dielectric strength.

10-4. Handling precautions

①Do not hurt the insulation and sheath of the cable by making holes and scratches. And avoid any sharp edge when wiring so as not to injure cables.

②Avoid unnecessary excessive force to cable, such as pulling, twisting, bending or tightening.

10-5. Storage precautions

Avoid continuous exposure to sunlight.

NOTE :	MADE BY	
	APPROVALS	

Arnitel
polyether esters
polyetherester
esters de polyether

Units Einheiten Unites	EM400	EM460	EL550	EL630	EL740	PL380
	1.12	1.16	1.20	1.23	1.27	1.18
℃	195	185	202	212	221	197
μ m/m.k	220	160	180	140	110	150
℃	\	\	110	115	120	\
℃	130	150	180	200	200	145
℃	\	50	85	115	150	\
%	0.30	0.30	0.20	0.20	0.15	0.40
%	0.75	0.70	0.55	0.60	0.90	7.0
*	HB	HB	HB	HB	HB	HB
Mpa	55	110	220	375	900	60
Mpa	4.0	7.1	13.2	20.2	26.9	3.5
Mpa	5.4	9.0	15.7	23	22.6	5.2
Mpa	8.4	11.4	16.6	22.0	26.3	8.5
Mpa	17	21	32	40	45	16
%	700	800	600	600	360	450
kj/㎡	NB	NB	NB	NB	NB	NB
kj/㎡	NB	NB	NB	NB	200	NB
kj/㎡	NB	NB	NB	NB	9	NB
kj/㎡	NB	NB	20	4	4	NB
	38	45	55	63	74	38
MV/m	\	\	\	\	\	\
Ω.cm	$5*10^{14}$	10^{14}	10^{14}	10^{14}	10^{12}	10^{12}
Ω	$>10^{13}$	$>10^{14}$	$>10^{14}$	$>10^{14}$	$>10^{10}$	$>10^{13}$
\	4.1	\	\	3.8	\	4.7
\	4.0	4.4	4.0	3.4	3.3	4.4
$x10^{14}$	10	\	\	3.8	\	310
$x10^{14}$	170	350	400	350	300	350
\	800	800	600	600	600	800
\	600	600	600	800	800	600

2.2 Product coding

The structure of the Arnitel productcodes is illustrated wirth the following example:

U M 55 1 - V

Thermoplastic elastomer type:
E = polyether ester; polyether = PTHF
P = polyether ester; polyether = PEO/PPO
U = polyester ester; (with extra urethane linkages)

Indication of viscosity range or processing technique
L, M = injection moulding and extrusion
B = blow moulding grade

Indication of hardness (Shore D)

Serial number

Indication of additives, perfomance
H = heat-stabilized
L = light/UV stabilized
V = flame-retardant (not V-0)
S = flame-retardant (V-0)

Figure 2.2: *Arnitel product coding*

2.3 Product portfolio

The Arnitel productrange is available with a hardness from 38 to 74 Shore D. The general Arnitel grades are shown in table 2.2. In order to enhance the flexibility of the portfolio a set of masterbatches (a.o. for heat, UV, etc) are on offer (refer to § 2.4).
Because of the development of these masterbatches heat stabilised Arnitel P is suggested for application areas where thermo-oxidative stability is an issue. For applications where colour and UV stability is required, the Arnitel E range is advised.

	Shore D					
	38	**40**	**46**	**55**	**63**	**74**
Arnitel E		EM400	EM460	EL550 EM550	EL630 EM630	EL740 EM740
Arnitel P	PL380		PL460	PL580 PM581		
Arnitel U				UM551 UM551-V UM552 UM552-V	UM622	

Table 2.2: *Arnitel productrange for general purpose*

Besides these multi-purpose grades, specialty grades can be offered for specific purposes and/or application areas. These grades are not intended for regular sales and are therefore restricted. Permission from marketing is needed before sampling is initiated.

	A'tel E	**A'telP**	**A'tel U**
Automotive			
• CVJ boots	EB460 EB463 EB464		
• Boyplugs		PL380-M0	
Extrusion			
• Roofing foil	EM402-L		

Table 2.3: *Examples of specialty grades*

2.8.31 General:

Arnitel is the brand name of a series polyester based thermoplastic elastomers. These polymers combine excellent processability with good elastomeric properties between -40 and 200°C. Arnitel EL630 and EM630 are excellent materials for injection moulding and extrusion applications respectively.
The chemical stucture of Arnitel EL630/EM630 is shown below.

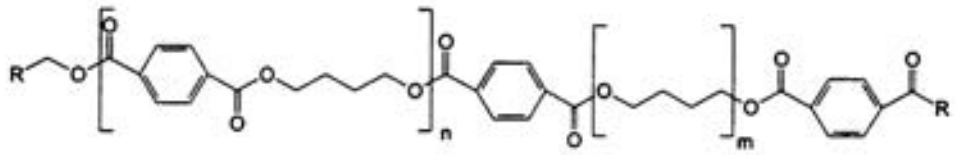


Figure 2.9: *Chemical structure of Arnitel EL630/EM630.*

Another way of writing the structure of Arnitels is shown below in Figure 2.

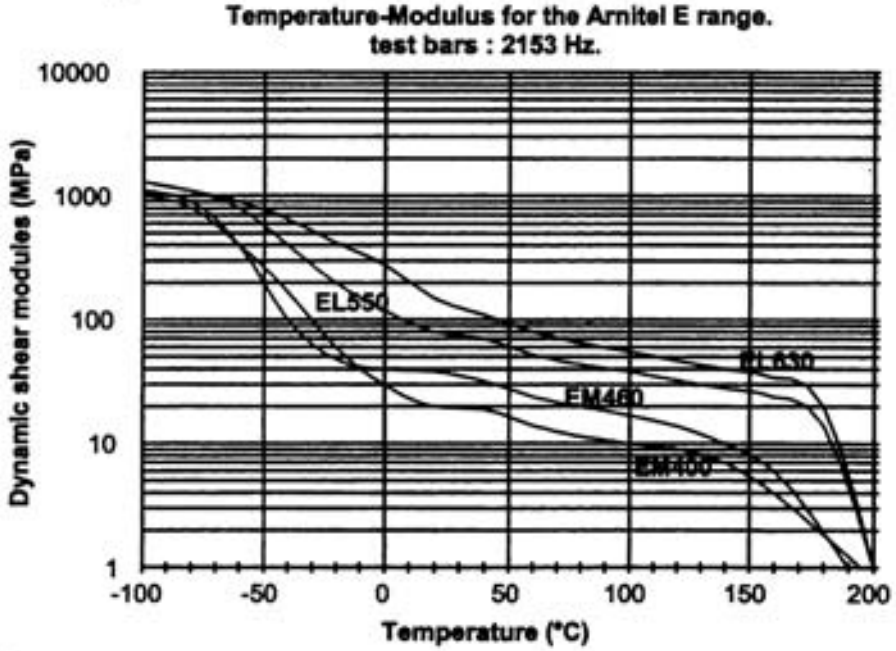
Figure 2.10: *Simplified structure of Arnitel EL630/EM630 .*

Arnitel EL630/EM630 is TOSCA registered (including DSL-Canada) under CAS 37282-12-5

2.8.32 Thermal properties:

- **Modulus-temperature behaviour:**

The materials have a glass transition at circa -40°C and a typical melting point at 213°C.
The modulus-temperature behaviour is shown in graph 2.76, for comparison, accompanied by other Arnitel E types.



Graph 2.76: *Modulus-temperature behaviour of Arnitel EL630/EM630.*

Although information on performance at higher temperatures may be extracted from the above shown graph, a Vicat or HDT are shown in table 2.29.

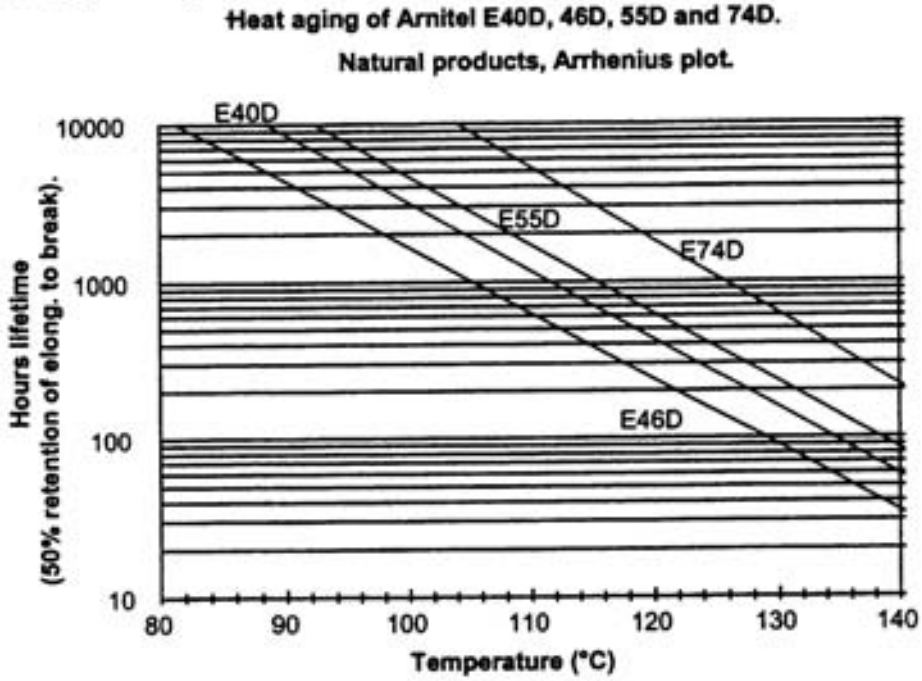
analysis	SI unit	typical data	test method
Vicat A	(°C)	200	ISO 306/A
Vicat B	(°C)	125	ISO 306/B
HDT-B	(°C)	115	ISO 75-1

Table 2.29: *Vicat and HDT data on Arnitel® EL630 and EM630*

Arnitel EL630 and EM630 have a melting point of 213°C as found in the second heating curve of a DSC. The polymer will crystallize at 155°C using a 20°C/min cooling rate.
The thermal expansion coefficient of Arnitel EL630/EM630 and is $140*10^{-4}$ µm/m.K .

- **Heat aging:**

Arnitel EL630/EM630 shows an optimum between heat resistance and colour stability. Heat aging for EL630/EM630 is under test at this moment, however the data will be between EL550 and EL740.
Arrhenius curves of thermo-oxidative heat aging are shown in graph 2.77. Criterium chosen is retention of 50% original elongation at break.



Graph 2.77: *Heat stability for Arnitel E-range.*

Heat ageing can be improve using a stabilisation masterbatch, however for heat stabilisation the P-range is preferred for it's excellence in performance. These data can be found in the Arnitel properties summary or an Arnitel P datasheet.

2.8.33 Processing and Handling:

Arnitel EL630/EM630 is a polyester with a density of 1.12 g/cm^3 according ISO 1183.
Due to the polyester nature of these materials it is of major importance to store the material dry prior to processing. Materials packaged in sealed packaging should have a moisture content lower then 500 ppm. The polymer will contain 0.12% moisture in 50% RH and 0.58% water after saturation in water. Both numbers are in equilibrium.
If samples have become wet during storage a drying step of 24 hours 120°C (or 6 hours 140°C) prior to use will prevent degradation of the material during processing combined with an eventual loss of properties. The air or nitrogen will have to have a dew point of at least -30°C.

- **Processing:**

Arnitel EL630/EM630 shows a single melting point at 195°C in DSC. Processing conditions are shown in the table below.

polymer	zone 1	zone 2	zone 3	additional	melt	mold
EL630	225	230	235	235	225-235	20-50
EM630	225	230	235	235	235	50

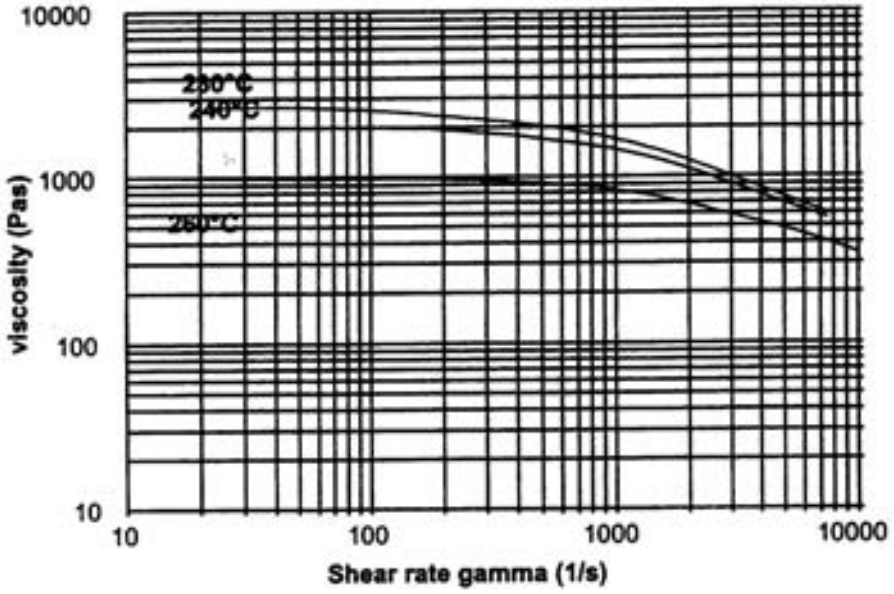
All temperatures are in °C.

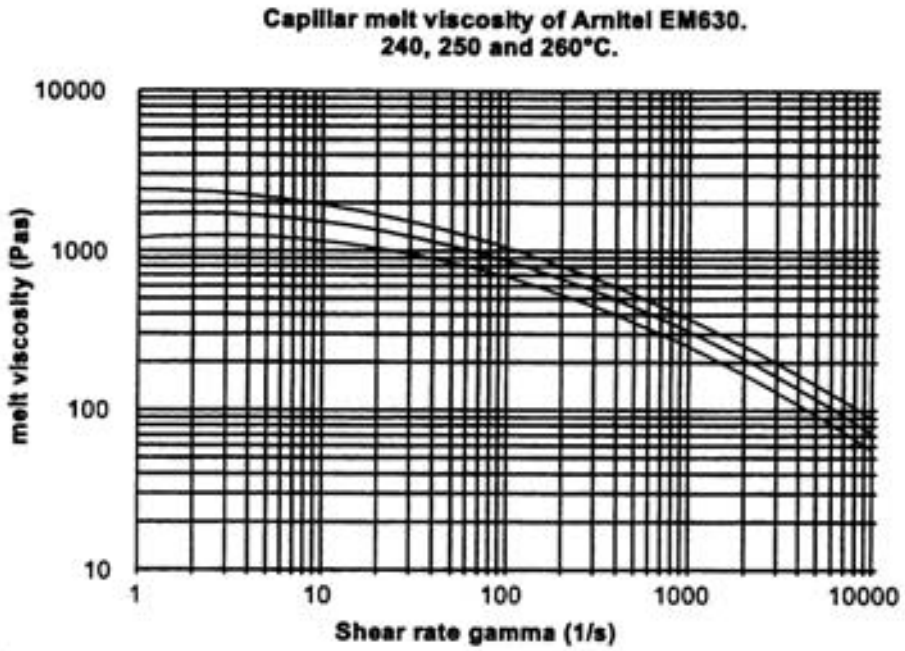
Table 2.30: *Processing conditions for Arnitel EL630 and Arnitel EM630.*

- **Rheology:**

The temperature depending melt viscosity of Arnitel EL630/EM630 and are shown below in graph 2.80 and 2.81 respectively.

Shear rate dependent of the melt viscosity of Arnitel EL630.
Effect of melt temperature.





Graph 2.80 and 2.81: *Temperature dependancy of the melt viscosity for Arnitel EL630 and EM630 .*

The MFI values are shown in table 2.31.

		EL630	EM630	
MFI 230°C	g/10 min		7	ISO 1133
MFI 240°C	g/10 min	30		ISO 1133

Table 2.31: *MFI for Arnitel EL630/EM630.*

- **Use of regrind:**

Arnitel can readily be recycled. If the MFI of the regrind is up or down to four points higher, 20% can be recycled. A difference of 2 MFI points allows up to 50% of regrind. Obviously the regrind should be dried properly before use.

2.8.34 Mechanical properties:

If Arnitel EL630 or Arnitel EM630 are processed properly the materials will have mechanical properties as shown in table 2.32.

Mechanical property	SI Unit	typica data*		test method
		EL630	EM630	
Hardness	Shore D	63	63	ISO 868
Tensile modulus (1 mm/min)	MPa	330	330	ISO 527
Tensile strength (50 mm/min)	MPa	30	30	ISO 527
Strain at break	%	350	350	ISO 527
Tensile stress at 5% strain	Mpa	11.5	11.5	
Tensile stress at 10% strain	Mpa	15.9	15.9	
Tensile stress at 50% strain	Mpa	17.3	17.3	
Tear strength Graves	KN/m	145	145	DIN53515
Izod notched 23°C (73°F)	KJ/m^2	NB	NB	ISO 180/1A
Izod notched -30°C (-22°F)	KJ/m^2	4	4	ISO 180/1A
Charpy notched 23°C (73°F)	KJ/m^2	NB	NB	ISO 179/1eA
Charpy notched -30°C (-22°F)	KJ/m^2	12	12	ISO 179/1eA

*1 Data for dry natural materials.
NB: No Break

Table 2.32: *mechanical properties of Arnitel® EL630.*

- **Abrasion:**

Arnitels show good abrasion resistance in both Taber and DIN 53516 abrasion tests. Data are shoen in the Arnitel general property overview (also included in the EPIC)

2.8.35 Flame retardancy:

Arnitel EL630 and EM630 show in an ISO1210/A flammability test a burning rate leading to a classification FH-1. Flame retardancy can be improved using a halogenated or halogen free FR masterbatch.

2.8.36 Electrical properties:

Arnitel EL630/EM630 can be used for cable jacketting applications. If the material is in permanent contact with copper a copper stabilisation package should be added. If the copper wires are coated with a tin layer, no stabilisation is necessary. The electrical properties are shown in table 33.

Electrical property	SI Unit	typica data*		test method
		EL630	EM630	
Dielectric strength	KV/mm	22	22	IEC 243-1
Relative permittivity (ε_r) at 1 kHz	-	4.4	4.4	IEC 250
Dissipation factor (tan δ) at 1kHz	-	0.019	0.019	IEC 250
Comparative tracking index	-	600	600	IEC 112
Volume resistivity	$10^{14}\Omega$.cm	1	1	IEC 93
Surface resistivity	$10^{14}\Omega$	1	1	IEC 93

Table 2.33: *Typical electrical properties of Arnitel® EL630 and EM630.*

2.8.37 Chemical resistance:

Arnitel EL630 and EM630 are sensitive to strong bases and strong acids, especially at elevated temperatures. In some halogenated hydrocarbons (like tetrachloroethane), the materials (partially) dissolves. For a full review on chemical resistance of Arnitel EL630 and EM630 request the chemical resistance brochure.

- **Hydrolysis**

Like all polyesters Arnitel are sensitive to moisture, however Arnitels are more stable to water then e.g. PET and PBT. graph 2.84 shows the hydrolytic stability of Arnitel EL630 at 100°C and in steam (120°C). For improved hydrolysis stability, using a polycarbodiimid containing masterbatch like Stabaxol® in an option. To maintain all other properties use a masterbatch based on polyester.Data on the Stabaxol stabilised grade are shown in graph 2.85.

■Panlite L-1250Z

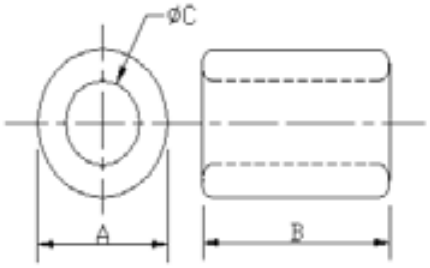
Category	Unit	Test Method	Condition	L-1250Z 100
Melt volume flow rate	cm^3/10min	ISO 1133	300℃ load 1.2kg	8
Density	kg/m^3	ISO 1183	—	1200
Water absorption rate	%	ISO 62	in water 23℃24h	0.2
Light transmission	%	ASTM D 1003	thickness 3mm	88
Refractive index	—	ASTM D 542	—	1.585
Tensile modulus	MPa	ISO 527-1 and ISO 527-2	1mm/min	2400
Tensile stress at yield	MPa		50mm/min	61
Tensile strain at yield	%		50mm/min	6
Nominal tensile strain at break	%		50mm/min	>50
Flexural modulus	MPa	ISO 178	2mm/min	2350
Flexural strength	MPa		2mm/min	93
Charpy impact strength	KJ/m^2	ISO 179	unnotched	NB
			notched	76
Heat deflection temperature	℃	ISO 75-1 and ISO 75-2	1.80MPa	129
			0.45MPa	142
Vicat softening temperature	℃	ISO 306	50℃/h 50N	149
Mold shrinkage	%	In-house method	parallel	0.5～0.7
			vertical	0.5～0.7
Coefficient of linear expansion	$\times 10^{-4}$/℃	ISO 11359-2	parallel	0.7
			vertical	0.7
Specific inductive capacity	—	IEC 60250	100Hz	3.1
	—		1MHz	3
Dielectric loss tangent	$\times 10^{-4}$	IEC 60250	100Hz	10
	$\times 10^{-4}$		1MHz	90
Volume resistivity	Ω・m	IEC 60093	—	$>1 \times 10^{13}$
Surface resistivity	Ω	IEC 60093	—	$>1 \times 10^{15}$
Withstand voltage	MV/m	IEC 60243-1	short time test	30
Tracking resistance	—	IEC 60112	—	250
Flammability	—	UL 94	—	V-2(0.40mm) HB(1.5mm)
Temperature index	℃	UL 746B	electric 1.47mmt	125
			impact 1.47mmt	115
			non-impact 1.47mmt	125

※The values listed are specification values, not certified values.

SPECIFICATION

CUSTOMER:		CUST.P/N:	
ITEM:	**K5B RH 4x10x2**	K.C.P/N:	**PS0404IA**

(1) SHAPE :



A	**4±0.2**	m/m
B	**10±0.4**	m/m
C	**2±0.15**	m/m
D		m/m
E		m/m
F		m/m
G		m/m

(2)ELECTRICAL REQUIREMENTS:

Z_1= 37 $^{-0}$ OHM AT 25 MHz

Z_2= 63 $^{-0}$ OHM AT 100 MHz

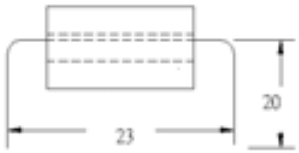
(3) TEST CONDITIONS:

1 IMPEDANCE ANALYZER: **HP4191A**

TEST FIXTURE: **HP16092A**

2.WIRE: Φ0.65 T.C.W*63m/m1/2TS

3.DRAWING:



(4)PACKING

[X] IN BULK [ ] VACUUM [ ] INSERTION

2000 PCS/BAGS* 4 BAG/INNER BOX* 4 BOXES/CARTON = 32000 PCS

PCS/PLATE* PLATES/CARTON= PCS

PCS/TRAY* TRAYS/CARTON= PCS

(5) APPEARANCE

(1)AREA OF BREAK	:	<2 m/m2
(2)SUM OF BREAKING AREA	:	<3 m/m2
(3)DEPTH OF BREAK	:	<1 m/m

(6)REMARK:

Approved by

Checked by

Drawn by

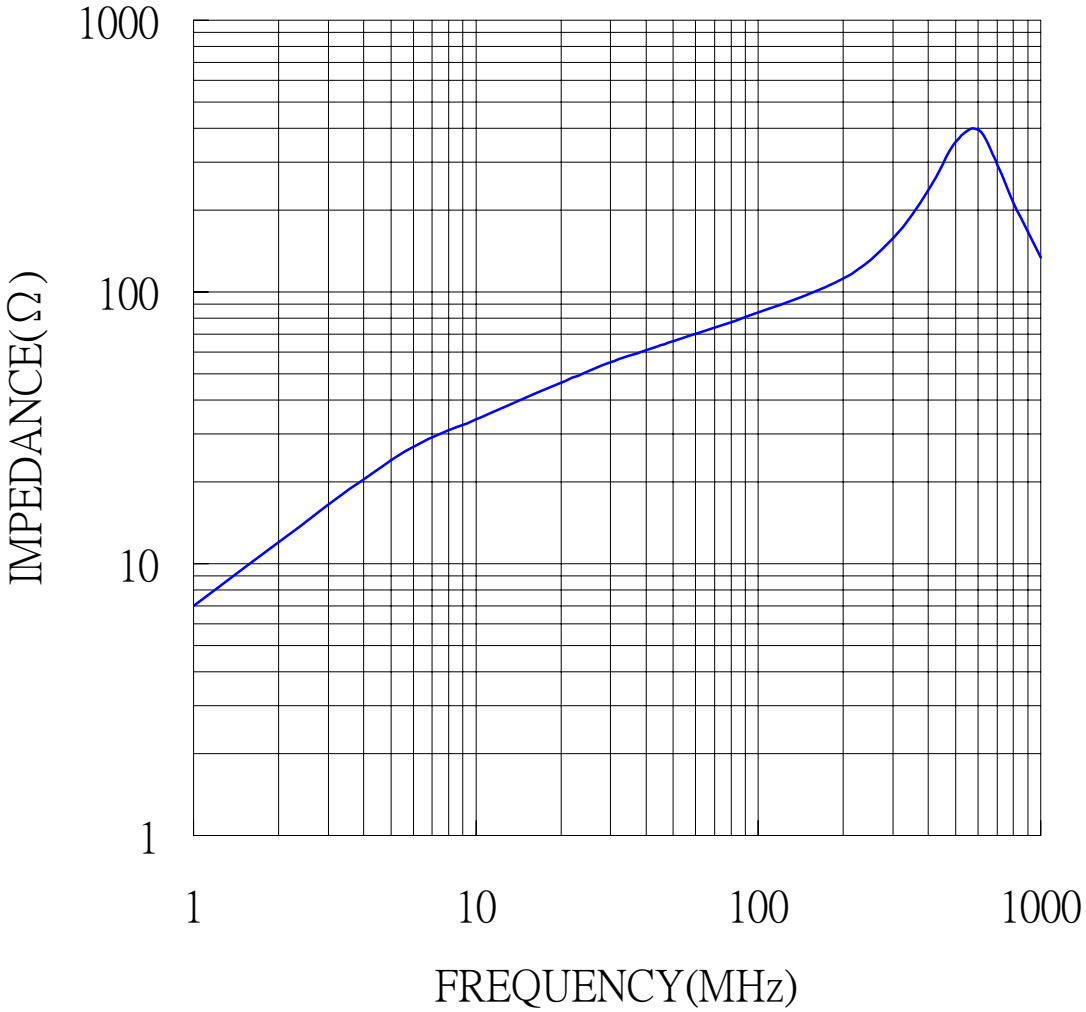
DWG.NO.

King Core Electronics Inc.
Tel:886-3-4782511(Rep.)
Fax:886-3-4759923
E-mail : kc@mail.kingcore.com.tw

ER011B

K5B RH 4x10x2

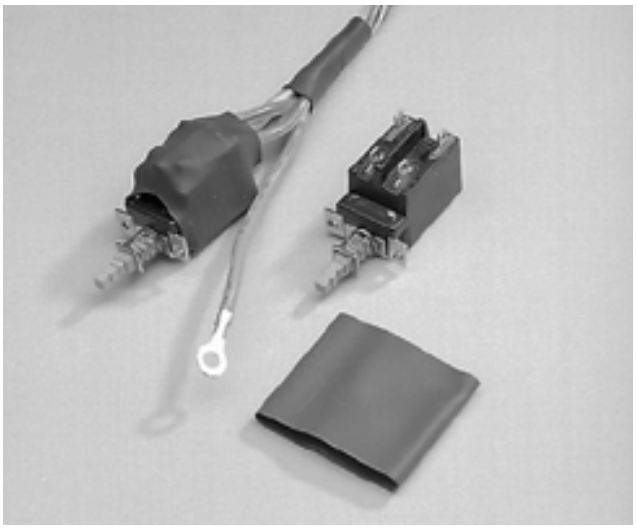
PS0404IA



King Core Electronics Inc.
Tel:886-3-4782511(Rep.)
Fax:886-3-4759923
E-mail : kc@mail.kingcore.com.tw

Versafit V2

Highly flame-retardant, very flexible, low-shrink-temperature polyolefin tubing



Fax-on-Demand: (800) 260-9099
(650) 361-6523

Before ordering check with factory for most current data.

FAX ID	Description
2222	Data sheet
2221	RT-1136

Applications

Cost-effective choice for many commercial and military applications; electrically insulates and protects in-line components, disconnect terminals, and splices. Bundles wires for very flexible light-duty harnesses. Strain-relieves electrical wire connections for commercial applications. Identifies or color-codes wires, cables, terminals, and components.

Operating Temperature Range

–55°C to 125°C

Features/Benefits

- 2:1 shrink ratio.
- Low shrink temperature reduces installation time and the risk of damage to temperature-sensitive components.
- Very flexible; doesn't easily wrinkle when bent.
- Hot stamps extremely well.
- Free of polybrominated biphenyls (PBBs) and polybrominated biphenyl oxides and ethers (PBBOs and PBBEs), which are classified as environmentally hazardous substances.
- Higher temperature rating, better thermal stability, and higher resistance to physical abuse than noncrosslinked materials.

Installation

Minimum shrink temperature: 70°C
Minimum full recovery temperature: 90°C

Specifications/Approvals

Series	UL	CSA	Raychem
Versafit	E35586 VW-1 600 V, 125°C	LR31929 OFT 600 V, 125°C	RW-3023

Product Dimensions (mm)

	As supplied		After shrinkage	
Size	Inside diameter	Wall thickness (nominal)	Inside diameter (max.)	Wall thickness* (min.)
1.0	1.6 ±0.2	0.2	0.5	0.33
1.5	2.1 ±0.2	0.2	0.75	0.35
2.0	2.6 ±0.2	0.25	1.0	0.43
2.5	3.1 ±0.2	0.25	1.25	0.43
3.0	3.6 ±0.2	0.25	1.5	0.43
3.5	4.1 ±0.3	0.25	1.75	0.43
4.0	4.6 ±0.3	0.25	2.0	0.43
5.0	5.6 ±0.3	0.3	2.5	0.56
6.0	6.6 ±0.3	0.3	3.0	0.56
7.0	7.6 ±0.3	0.3	3.5	0.56
8.0	8.6 ±0.3	0.3	4.0	0.56
9.0	9.6 ±0.3	0.3	4.5	0.56
10.0	10.4 ±0.3	0.3	5.0	0.56

	As supplied		After shrinkage	
Size	Inside diameter	Wall thickness (nominal)	Inside diameter (max.)	Wall thickness* (min.)
11.0	11.4 ±0.3	0.3	5.5	0.56
12.0	12.7 ±0.3	0.3	6.0	0.56
13.0	13.5 ±0.3	0.35	6.5	0.66
14.0	14.4 ±0.4	0.35	7.0	0.68
15.0	15.7 ±0.4	0.35	7.5	0.68
16.0	16.9 ±0.4	0.35	8.0	0.68
18.0	19.0 ±0.4	0.4	9.0	0.76
20.0	21.4 ±0.4	0.4	10.0	0.76
22.0	23.2 ±0.4	0.45	11.0	0.89
25.0	26.8 ±0.4	0.45	12.5	0.89
27.0	28.2 ±0.5	0.45	12.5	0.89
28.0	30.0 ±0.5	0.45	14.0	0.89
30.0	32.1 ±0.5	0.45	15.0	0.89

*Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0), white (-9), red (-2), blue (-6), yellow (-4), green (-5)
	Nonstandard	Orange (-3), violet (-7), brown (-1), gray (-8)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	On spools.	
Marking	Marked with UL/CSA/-F- legends.	
Ordering description	Specify product name, size, and color (for example, Versafit V2-3.0-0).	

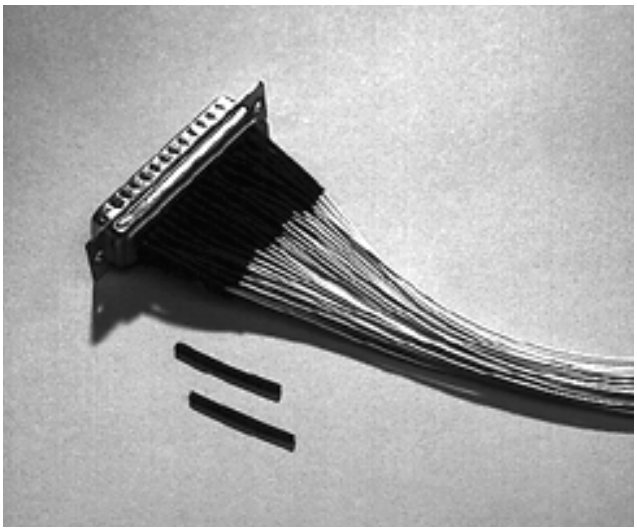
Fax-on-Demand: (800) 260-9099
(650) 361-6523

Before ordering check with factory for most current data.

FAX ID	Description
2240	Data sheet
2590	RW-3010

Versafit V4

Very-thin-wall, very flexible, highly flame-retardant polyolefin tubing



Applications

Typically used where space saving is important. Offers the ability to pack components more closely than is possible with standard tubings. Cost-effective choice for many commercial applications; electrically insulates and protects in-line components, disconnect terminals, and splices. Used for strain relief on high-density connectors.

Operating Temperature Range

–55°C to 125°C

Features/Benefits

- 2:1 shrink ratio.
- Very thin wall provides space savings and rapid shrinking.
- Low shrink temperature further reduces installation time and risk of damage to temperature-sensitive components.
- Very flexible; doesn't easily wrinkle when bent.
- Free of polybrominated biphenyls (PBBs) and polybrominated biphenyl oxides and ethers (PBBOs and PBBEs), which are classified as environmentally hazardous substances.

Installation

Minimum shrink temperature: 70°C
Minimum full recovery temperature: 90°C

Specifications/Approvals

Series	UL	CSA	Raychem
Versafit V4	E35586 VW-1 300 V, 125°C	LR31929 OFT 150 V, 125°C	RW-3010

Product Dimensions

	As supplied		After shrinkage	
Metric sizes	Inside Diameter	Wall thickness (nominal)	Inside diameter (max.)	Wall thickness* (min.)
1.0/0.5	1.4 ±0.25	0.1	0.5	0.25
1.5/0.75	1.9 ±0.25	0.1	0.75	0.25
2.0/1.0	2.3 ±0.25	0.1	1.0	0.25
2.5/1.25	2.8 ±0.25	0.15	1.25	0.25
3.0/1.5	3.3 ±0.25	0.15	1.5	0.25
3.5/1.75	3.8 ±0.25	0.15	1.75	0.25
4.0/2.0	4.4 ±0.25	0.15	2.0	0.25
Inch sizes (mm/*in*)				
3/64	1.2 *(.046)*	0.6 *(.023)*	.30 ±.05 *(.012 ±.002)*	
1/16	1.6 *(.063)*	0.8 *(.031)*	.30 ±.05 *(.012 ±.002)*	
3/32	2.4 *(.093)*	1.2 *(.046)*	.30 ±.05 *(.012 ±.002)*	
1/8	3.2 *(.125)*	1.6 *(.062)*	.33 ±.05 *(.013 ±.002)*	
3/16	4.8 *(.187)*	2.4 *(.093)*	.33 ±.05 *(.013 ±.002)*	

	As supplied		After shrinkage	
Size	Inside diameter	Wall thickness	Inside diameter (max.)	Wall thickness* (min.)
5.0/2.5	5.5 ±0.25	0.15	2.5	0.25
6.0/3.0	6.5 ±0.4	0.15	3.0	0.28
7.0/3.5	7.5 ±0.4	0.15	3.5	0.28
8.0/4.0	8.5 ±0.4	0.15	4.0	0.28
9.0/4.5	9.5 ±0.4	0.15	4.5	0.28
10.0/5.0	10.5 ±0.5	0.15	5.0	0.28
1/4	6.4 *(.250)*	3.2 *(.125)*	.36 ±.05 *(.014 ±.002)*	
3/8	9.5 *(.375)*	4.8 *(.187)*	.36 ±.05 *(.014 ±.002)*	
1/2	12.7 *(.500)*	6.4 *(.250)*	.36 ±.05 *(.014 ±.002)*	
3/4	19.1 *(.750)*	9.5 *(.375)*	.46 ±.08 *(.017 ±.003)*	
1	25.4 *(1.000)*	12.7 *(.500)*	.51 ±.08 *(.020 ±.003)*	

*Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0)
	Nonstandard	Other colors available upon request.
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	On spools.	
Marking	Marked with UL/CSA/-F- legends.	
Ordering description	Specify product name, size, and color (for example, Versafit V4-1.0-0).	

SGS Test Report

Product：RF Antenna

Contents

Total Weight : 6.85g

Result for RoHS：PASS

TEST REPORT

APPLICANT

Kurabe Industrial Co., Ltd.
4830 Takatsuka-Cho Hamamatsu-Shi
Shizuoka-Ken, Japan

SAMPLE DESCRIPTION

One (1) group of submitted samples said to be :

Item name : FWS 5030 / FWS5032
Date sample received : Jul. 20, 2004
Date test started : Jul. 22, 2004

****

TEST CONDUCTED

As requested by the applicant, for details please refer to attached pages.

****

Prepared and checked by :
For Intertek Testing Services
Taiwan Limited

Jacob Lin
General Manager

TEST CONDUCTED

(A) Test result summary :

Testing item	Result (ppm)
	Submitted samples
Cadmium (Cd) content / 鎘含量	ND
Lead (Pb) content / 鉛含量	ND
Mercury (Hg) content / 汞含量	ND
Chromium VI (Cr^{6+}) content / 六價鉻含量	ND
PBBs/PBDEs / 多溴聯苯/溴聯苯醚	ND
Polychlorinated biphenyls (PCBs) / 多氯聯苯	ND
Polychlorinated naphthalenes (PCNs) / 多氯化萘	ND
Chlorinated paraffins / 氯化石蠟 (C10~C13)	ND
Formaldehyde / 甲醛	ND
Polyvinyl chloride (PVC) / 聚氯乙烯和聚氯乙烯混合物	ND
Organic tin compounds (Tributyl tin compounds, triphenyl tin compounds) / 有機錫化合物 (三丁基錫化合物, 三苯基錫化合物)	ND
Asbestos / 石棉	ND
Azo compounds / 偶氮化合物	ND

Remarks : ppm = Parts per million
ND = Not detected

****

TEST CONDUCTED

(B) Test method :

Testing item	Testing method	Reporting limit
Cadmium (Cd) content 鎘含量	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES	2 ppm
Lead (Pb) content 鉛含量	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES	2 ppm
Mercury (Hg) content 汞含量	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES	2 ppm
Chromium VI (Cr^{6+}) content 六價鉻含量	With reference to USEPA 3060A & 7196A, by alkaline digestion and determined by UV-Vis	1 ppm
PBBs/PBDEs 多溴聯苯/溴聯苯醚	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD	10 ppm
Polychlorinated biphenyls (PCBs) 多氯聯苯	With reference to USEPA 8082, by solvent extraction and determined by GC-ECD and GC-MSD	1 ppm
Polychlorinated naphthalenes (PCNs) 多氯化萘	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD	10 ppm
Chlorinated paraffins (C10~C13) 氯化石蠟	With reference to USEPA 3540C, by solvent extraction and determined by GC-ECD and GC-MSD	10 ppm
Formaldehyde 甲醛	As per applicant's request with reference to DIN 53315 and determined by UV-Vis	5 ppm
Polyvinyl chloride (PVC) 聚氯乙烯和聚氯乙烯混合物	Beilstein's test (flame test) and FT-IR analysis	NA
Organic tin compounds (Tributyl tin & triphenyl tin) 有機錫化合物 (三丁基錫化合物, 三苯基錫化合物)	With reference to ISO 17353, by solvent extraction and determined by GC-MSD	1 ppm
Asbestos 石棉	FT-IR analysis	NA
Azo compounds 偶氮化合物	As per ISO/TS 17234:2003, EN 14362-1:2003, EN 14362-2:2003, determined by GC-MSD	5 ppm

Remarks : NA = Not applicable
Reporting limit = Quantitation limit of analyte in sample solution

****

— END —

Test Report

DSM ENGINEERING PLASTICS.

Report No. : CE/2004/B2799
Date : 2004/11/23
Page : 1 of 2

The following merchandise was (were) submitted and identified by the client as :

Type of Product	:	EL630 WHITE (NC, 999999)
Style/Item No	:	DSM ARNITEL TPE-E
Sample Received	:	2004/11/16
Testing Date	:	2004/11/16 TO 2004/11/23

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Test Result : - Please see the next page -

Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

Test Report

DSM ENGINEERING PLASTICS.

Report No. : CE/2004/B2799
Date : 2004/11/23

Test Result

PART NAME NO.1 : WHITE PLASTIC PELTTETS

Test Item (s):	Unit	Method	MDL	Result				
				No.1				
PBBs(Polybrominated biphenyls)(CAS NO:67774-32-7)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC and 76/769/EEC)	0.0005	N.D.				
PBBEs(PBDEs)(Polybrominated biphenyl ethers)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC and 76/769/EEC)	0.0005	N.D.				

Test Item (s):	Unit	Method	MDL	Result				
				No.1				
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.				
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.				
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.				
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.				

NOTE (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit

Test Report

TEIJIN KASEI TAIWAN CO., LTD.
10F-2., NO. 87, SONG JIANG ROAD, (EMPIRE BLDG)
TAIPEI, TAIWAN, R. O. C.

Report No. : CE/2004/C2403
Date : 2004/12/20

The following merchandise was (were) submitted and identified by the client as :

Type of Product	:	POLYCARBONATE(PC)
Material Designation	:	PANLITE®L-1250 Z100
Manufacturer/Vendor	:	TEIJIN CHEMICALS LTD
Sample Received	:	2004/12/13
Testing Date	:	2004/12/13 TO 2004/12/20

==========

Test Result : - Please see the next page -

Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

Test Report

TEIJIN KASEI TAIWAN CO., LTD.
10F-2., NO. 87, SONG JIANG ROAD, (EMPIRE BLDG)
TAIPEI, TAIWAN, R. O. C.

Report No. : CE/2004/C2403
Date : 2004/12/20

Test Result

PART NAME NO.1 : TRANSLUCENT PLASTIC PELLETS(PLEASE REFER TO THE PHOTO ATTACHED)

Test Item (s):	Unit	Method	MDL	Result				
				No.1				
PBBs(Polybrominated biphenyls)(CAS NO:059536-65-1)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.				
PBBEs(PBDEs)(Polybrominated biphenyl ethers)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.				

Test Item (s):	Unit	Method	MDL	Result				
				No.1				
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.				
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.				
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.				
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.				

NOTE (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit

Test Report

TEIJIN KASEI TAIWAN CO., LTD.
10F-2., NO. 87, SONG JIANG ROAD, (EMPIRE BLDG)
TAIPEI, TAIWAN, R. O. C.

Report No. : CE/2004/C2403
Date : 2004/12/20

Test Report

K'UAN HONG ENTERPRISE CO., LTD.

Report No. : CE/2005/12479A
Date : 2005/01/21

The following merchandise was (were) submitted and identified by the client as :

Type of Product	:	透明電鍍液-黑鋅
Sample Received	:	2005/01/14
Testing Date	:	2005/01/14 TO 2005/01/21

==========

Test Result : - Please see the next page -

Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

Test Report

K'UAN HONG ENTERPRISE CO., LTD.

Report No. : CE/2005/12479A
Date : 2005/01/21

Test Result

PART NAME NO.1 : SEMI-TRANSPARENT LIQUID (PLEASE REFER TO THE PHOTO ATTACHED)

Test Item (s):	Unit	Method	MDL	Result
				No.1
PBBs(Polybrominated biphenyls)(CAS NO:059536-65-1)	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
PBBEs(PBDEs)(Polybrominated biphenyl ethers)	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.

NOTE (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit

Test Report

K'UAN HONG ENTERPRISE CO., LTD.

Report No. : CE/2005/12479A
Date : 2005/01/21

Test Report

K'UAN HONG ENTERPRISE CO., LTD.

Report No. : CE/2004/B4814B
Date : 2004/12/02
Page : 1 of 2

The following merchandise was (were) submitted and identified by the client as :

Type of Product	:	鉚釘
Sample Received	:	2004/11/25
Testing Date	:	2004/11/25 TO 2004/12/02

==========

Test Result

PART NAME NO.1	:	BLACK METAL (PLEASE REFER TO THE PHOTO ATTACHED)
PART NAME NO.2	:	GOLDEN METAL (PLEASE REFER TO THE PHOTO ATTACHED)

Test Item (s):	Unit	Method	MDL	Result	
				No.1	No.2
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.	N.D.
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	75.9	64.9
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid	2	N.D.	N.D.
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	24987.5	23307.2

NOTE (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit

Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

Test Report

K'UAN HONG ENTERPRISE CO., LTD.

Report No. : CE/2004/B4814B
Date : 2004/12/02

Test Report

KING CORE ELECTRONICS INC.
NO. 158, YANG HSIN ROAD, SEC. 2, YANG MEI CHEN, TAO YUAN HSIEN, TAIWAN R. O. C.

Report No. : CE/2004/C3816
Date : 2004/12/28

The following merchandise was (were) submitted and identified by the client as :

Type of Product	:	FERRITE CORE
Style/Item No	:	MATERIAL CODE:K5B
Sample Received	:	2004/12/21
Testing Date	:	2004/12/21 TO 2004/12/28

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Test Result : - Please see the next page -

Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

Test Report

KING CORE ELECTRONICS INC.
NO. 158, YANG HSIN ROAD, SEC. 2, YANG MEI CHEN, TAO YUAN HSIEN, TAIWAN R. O. C.

Report No. : CE/2004/C3816
Date : 2004/12/28

Test Result

PART NAME NO.1 : BLACK CORE (PLEASE REFER TO THE PHOTO ATTACHED)

Test Item (s):	Unit	Method	MDL	Result				
				No.1				
PBBs(Polybrominated biphenyls)(CAS NO:059536-65-1)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.				
PBBEs(PBDEs)(Polybrominated biphenyl ethers)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.				

Test Item (s):	Unit	Method	MDL	Result				
				No.1				
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.				
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.				
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.				
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	12.8				

NOTE (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit

Test Report

KING CORE ELECTRONICS INC.
NO. 158, YANG HSIN ROAD, SEC. 2, YANG MEI CHEN, TAO YUAN HSIEN, TAIWAN R. O. C.

Report No. : CE/2004/C3816
Date : 2004/12/28

SGS

Test Report **No. SH519043/CHEM** Date: 4.18.2005 Page 1 of 10

RAYCHEM ELECTRONICS (SHANGHAI) LTD.
307 QINJIANG ROAD CAOHEJING HI-TECH DEVELOPMENT PARK

The following sample(s) was/were submitted and identified on behalf of the applicant as:

Sample Name : V2-13.0 VERSAFIT POLYOLEFIN TUBING
SGS Ref No. : SHEC0050306617
Model : VERSAFIT POLYOLEFIN TUBING

Sample Receiving Date : April 06, 2005
Testing Period : April 06 to April 18, 2005

Test Requested : 1) To determine the Cadmium, Lead, Mercury, Hexavalent Chromium Content of the submitted sample.
2) To determine the PBBs(Polybrominated biphenyls) PBBEs(PBDEs) (Polybrominated biphenyl ethers) Content of the submitted sample.
3) *To determine the Arsenic Content of the submitted sample.
4) ***As specified by client, to detection and determination of certain listed aromatic amines derived from Azo Colorants (EN14362-2:2003).
5) To determine the PCBs(Polychlorinated Biphenyls) Content of the submitted sample.
6) To determine the Polychlorinated Naphthalene Content of the submitted sample.
7) To determine the Chlorinated Paraffin content of the submitted sample.
8) To determine the Organic-tin compounds Content of the submitted sample.
9) * To determine the Asbestos Content of the submitted sample.
10) *To determine the TBBP-A-BIS(CAS NO:21850-44-2)Content of the submitted sample.
11) *To determine the Formaldehyde(CAS No:000050-00-0) Content of the submitted sample.
12) *To determine the CFC's(Chlorofluorocarbons), CHC's(Chlorinated hydrocarbon), HCFC's(Hydrogenated chlorofluorocarbons)Content of the submitted sample.

Conclusion : 4) *** According to the analysis as carried out, azo colorants which can release one or more of certain listed amines by cleavage of their azo group/s were not detected in the commodity submitted.

Test method/Test Results: Please refer to next page

Signed for and on behalf of
SGS-CSTC Chemical Laboratory

Ella Zhang
Supervisor

SGS CSTC CONSUMER TESTING SERVICES SHANGHAI

SHCH 249179

SGS-CSTC Standards Technical Services Co., Ltd. Shanghai Branch Testing Center Chemical Laboratory | 1/F, 7/F, 9/F & 10/F, the 3rd Building, No. 889, Yishan Road, Xuhui District, Shanghai, China 200233 t +86 21 6495 1616*2822 f +86 21 5450 0314
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Member of the SGS Group (Société Générale de Surveillance)

Test method : 1) Cadmium (Cd)
With reference to BS EN 1122:2001, Method B see flowchart (1) for sample. Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission Spectrometry (ICP-AES)or Atomic Absorption Spectrometry.

Lead (Pb)
Ashing after wet decomposition see flowchart (2)for sample. Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission Spectrometry (ICP-AES) or Atomic Absorption Spectrometry.

Mercury (Hg)
With reference to US EPA 3052/EPA7473 or other acid digestion for sample. Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission Spectrometry (ICP-AES)/Hg Analyzer.

Hexavalent Chromium (Cr^{6+})
With reference to US EPA3060A and US EPA7196A for sample. Analysis was performed by UV-VIS Spectrometric method.

2) With reference to US EPA 8081, Analysis was performed by GC/MS.
3) *ICP-AES after reference to US EPA 3052 or other acid digestion.
4) *** Extraction test on coloured textile – Detection of the use of certain azo colorants in fibres with extractable dyes with the use of Gas Chromatographic Mass Spectrometry (GC-MS) / Thin Layer Chromatography (TLC) Technique.
5) With reference to US EPA 8082, Analysis was performed by GC/MS.
6) With reference to US EPA 8081, Analysis was performed by GC/MS.
7) With reference to US EPA 8081, Analysis was performed by GC/MS.
8) With reference to DIN 38407-13, Analysis was performed by GC/MS.
9) * As per NIOSH 9000 method. Analysis was performed by XRD.
10) * Analysis was performed by HPLC/DAD/MS
11) * With reference to DIN 53315 & USEPA 8315A. Analysis was performed by HPLC/DAD/MS
12) * With reference to US EPA 8260. Analysis was performed by GC/MS linked Headspace.(CFC's(Chlorofluorocarbons)) .(CHC's(Chlorinated hydrocarbon)), (CFC's(Chlorofluorocarbons)) (HCFC's(Hydrogenated chlorofluorocarbons))

SGS-CSTC Standards Technical Services Co., Ltd. Shanghai Branch Testing Center-Chemical Laboratory | 1/F, 7/F, 9/F & 10/F, the 3rd Building, No. 889, Yishan Road, Xuhui District, Shanghai, China 200233 t +86 21 6495 1616*2822 f +86 21 5450 0314
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Test Results :

1) Cadmium, Lead, Mercury, Hexavalent Chromium Content

Item	Unit	MDL	No.1
Cadmium (Cd)	ppm	2	N.D.
Lead (Pb)	ppm	2	5
Mercury (Hg)	ppm	2	N.D.
Hexavalent Chromium (Cr VI)	ppm	2	N.D.

(Result shown is of the total weight of sample)

2) PBBs(Polybrominated biphenyls) PBBEs(PBDEs) (Polybrominated biphenyl ethers) Content

Item	Unit	MDL	No. 1
Polybrominated biphenyls (PBBs)	ppm	---	---
PBBs(Bromobiphenyl)	ppm	5	N.D.
PBBs(Dibromobiphenyl)	ppm	5	N.D.
PBBs(Tribromobiphenyl)	ppm	5	N.D.
PBBs(Tetrabromobiphenyl)	ppm	5	N.D.
PBBs(Pentabromobiphenyl)	ppm	5	N.D.
PBBs(Hexabromobiphenyl)	ppm	5	N.D.
PBBs(Heptabromobiphenyl)	ppm	5	N.D.
PBBs(Octabromobiphenyl)	ppm	5	N.D.
PBBs(Nonabromobiphenyl)	ppm	5	N.D.
PBBs(Polybrominated biphenyls)	ppm	5	N.D.
Polybrominated biphenyl ethers (PBDEs)	---	---	---
PBBEs(PBDEs)(Monobromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Dibromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Tribromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Tetrabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Pentabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Hexabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Heptabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Octabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Nonabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Decabromobiphenyl ether)	ppm	5	N.D.

(Result shown is of the total weight of sample)

3) *Arsenic Content

Test Item(s):	Unit	MDL	Result No.1
Arsenic (As)	ppm	2	N.D.

4) ***To detection and determination of certain listed aromatic amines derived from Azo Colorants (EN14362-2:2003) .

No.	Amines Substances	CAS-No.	Result No.1
1.	4-aminodiphenyl/xenylamine/ Biphenyl-4-ylamine	92-67-1	n.d.
2.	Benzidin	92-87-5	n.d.
3.	4-chlor-o-toluidine	95-69-2	n.d.
4.	2-naphthylamine	91-59-8	n.d.
5.	o-aminoazotoluene/ 4-o-tolylazo-o-toluidine/ 4-amino-2',3-dimethylazobenzene	97-56-3	n.d.
6.	2-amino-4-nitrotoluol/5-nitro-o-toluidine	99-55-8	n.d.
7.	p-chloranilin/4-chloroaniline	106-47-8	n.d.
8.	2,4-diaminoanisol/ 4-methoxy-m-phenylenediamine	615-05-4	n.d.
9.	4,4'-diaminodiphenylmethane/ 4,4-methylenedianiline	101-77-9	n.d.
10.	3,3'-dichlorobenzidine/ 3,3'dichlorobiphenyl-4,4'-ylenediamine	91-94-1	n.d.
11.	3,3'-dimethoxybenzidine/o-dianisidine	119-90-4	n.d.
12.	3,3'-dimethybenzidine/4,4'-bi-o-Toluidine	119-93-7	n.d.
13.	3,3'-dimethyl-4,4'-diaminodiphenylmethane/ 4,4'-methylenedi-o-toluidine	838-88-0	n.d.
14.	p-cresidin/6-methoxy-m-toluidine	120-71-8	n.d.
15.	4,4'-methylen-bis-(2-chloro-aniline)/ 2,2'-dichloro-4,4'methylene-dianiline	101-14-4	n.d.
16.	4,4'-oxydianiline	101-80-4	n.d.
17.	4,4'-thiodianiline	139-65-1	n.d.
18.	o-toluidine/2-aminotoluene	95-53-4	n.d.
19.	2,4-toluylendiamin/ 4-methyl-m-phenylenediamine	95-80-7	n.d.
20.	2,4,5-trimethylaniline	137-17-7	n.d.
21.	4-aminoazobenzene	60-09-3	n.d.
22.	o-anisidine/ 2-methoxyaniline	90-04-0	n.d.
23.	2,4-Xylidin	95-68-1	n.d.
24.	2,6-Xylidin	87-62-7	n.d.
Overall Rating			PASS

Note : n.d. = not detectable
Detection Limit = 5 ppm (mg/kg)
Requirement: no relevant amine exceeding 30 ppm (mg/kg).

Forbidden Arylamines for Azo Dye Regulations
□ No, 1-22-Commission of the European Communities: Directive 2002/61/EC adopted by the Council on19 July 2002
□ No, 1-20, 22-24- Greening Label: Oko-Tex Standard 100-2002 edition (European Countries)
Remarks : Azo colorants that are able to form 4-aminoazobenzene (CASNr: 60-09-3), generate under the testing condition into aniline and 1, 4-phenylenediamine. The detection of it can only be ascertained with the chemical structure of the colorant used.

5) PCBs(Polychlorinated Biphenyls) Content

Test Item(s):	No.1
PCBs(Polychlorinated Biphenyls)	N.D.

(Result shown is of the total weight of sample)
N.D. = Non-detected (Detection limit <0.5 ppm)

6) Polychlorinated Naphthalene Content

Test Item(s):	No.1
Polychlorinated Naphthalene	N.D.

(Result shown is of the total weight of sample)
N.D. = Non-detected (Detection limit <5 ppm)

7) Chlorinated Paraffin Content

Test Item(s):	No.1
Chlorinated Paraffin	N.D.

(Result shown is of the total weight of sample)
N.D. = Non-detected (Detection limit <30 ppm)

8) Organic-tin compounds Content

Test Item(s):	No.1
Triphenyl Tin(TPT)	N.D.
Tributyl Tin(TBT)	N.D.

(Result shown is of the total weight of sample)
N.D. = Non-detected (Detection limit <0.5 ppm)

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9)* Asbestos Content

Test Item(s):	Unit	MDL	Result
			No.1
Asbestos			
Anthrophyllite	**	-	Negative
Crocodolite	**	-	Negative
Amosite	**	-	Negative
Tremolite	**	-	Negative
Chrysotile	**	-	Negative
Actinolite	**	-	Negative

10) * TBBP-A-BIS content

Test Item(s):	Unit	MDL	Result
			No.1
TBBP-A-BIS(CAS NO:21850-44-2)	ppm	5	N.D.

11) * Formaldehyde Content

Test Item (s):	Unit	MDL	Result
			No.1
Formaldehyde(CAS No:000050-00-0)	ppm	0.2	N.D.

12) *CFC's(Chlorofluorocarbons), CHC's(Chlorinated hydrocarbon), HCFC's(Hydrogenated chlorofluorocarbons)Content

Test Item (s):	Unit	MDL	Result
			No.1
CFC's(Chlorofluorocarbons)			
Group I			
Chlorofluorocarbon-11(CAS No:000075-69-4)	ppm	1	N.D.
Chlorofluorocarbon-12(CAS No:000075-71-8)	ppm	1	N.D.
Chlorofluorocarbon-113(CAS No:000076-13-1)	ppm	1	N.D.
Chlorofluorocarbon-114(CAS No:000076-14-2)	ppm	1	N.D.
Chlorofluorocarbon-115(CAS No:000076-15-3)	ppm	1	N.D.
Group III			
Chlorofluorocarbon-13(CAS No:000075-72-9)	ppm	1	N.D.
Chlorofluorocarbon-111(CAS No:000354-56-3)	ppm	1	N.D.
Chlorofluorocarbon-112(CAS No:000076-12-0)	ppm	1	N.D.
Chlorofluorocarbon-211(CAS No:135401-87-5)	ppm	1	N.D.
Chlorofluorocarbon-212(CAS No:076564-99-3)	ppm	1	N.D.
Chlorofluorocarbon-213(CAS No:060285-54-3)	ppm	1	N.D.
Chlorofluorocarbon-214(CAS No:002268-46-4)	ppm	1	N.D.
Chlorofluorocarbon-215(CAS No:000076-17-5)	ppm	1	N.D.
Chlorofluorocarbon-216(CAS No:001652-80-8)	ppm	1	N.D.
Chlorofluorocarbon-217(CAS No:000422-86-6)	ppm	1	N.D.

CHC's(Chlorinated hydrocarbon)			
1,1,1,2-Tetrachloroethane(CAS No.:000630-20-6)	ppm	1	N.D.
1,1,1-Trichloroethane(CAS No.:000071-55-6)	ppm	1	N.D.
1,1,2,2-Tetrachloroethane(CAS No.:000079-34-5)	ppm	1	N.D.
1,1,2-Trichloroethane(CAS No.:000079-00-5)	ppm	1	N.D.
1,1-Dichloroethane(CAS No.:000075-35-4)	ppm	1	N.D.
1,1-Dichloroethane(CAS No.:000075-35-3)	ppm	1	N.D.
1,1-Dichloropropene(CAS No.:000563-58-6)	ppm	1	N.D.
1,2,3-Trichloropropane(CAS No.:000096-19-5)	ppm	1	N.D.
1,2-Dichloroethane(CAS No.:000107-06-2)	ppm	1	N.D.
1,2-Dichloropropane(CAS No.:000078-87-5)	ppm	1	N.D.
1,3-Dichloropropane(CAS No.:000142-28-9)	ppm	1	N.D.
2,2-Dichloropropane(CAS No.:000594-20-7)	ppm	1	N.D.
Carbon tetrachloride(CAS No:000056-23-5)	ppm	1	N.D.
Chloroethane(CAS No.:000075-00-3)	ppm	1	N.D.
Chloroform(CAS No.:000067-66-3)	ppm	1	N.D.
Chloromethane(CAS No.:000074-87-3)	ppm	1	N.D.
Cis-1,2-Dichloroethene(CAS No.:000156-59-2)	ppm	1	N.D.
Cis-1,3-Dichloropropene(CAS No.:010061-01-5)	ppm	1	N.D.
Hexachlorobutadiene(CAS No.:000087-68-3)	ppm	1	N.D.
Methylene Chloride(CAS No.:000075-09-2)	ppm	1	N.D.
Tetachloroethene(CAS No.:000630-20-6)	ppm	1	N.D.
trans-1,2-Dichloroethene(CAS No.:000156-60-5)	ppm	1	N.D.
trans-1,3-Dichloropropene(CAS No.:010061-02-6)	ppm	1	N.D.
Trichloroethylene(CAS No.:000079-01-6)	ppm	1	N.D.
HCFC's(Hydrogenated chlorofluorocarbons)			
Hydrochlorofluorocarbon-21(CAS No.:000075-43-4)	ppm	1	N.D.
Hydrochlorofluorocarbon-22(CAS No.:000075-45-6)	ppm	1	N.D.
Hydrochlorofluorocarbon-31(CAS No.:000593-70-4)	ppm	1	N.D.
Hydrochlorofluorocarbon-121(CAS No.:000354-14-3)	ppm	1	N.D.
Hydrochlorofluorocarbon-122(CAS No.:000354-21-2)	ppm	1	N.D.
Hydrochlorofluorocarbon-123(CAS No.:000306-83-1)	ppm	1	N.D.
Hydrochlorofluorocarbon-124(CAS No.:002837-89-0)	ppm	1	N.D.
Hydrochlorofluorocarbon-131(CAS No.:000359-28-4)	ppm	1	N.D.
Hydrochlorofluorocarbon-131b(CAS No.:000471-43-2)	ppm	1	N.D.
Hydrochlorofluorocarbon-133a(CAS No.:000075-88-7)	ppm	1	N.D.
Hydrochlorofluorocarbon-141b(CAS No.:001717-00-6)	ppm	1	N.D.
Hydrochlorofluorocarbon-221	ppm	1	N.D.
Hydrochlorofluorocarbon-222(CAS No.:000422-30-0)	ppm	1	N.D.
Hydrochlorofluorocarbon-223	ppm	1	N.D.
Hydrochlorofluorocarbon-224	ppm	1	N.D.
Hydrochlorofluorocarbon-225ca(CAS No.:000422-56-0)	ppm	1	N.D.
Hydrochlorofluorocarbon-225cb(CAS No.:000507-55-1)	ppm	1	N.D.
Hydrochlorofluorocarbon-226(CAS No.:000431-87-8)	ppm	1	N.D.
Hydrochlorofluorocarbon-231	ppm	1	N.D.
Hydrochlorofluorocarbon-232	ppm	1	N.D.

Hydrochlorofluorocarbon-233	ppm	1	N.D.
Hydrochlorofluorocarbon-234	ppm	1	N.D.
Hydrochlorofluorocarbon-235(CAS No.:013838-16-9)	ppm	1	N.D.
Hydrochlorofluorocarbon-241	ppm	1	N.D.
Hydrochlorofluorocarbon-242	ppm	1	N.D.
Hydrochlorofluorocarbon-243(CAS No.:000338-75-0)	ppm	1	N.D.
Hydrochlorofluorocarbon-244	ppm	1	N.D.
Hydrochlorofluorocarbon-251	ppm	1	N.D.
Hydrochlorofluorocarbon-252	ppm	1	N.D.
Hydrochlorofluorocarbon-253(CAS No.:000354-06-1)	ppm	1	N.D.
Hydrochlorofluorocarbon-261(CAS No.:000420-97-3)	ppm	1	N.D.
Hydrochlorofluorocarbon-262(CAS No.:000420-97-3)	ppm	1	N.D.
Hydrochlorofluorocarbon-271	ppm	1	N.D.

Sample Description:
No.1. Black plastic tube with white printing

Note : ppm=mg/kg
N.D. = Not detected.(<MDL)
MDL= Method Detection Limit
"---"= Not Applicable
" -" = Not Regulation
**= Qualitative analysis(No Unit)
Negative = Undetectable / Positive = Detectable.
***These tests were subcontracted to SGS-SHSL TEXTLIE LAB (Date of testing: 2005/04/06-04/08).
* These tests were subcontracted to SGS Taiwan Ltd (Date of testing: 2005/04/07-04/15).

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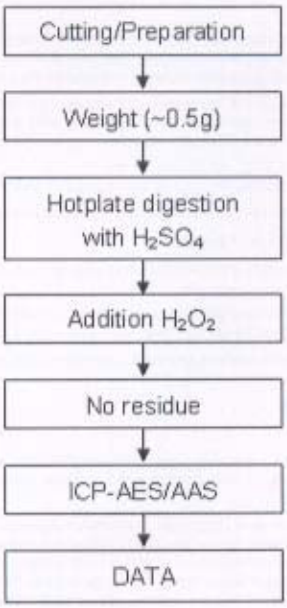
ATTACHMENTS

Flow chart 1

Flow chart of digestion (EN 1122-2001 for Cd)



The samples were dissolved totally by pre-conditioning method according to above flow chart.

Tested by : Banyan Xu
Checked by : Terry Wang

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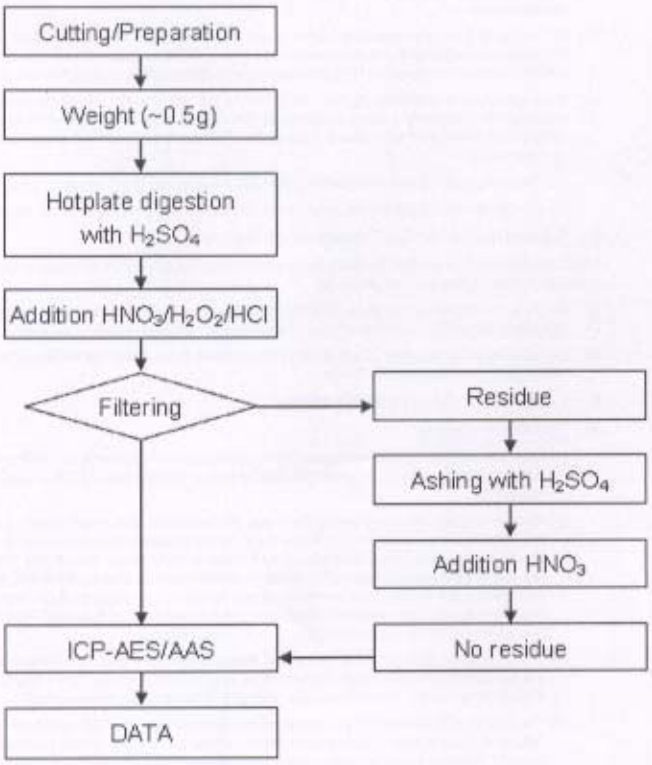
Flow chart 2

Flow chart of digestion (Ashing after wet decomposition for Pb)



The samples were dissolved totally by pre-conditioning method according to above flow chart.

Tested by : Jeffery Dong
Checked by : Terry Wang

*** End of Report ***

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亞旭電腦股份有限公司
ASKEY COMPUTER CORP.

供應商環境管理物質保證書
Supplier Environment-Related Substances Guarantee Letter

茲保證各欄所填均屬實,如有因所填不實,造成可歸因於本公司之不良結果,本公司願負所衍生之責任

It is promised that the filled column is true. If it makes bad influence resulting from the false filling is caused by our company , we will be responsible for them.

公司名稱 : 譁裕實業股份有限公司
(Company Name)

填表人 : 柯美雪
(Contact Name)

填表說明：本表請填寫粉紅色的欄位，若無該項物質請填"0"，若有則請填含量(單位：mg)。
Illustration :
Please fill in the pink space ("0" or "mg").

廠商名稱 (Supplier name)	譁裕實業
廠商代碼(若不確定可詢問本公司採購單位)(廠商代碼請務必填寫正確，否則本公司將以此爲辨識資料，若有錯誤由廠商自行負責) (supplier code)(you could ask our CE department)(Please make it correct because we will identify all information by it. If it is wrong, you should be responsible for them.)	2279
填表人(Contact Name)	柯美雪
填表日期 (Date of Fill)	2005年6月24日
預定回覆日(若可準時回覆，則不用填寫)(anser schedule(If you could anser on time, you don't have to fill in))	
此物料單piece 重量 (mg)(weight of one piece) :	6850.
料號(part number)	C407-510316-A

NO	Chemical Category and Example Compounds 註：N 表示沒有管控, y 表示有管控但沒有量	中文名稱	Chemical Formula	金屬換算系數	Example CAS Numbers (not all-inclusive)	含量(mg)
等級A	等級A					
A05	A05-Cadmium and its compounds	鎘及其化合物				75.9
A05001	Cadmium	鎘	Cd	1.000	7440-43-9	75.9
A05002	Cadmium oxide	氧化鎘	CdO	0.875	1306-19-0	0
A05003	Cadmium sulfide	硫化鎘	CdS	0.778	1306-23-6	0
A05004	Cadmium chloride	氯化鎘	$CdCl_2$	0.613	10108-64-2	0
A05005	Cadmium sulfate	硫酸鎘	$CdSO_4$	0.539	10124-36-4	0
A05006	Cadmium carbonate	碳酸鎘	$CdCO_3$		513-78-0	0
A05007	Cadmium fluoroborate	氟化硼鎘	-		14486-19-2	0
A05008	Cadmium nitrate	硝酸鎘	$Cd(NO_3)_2$		10325-94-7	0
A05009	Cadmium stearate	硬脂酸鎘	-		2223-93-0	0
A05010	Cadmium nitrate tetrahydrate	四水硝酸鎘	-		10022-68-1	0
A0500001	Other cadmium compound	-	-		-	0
A0500002	Other cadmium compound	-	-		-	0
A07	A07-Chromium (VI) and its compounds	六價鉻及其化合物				0
A07001	Sodium dichromate	重鉻酸鈉	$Na_2Cr_2O_7$	0.397	10588-01-9	0
A07002	Chromium(VI)oxide; Chromium	三氧化鉻;氧化鉻(六價); 酐化鉻	CrO_3	0.520	1333-82-0	0
A07003	Calcium chromate	鉻酸鈣	$CaCrO_4$	0.333	13765-19-0	0
A07004	Lead chromate; Chrome yellow	鉻酸鉛;鉻黃	$PbCrO_4$	0.161	7758-97-6	0
A07005	Potassium dichromate	重鉻酸鉀	$K_2Cr_2O_7$	0.353	7778-50-9	0
A07006	Potassium chromate	鉻酸鉀	K_2CrO_4	0.268	7789-00-6	0
A07007	Barium chromate	鉻酸鋇	$BaCrO_4$		10294-40-3	0
A07008	Sodium chromate	鉻酸鈉	Na_2CrO_4		7775-11-3	0
A07009	Strontium chromate	鉻酸鍶	-		7789-06-2	0
A07010	Lithium chromate	鉻酸鋰	Li_2CrO_4		14307-35-8	0
A07011	Potassium chlorochromate	氯鉻酸鉀	-		16037-50-6	0
A07012	Ammonium chromate	鉻酸銨	$(NH_4)_2CrO_4$		7788-98-9	0
A07013	Copper chromate	鉻酸銅	$CuCrO_4$		13548-42-0	0
A07014	Magnesium chromate	鉻酸鎂	$MgCrO_4$		13423-61-5	0
A07015	Ammonium dichromate;Ammonium	重鉻酸銨	-		7789-09-5	0
A07016	Calcium dichromate;Calcium	重鉻酸鈣	-		14307-33-6	0
A07017	Zinc dichromate;Zinc bichromate	重鉻酸鋅	-		14018-95-2	0
A07018	Zinc chromate	鉻酸鋅	$ZnCrO_4$		13530-65-9	0
A0700001	Other hexavalent chromium compound	-	-		-	0
A0700002	Other hexavalent chromium compound	-	-		-	0
A09	A09-Lead and its compounds	鉛及其化合物				24987.5
A09001	Lead	鉛	Pb	1.000	7439-92-1	24987.5
A09002	Lead carbonate	碳酸鉛	$PbCO_3$	0.775	598-63-0	0
A09003	Lead (IV) oxide	二氧化鉛(四價)	PbO_2	0.866	1309-60-0	0
A09004	Lead (II, IV) oxide	四氧化三鉛(二價,四價)	Pb_3O_4	0.907	1314-41-6	0
A09005	Lead (II) sulfide	硫化鉛(二價)	PbS	0.866	1314-87-0	0

NO	Chemical Catgory and Example Compounds 註：N 表示沒有管控, y 表示有管控但沒有量	中文名稱	Chemical Formula	金屬換算系數	Example CAS Numbers (not all-inclusive)	PFH 含量mg/kg
C05003	Diisononyl phthalate	鄰苯二甲酸二異壬酯	$C_{26}H_{42}O_4$		28553-12-0	0
C05004	1,2-Benzenedicarboxylic acid diisodecyl	己二酸二異癸酯	$C_{38}H_{66}O_4$		26761-40-0	0
C05005	Butyl benzyl phthalate	鄰苯二甲酸卞丁酯	$C_{19}H_{20}O_4$		85-68-7	0
C0500001	Other phtalate	其它鄰苯二甲酸鹽	-		-	0
C0500002	Other phtalate	-	-		-	0
D01	D01-Copper and its compounds	銅及其化合物				0
D01001	Copper	銅	Cu	1.000	7440-50-8	0
D0100001	Other copper compounds	-	-		-	0
D0100002	Other copper compounds	-	-		-	0
D02	D02-Gold and its compounds	金及其化合物				0
D02001	Gold	金	Au	1.000	7440-57-5	0
D0200001	Other gold compounds	-	-		-	0
D0200002	Other gold compounds	-	-		-	0
D03	D03-Palladium and its compounds	鈀及其化合物				0
D03001	Palladium	鈀	Pd	1.000	7440-05-3	0
D0300001	Other Palladium compounds	-	-		-	0
D0300002	Other Palladium compounds	-	-		-	0
D04	D04-Silver and its compounds	銀及其化合物				0
D04001	Silver	銀	Ag	1.000	7440-22-4	0
D0400001	Other silver compounds	-	-		-	0
D0400002	Other silver compounds	-	-		-	0
等級C	其它需要注意之物質					
C991	C991- Cobalt and its compounds	鈷及其化合物*2			7440-48-4	0
C991001	Cobalt(II)oxide	氧化鈷(二價)	CoO		1307-96-6	0
C991002	Cobat oxide(II,III)	四氧化三鈷	Co_3O_4		1308-06-1	0
C9910001	Other Cobat Compounds	-	-		-	0
C9910002	Other Cobat Compounds	-	-		-	0
C992001	C992-Chlorinated paraffin	CP 氯代烷烴			10871-26-2	0
C9920001						0
C9920002						0
C993001	C993-Tetrabromobisphenol-A-bis-(2,3-	四溴雙酚-A-雙(2,3-二溴丙醚)(TBBP-			21850-44-2	0
C9930001						0
C9930002						0
C994	C994-Polychlorinated naphthalene	PCN 聚氯化萘				0
C994001	Trichloronaphthalene	三氯化萘			1321-65-9	0
C994002	Tetrachloronaphthalene	四氯化萘			1335-88-2	0
C994003	Pentachlorlnaphthalene	五氯化萘			1321-64-8	0
C994004	Octachloronaphthalene	八氯化萘			2234-13-1	0
C9940001						0
C9940002						0
C995	C995-Polivinylchloride and	聚乙烯和聚乙烯混合物			9002-86-2	0
C996	C996-Formaldehyde:formalin:Formic	甲醛(單基物)	HCOOH		50-00-0	0
C997	C997-Mirex	滅蟻靈				0
C997001	Dodicachlorooctahydro-1,3,4-metheno-	十二氯八氫-1，3，4-美普諾-2H-環丁			2385-85-5	0
C997002	Aldrin	艾氏劑-殺蟲劑			309-00-2	0
C997003	Endrin	異狄氏劑-殺蟲藥			72-20-8	0
C997004	Dieldrin	狄氏劑-殺蟲劑			60-57-1	0
C997005	Toxaphene	毒殺芬-殺蟲劑				0
C9970001						0
C9970002						0
C998	C998-Cyanogen and its compounds	氰及其化合物				0
C998001	Acrylonitrile	丙烯酸氰			107-13-1	0
C998002	Sodium cyanides	氰化鈉	NaCN		143-33-9	0
C9980001						0
C9980002						0
C999	C999-其它需要注意的物質					0
C999001	Zinc and its compounds	鋅及其化合物	Zn			0
C999002	Manzanese and its comeounds	錳及其化合物	Mn			0
C999003	Sulfur hexafluoride (SF6)	六氟硫化物				0
C999004	Thallium and its compounds	鉈及其化合物				0
C999005	Tellurium and its compounds	碲及其化合物				0
C999006	Picric Acid	苦味酸				0
C999007	Vanadium and its compounds	釩及其化合物	V			0
C999008	Barium and its compounds	鋇及其化合物	Ba			0
C999009	Aluminum compounds (Soluble chlorine)	鋁及其化合物	Al			0
C999010	Indium and its compounds	銦及其化合物				0
C999011	Zirconium and its compounds	鋯及其化合物	Zr			0
C999012	Tungsten and its compounds	鎢及其化合物	W			0
C999013	Boron and its compounds	硼及其化合物				0
C999014	Molybdenum and its compounds	鉬及其化合物				0
C9990001						0
C9990002						0

備註

NO	Chemical Category and Example Compounds 註1: N 表示沒有管控; y 表示有管控但沒有量	中文名稱	Chemical Formula	含量換算系數	Example CAS Numbers (not all-inclusive)	PPM 含量Limit
A13002	Selenous acid	亞硒酸	H_2SeO_3	0.612	7783-00-8	0
A1300001	Other selenium compound	-	-		-	0
A1300002	Other selenium compound	-	-		-	0
A16	A16-Magnesium and its compounds	鎂及其化合物				0
A16001	Magnesium	金屬鎂	Mg	1.000	7439-95-4	0
A1600001	Other magnesium compound	-	-		-	0
A1600002	Other magnesium compound	-	-		-	0
B07	B07-Polv vinvl chloride (PVC)	聚氯乙烯(PVC)				0
B07001	Polv vinvl chloride(PVC)	聚氯乙烯(PVC)	$(CH_2CHCl)_n$		9002-86-2	0
B0700001		-	-		-	0
B0700002		-	-		-	0
B08	B08-Brominated flame retardant	含溴阻燃劑				0
B08001	Brominated flame retardant which comes	ISO 1043-4 編號FR(14)[脂肪族/脂環	-		-	0
B08002	Brominated flame retardant which comes	ISO 1043-4 編號FR(15)[脂肪族/脂環	-		-	0
B08003	Brominated flame retardant which comes	ISO 1043-4 編號FR(16)[芳香族含溴化	-		-	0
B08004	Brominated flame retardant which comes	ISO 1043-4 編號FR(17)[芳香族含溴化	-		-	0
B08005	Brominated flame retardant which comes	ISO 1043-4 編號FR(22)[脂肪族/脂環	-		-	0
B08006	Brominated flame retardant which comes	ISO 1043-4 編號FR(42)[含溴有機磷化	-		-	0
B08007	Polv(2,6-dibromo-phenylene oxide)	聚2,6-二溴苯醚	$(C_6H_2Br_2O)_n$		69882-11-7	0
B08008	Tetra-decabromo-diphenoxy-benzene	十四溴苯氧基苯	$C_{18}Br_{14}O_2$		58965-66-5	0
B08009	1,2-Bis(2,4,6-tribromo-phenoxy) ethane	1,2-雙(2,4,6-三溴苯氧基)乙烷	$C_{14}H_8Br_6O_2$		37853-59-1	0
B08010	3,5,3',5'-Tetrabromo-bisphenol A	3,5,3',5'-四溴雙酚A	$C_{15}H_{12}Br_4O_2$		79-94-7	0
B08011	TBBA, unspecified	四溴雙酚A(結構不特定)	-		30496-13-0	0
B08012	TBBA-epichlorohydrin oligomer	四溴雙酚A(環氧氯丙烷低聚物)	$(C_{15}H_{12}Br_4O_2.C_3H_5$		40039-93-8	0
B08013	TBBA-diglycidyl-ether oligomer	四溴雙酚A(TBBA-環氧甘油醚低聚	-		70682-74-5	0
B08014	TBBA carbonate oligomer	四溴雙酚A(碳酸鹽低聚物)	$(C_{15}H_{12}Br_4O_2.CCl_2$		28906-13-0	0
B08015	TBBA carbonate oligomer, phenoxy end	BC-52四溴雙酚A	$(C_7H_5O_2)(C_{16}H_{10}Br$		94334-64-2	0
B08016	TBBA carbonate oligomer, 2,4,6-	BC-58四溴雙酚A	$(C_7H_2Br_3O_3)(C_{16}H_1$		71342-77-3	0
B08017	TBBA-bisphenol A-phosgene polymer	-	$(C_{15}H_{16}O_2.C_{15}H_{12}$		32844-27-2	0
B08018	Brominated epoxy resin end-capped with	-	-		139638-58-7	0
B08019	Brominated epoxy resin end-capped with	-	-		135229-48-0	0
B08020	TBBA-(2,3-dibromo-propyl-ether)	四溴雙酚A(2,3-二溴丙醚)	$C_{21}H_{20}Br_8O_2$		21850-44-2	0
B08021	TBBA bis-(2-hydroxy-ethyl-ether)	四溴雙酚A雙(2-羥乙基)醚	$C_{19}H_{20}Br_4O_4$		4162-45-2	0
B08022	TBBA-bis-(allyl-ether)	四溴雙酚A雙(烯丙基)醚	$C_{21}H_{20}Br_4O_2$		25327-89-3	0
B08023	TBBA-dimethyl-ether	四溴雙酚A二甲醚	$C_{17}H_{16}Br_4O_2$		37853-61-5	0
B08024	Tetrabromo-bisphenol S	四溴雙酚S	$C_{12}H_6Br_4O_4S$		39635-79-5	0
B08025	TBBS-bis-(2,3-dibromo-propyl-ether)	四溴雙酚S雙(2,3-二溴丙醚)	$C_{18}H_{14}Br_8O_4S$		42757-55-1	0
B08026	2,4-Dibromo-phenol	2,4-二溴酚	$C_6H_4Br_2O$		615-58-7	0
B08027	2,4,6-tribromo-phenol	2,4,6-三溴酚	$C_6H_3Br_3O$		118-79-6	0
B08028	Pentabromo-phenol	五溴酚	C_6HBr_5O		608-71-9	0
B08029	2,4,6-Tribromo-phenyl-allyl-ether	2,4,6-三溴酚丙烯基醚	$C_9H_7Br_3O$		3278-89-5	0
B08030	Tribromo-phenyl-allyl-ether, unspecified	三溴酚丙烯基醚(結構不特定)	$C_9H_7Br_3O$		26762-91-4	0
B08031	Hexabromo-cyclo-dodecane (HBCD),	1,2,5,6,9,10-六溴環十二烷	$C_{12}H_{18}Br_6$		3194-55-6	0
B08032	Tetrabromo-chyclo-octane	溴化或氯化(7~12個元素環)烷(Cl或Br	$C_8H_{12}Br_4$		31454-48-5	0
B08033	1,2-Dibromo-4-(1,2 dibromo-methyl)-	1,2-二溴-4-(1,2 二溴-甲基)-環乙烷	$C_8H_{12}Br_4$		3322-93-8	0
B08034	TBPA Na salt	-	$C_8Br_4O_4Na_2$		25357-79-3	0
B08035	Tetrabromo phthalic anhydride	四溴苯酐	$C_8Br_4O_3$		632-79-1	0
B08036	Bis(methyl)tetrabromo-phtalate	雙甲基四溴鄰苯二甲酸鹽	$C_{10}H_6Br_4O_4$		55481-60-2	0
B08037	Bis(2-ethilhexyl)tetrabromo-phtalate	雙(2-2-乙基己)四溴鄰苯二甲酸鹽	$C_{24}H_{34}Br_4O_4$		26040-51-7	0
B08038	2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-	2-羥基-丙基-2-(2-羥基-乙氧基)-乙基-	$C_{15}H_{16}Br_4O_7$		20566-35-2	0
B08039	TBPA, glycol-and propylene-oxide esters	-	-		75790-69-1	0
B08040	N,N'-Ethylene - bis-(tetrabromo-	-	$C_{18}H_4Br_8N_2O_4$		32588-76-4	0
B08041	Ethylene-bis(5,6-dibromo-norbornane-	-	$C_{20}H_{20}Br_4N_2O_4$		52907-07-0	0
B08042	2,3-Dibromo-2-butene-1,4-diol	2,3-二溴-2-烯烴-1,4-二醇	$C_4H_6Br_2O_2$		3234-02-4	0
B08043	Dibromo-neopentyl-glycol	二溴辛戊二醇	$C_5H_{10}Br_2O_2$		3296-90-0	0
B08044	Dibromo-propanol	2,3-二溴丙醇	$C_3H_6Br_2O$		96-13-9	0
B08045	Tribromo-neopentyl-alcohol	三溴辛乙醇	$C_5H_9Br_3O$		36483-57-5	0
B08046	Poly tribromo-styrene	聚三溴苯乙烯	-		57137-10-7	0
B08047	Tribromo-styrene	三溴苯乙烯	$C_8H_5Br_3$		61368-34-1	0
B08048	Dibromo-styrene grafted PP	-	-		171091-06-8	0
B08049	Poly-dibromo-styrene	聚二溴苯乙烯	$C_8H_6Br_2$		31780-26-4	0
B08050	Bromo-/Chloro-paraffins	溴化/氯化石蠟	-		68955-41-9	0
B08051	Bromo-/Chloro-alpha-olefin	溴化/氯化a-烯烴	-		82600-56-4	0
B08052	Vinylbromide	溴乙烯	C_2H_3Br		593-60-2	0
B08053	Tris-(2,3-dibromo-propyl)-isocyanurate	三(2,3-二溴丙基)異氰尿酸鹽	$C_{12}H_{15}Br_6N_3O_3$		52434-90-9	0
B08054	Tris(2,4-Dibromo-phenyl) phosphate	三(2,4-二溴苯)磷酸鹽	$C_{18}H_9Br_6O_4P$		49690-63-3	0
B08055	Tris(tribromo-neopentyl) phosphate	三(三溴-新戊烷)磷酸鹽	$C_{15}H_{24}Br_9O_4P$		19186-97-1	0
B08056	Chlorinated and brominated phosphate	-	-		125997-20-8	0
B08057	Pentabromo-toluene	五溴甲苯	$C_7H_3Br_5$		87-83-2	0
B08058	Pentabromo-benzyl bromide	五溴-溴化卞	$C_7H_2Br_6$		38521-51-6	0
B08059	1,3-Butadiene homopolymer,brominated	-	-		68441-46-3	0
B08060	Pentabromo-benzyl-acrylate, monomer	五溴卞基丙烯酸(單體)	$C_{10}H_5Br_5O_2$		59447-55-1	0
B08061	Pentabromo-benzyl-acrylate, polymer	五溴卞基丙烯酸(聚合物)	$(C_{10}H_5Br_5O_2)_x$		59447-57-3	0
B08062	Decabromo-diphenyl-ethane	十溴二苯乙烷	$C_{14}H_4Br_{10}O_2$		84852-53-9	0
B08063	Tribromo-phenyl-maleinimide	-	$C_{10}H_4Br_3NO_2$		59789-51-4	0
B08064	Brominated trimethylphenyl-lindane	-	$C_{18}H_{12}Br_n$		-	0
B0800001	Other Brominated Flame Retardant	-	-		-	0
B0800002	Other Brominated Flame Retardant	-	-		-	0
C05	C05-phtalate Salts	鄰苯二甲酸鹽				0
C05001	Dibutylphthalate	鄰苯二甲酸二丁酯	$C_{16}H_{22}O_4$		84-74-2	0
C05002	Di(2-ethylhexyl)phthalate	鄰苯二甲酸二(2-乙基己基)酯	$C_{24}H_{38}O_4$		117-81-7	0

NO	Chemical Category and Example Compounds 註：N 表示沒有管控；y 表示有管控但沒有量	中文名稱	Chemical Formula	金屬換算系數	Example CAS Numbers (not all-inclusive)	ppm 含量Limit
	HCFC-124	HCFC-124	-		-	0
	HCFC-124*2	HCFC-124*2	-		-	0
	HCFC-131	HCFC-131	-		-	0
	HCFC-132	HCFC-132	-		-	0
	HCFC-133	HCFC-133	-		-	0
	HCFC-141	HCFC-141	-		-	0
	HCFC-141b*2	HCFC-141b*2	-		-	0
	HCFC-142	HCFC-142	-		-	0
	HCFC-142b*2	HCFC-142b*2	-		-	0
	HCFC-151	HCFC-151	-		-	0
	HCFC-221	HCFC-221	-		-	0
	HCFC-222	HCFC-222	-		-	0
	HCFC-223	HCFC-223	-		-	0
	HCFC-224	HCFC-224	-		-	0
	HCFC-225	HCFC-225	-		-	0
	HCFC-225ca*2	HCFC-225ca*2	-		-	0
	HCFC-225cb*2	HCFC-225cb*2	-		-	0
	HCFC-226	HCFC-226	-		-	0
	HCFC-231	HCFC-231	-		-	0
	HCFC-232	HCFC-232	-		-	0
	HCFC-233	HCFC-233	-		-	0
	HCFC-234	HCFC-234	-		-	0
	HCFC-235	HCFC-235	-		-	0
	HCFC-241	HCFC-241	-		-	0
	HCFC-242	HCFC-242	-		-	0
	HCFC-243	HCFC-243	-		-	0
	HCFC-244	HCFC-244	-		-	0
	HCFC-251	HCFC-251	-		-	0
	HCFC-252	HCFC-252	-		-	0
	HCFC-253	HCFC-253	-		-	0
	HCFC-261	HCFC-261	-		-	0
	HCFC-262	HCFC-262	-		-	0
	HCFC-271	HCFC-271	-		-	0
C0400001	others					0
C0400002	others					0
C06	C06-Radioactive substances	放射性物質				0
C06001	Uranium	鈾	U		-	0
C06002	Plutonium	鈽	Pu		-	0
C06003	Radon	氡	Rn		-	0
C06004	Americium	鎇	Am		-	0
C06005	Thorium	釷	Th		-	0
C06006	Cesium	銫	Cs		7440-46-2	0
C06007	Strontium	鍶	Sr		7440-24-6	0
C0600001	Other radioactive substance	-	-		-	0
C0600002	Other radioactive substance	-	-		-	0
等級B	等級B					
A01	A01-Antimony and its compounds	銻及其化合物				0
A01001	Antimony	銻	Sb	1.000	7440-36-0	0
A01002	Antimony trichloride	三氯化銻	$SbCl_3$	0.534	10025-91-9	0
A01003	Antimony trioxide	三氧化銻	Sb_2O_3	0.835	1309-64-4	0
A01004	Antimony pentoxide	五氧化二銻	Sb_2O_5	0.753	1314-60-9	0
A01005	Sodium antimonate	偏銻酸鈉	$NaSbO_3$	0.632	15432-85-6	0
A0100001	Other antimony compound	其它銻化物	-		-	0
A0100002	Other antimony compound	其它銻化物	-		-	0
A02	A02-Arsenic and arsenic compounds	砷及其化合物				0
A02001	Aresenic	砷	As	1.000	7440-38-2	0
A02002	Gallium arsenide	鎵砷化合物	GaAs	0.518	1303-00-0	0
A02003	Arsenic pentoxide	五氧化二砷	As_2O_5	0.652	1303-28-2	0
A02004	Arsenic trioxide	三氧化二砷	As_2O_3	0.757	1327-53-3	0
A0200001	Other arsenic compound	-	-		-	0
A0200002	Other arsenic compound	-	-		-	0
A03	A03-Beryllium and its compounds	鈹及其化合物				0
A03001	Beryllium	鈹	Be	1.000	7440-41-7	0
A03002	Beryllium oxide	氧化鈹	BeO	0.360	1304-56-9	0
A0300001	Other beryllium compound	-	-		-	0
A0300002	Other beryllium compound	-	-		-	0
A04	A04-Bismuth and its compounds	鉍及其化合物				0
A04001	Bismuth	鉍	Bi		7440-69-9	0
A04002	Bismuth trioxide	三氧化鉍	Bi_2O_3		1304-76-3	0
A04003	Bismuth nitrate	硝酸鉍	BiN_3O_9		10361-44-1	0
A0400001	Other bismuth compound	-	-		-	0
A0400002	Other bismuth compound	-	-		-	0
A11	A11-Nickel and its compounds	鎳及其化合物				0
A11001	Nickel(II) oxide	氧化鎳	NiO	0.786	1313-99-1	0
A11002	Nickel(II) carbonate	碳酸鎳	NiO_3	0.494	3333-67-3	0
A11003	Nickel(II) Sulfate	硫酸鎳	$NiSO_4$	0.379	7786-81-4	0
A11004	Nickel	金屬鎳	Ni	1.000	7440-02-0	0
A1100001	Other nickel compound	-	-		-	0
A1100002	Other nickel compound	-	-		-	0
A13	A13-Selenium and its compounds	硒及其化合物				0
A13001	Selenium	硒	Se	1.000	7782-49-2	0

NO	Chemical Category and Example Compounds 註：N 表示沒有管控，Y 表示有管控但沒有量	中文名稱	Chemical Formula	全球暖化潛勢係數	Example CAS Numbers (not all-inclusive)	FPM 含量(mg/[illegible])
C02011	5-nitro-o-toluidine	5-硝基-鄰甲苯胺	$C_7H_8N_2O_2$		99-55-8	0
C02012	3,3'-dichloro-4,4'-	3,3'-二氯-4,4'-二氨基二苯基甲烷	$C_{13}H_{12}Cl_2N_2$		101-14-4	0
C02013	4,4-methylenedianiline	4，4-二苯二氨基甲烷	$C_{13}H_{14}N_2$		101-77-9	0
C02014	4,4-diaminodiphenylether	4，4-二氨基二苯醚	$C_{12}H_{12}N_2O$		101-80-4	0
C02015	p-Chloroaniline	對氯苯胺	C_6H_6ClN		106-47-8	0
C02016	3,3-Dimethoxybenzidine	3，3-二甲氧基聯苯胺	$C_{14}H_{16}N_2O_2$		119-90-4	0
C02017	3,3-Dimethylbenzidene	3，3-二甲基聯苯胺	$C_{14}H_{16}N_2$		119-93-7	0
C02018	p-Cresidene(5-Methyl-o-anisidine)	氨基對甲苯甲醚	$C_8H_{11}NO$		120-71-8	0
C02019	2,4,5-Trimethylaniline	2，4，5-均三甲苯胺	$C_9H_{13}N$		137-17-7	0
C02020	4,4-Thiodianiline(4,4-	4，4-硫雙苯胺	$C_{12}H_{12}N_2S$		139-65-1	0
C02021	4-methoxy-m-phenylenediamine	2，4-二氨基苯甲醚	$C_7H_{10}N_2O$		615-05-4	0
C02022	3,3-Dimethyl-4,4-Diam-	3，3-二甲基-4，4-二氨基二苯甲烷	$C_{15}H_{18}N_2$		838-88-0	0
C0200001	Other Azonitrides Compounds	-	-		-	0
C0200002	Other Azonitrides Compounds	-	-		-	0
						0
C04	C04-Ozone depleting substances	破壞臭氧層之物質				
C04097	CFC-11	CFC-11	$CFCl_3$		75-69-4	0
	CFC-12	CFC-12	CF_2Cl_2		75-71-8	0
	CFC-113	CFC-113	$C_2F_3Cl_3$		76-13-1	0
	CFC-114	CFC-114	$C_2F_4Cl_2$		76-14-2	0
	CFC-115	CFC-115	C_2F_5Cl		76-15-3	0
C04098	Halon-1211	哈龍1211	CF_2BrCl		353-59-3	0
	Halon-1301	哈龍1301	CF_3Br		75-63-8	0
	Halon-2402	哈龍2402	$C_2F_4Br_2$		124-73-2	0
C04099	CFC-13	CFC-13	CF_3Cl		75-72-9	0
	CFC-111	CFC-111	C_2FCl_5		354-56-3	0
	CFC-112	CFC-112	$C_2F_2Cl_4$		76-12-0	0
	CFC-211	CFC-211	C_3FCl_7		422-78-6	0
	CFC-212	CFC-212	$C_3F_2Cl_6$		3182-26-1	0
	CFC-213	CFC-213	$C_3F_3Cl_5$		134237-31-3	0
	CFC-214	CFC-214	$C_3F_4Cl_4$		29255-31-0	0
	CFC-215	CFC-215	$C_3F_5Cl_3$		1599-41-3	0
	CFC-216	CFC-216	$C_3F_6Cl_2$		661-97-2	0
	CFC-217	CFC-217	C_3F_7Cl		422-86-6	0
C04100	Carbon tetrachloride	四氯化碳	CCl_4		-	0
C04101	1,1,1-Trichloroethane	1,1,1-三氯乙烷	$C_2H_3Cl_3$		-	0
C04102	Chlorobromomethane	氯溴甲烷	CH_2BrCl		-	0
C04103	Methyl bromide	溴甲烷	CH_3Br		74-83-9	0
C04104	HBFCs	HBFC				0
	Dibromofluoromethane	二溴氟甲烷	$CHFBr_2$		-	0
	Bromodifluoromethane	溴二氟甲烷	CHF_2Br		-	0
	Bromofluoromethane	溴氟甲烷	CH_2FBr		-	0
	Tetrabromofluoroethane	四溴氟乙烷	C_2HFBr_4		-	0
	Tribromodifluoroethane	三溴二氟乙烷	$C_2HF_2Br_3$		-	0
	Dibromotrifluoroethane	二溴三氟乙烷	$C_2HF_3Br_2$		-	0
	Bromotetrafluoroethane	溴四氟乙烷	C_2HF_4Br		-	0
	Tribromofluoroethane	三溴氟乙烷	$C_2H_2FBr_3$		-	0
	Dibromodifluoroethane	二溴二氟乙烷	$C_2H_2F_2Br_2$		-	0
	Bromotrifluoroethane	溴三氟乙烷	$C_2H_2F_3Br$		-	0
	Dibromofluoroethane	二溴氟乙烷	$C_2H_3FBr_2$		-	0
	Bromodifluoroethane	溴二氟乙烷	$C_2H_3F_2Br$		-	0
	Bromofluoroethane	溴氟乙烷	C_2H_4FBr		-	0
	Hexabromofluoropropane	六溴氟丙烷	C_3HFBr_6		-	0
	Pentabromodifluoropropane	五溴二氟丙烷	$C_3HF_2Br_5$		-	0
	Tetrabromotrifluoropropane	四溴三氟丙烷	$C_3HF_3Br_4$		-	0
	Tribromotetrafluoropropane	三溴四氟丙烷	$C_3HF_4Br_3$		-	0
	Dibrompentafluoropropane	二溴五氟丙烷	$C_3HF_5Br_2$		-	0
	Bromohexafluoropropane	溴六氟丙烷	C_3HF_6Br		-	0
	Pentabromofluoropropane	五溴氟丙烷	$C_3H_2FBr_5$		-	0
	Tetrabromodifluoropropane	四溴二氟丙烷	$C_3H_2F_2Br_4$		-	0
	Tribromotrifluoropropane	三溴三氟丙烷	$C_3H_2F_3Br_3$		-	0
	Dibromotetrafluoropropane	二溴四氟丙烷	$C_3H_2F_4Br_2$		-	0
	Bromopentafluoropropane	溴五氟丙烷	$C_3H_2F_5Br$		-	0
	Tetrabromofluoropropane	四溴氟丙烷	$C_3H_3FBr_4$		-	0
	Tribromodifluoropropane	三溴二氟丙烷	$C_3H_3F_2Br_3$		-	0
	Dibromotrifluoropropane	二溴三氟丙烷	$C_3H_3F_3Br_2$		-	0
	Bromotetrafluoropropane	溴四氟丙烷	$C_3H_3F_4Br$		-	0
	Tribromofluoropropane	三溴氟丙烷	$C_3H_4FBr_3$		-	0
	Dibromodifluoropropane	二溴二氟丙烷	$C_3H_4F_2Br_2$		-	0
	Bromotrifluoropropane	溴三氟丙烷	$C_3H_4F_3Br$		-	0
	Dibromofluoropropane	二溴氟丙烷	$C_3H_5FBr_2$		-	0
	Bromodifluoropropane	溴二氟丙烷	$C_3H_5F_2Br$		-	0
	Bromofluoropropane	溴氟丙烷	C_3H_6FBr		-	0
	Chlorobromomethane	氯溴丙烷	CH_2BrCl		-	0
C04105	HCFCs	HCFC	-		-	0
	HCFC-21	HCFC-21	-		-	0
	HCFC-22	HCFC-22	-		-	0
	HCFC-31	HCFC-31	-		-	0
	HCFC-121	HCFC-121	-		-	0
	HCFC-122	HCFC-122	-		-	0
	HCFC-123	HCFC-123	-		-	0
	HCFC-123*2	HCFC-123*2	-		-	0

NO	Chemical Category and Example Compounds 註：N 表示沒有管控，y 表示有管控但沒有量	中文名稱	Chemical Formula	金屬換算系數	Example CAS Numbers (not all-inclusive)	ppm 含量Limit
A18013	Tributyltin laurate	月桂酸三丁基錫	$(C_4H_9)_3SnC_{12}H_{23}O_2$		3090-36-6	0
A18014	Bis(tributyltin) phthalate	鄰苯二甲酸三丁基錫	$(C_4H_9)_3(COO)_2(C_6H_4)$		4782-29-0	0
A18015	Copolymer of alkyl acrylate, methyl	烷基烯酸酯，甲基丙基酸甲酯，甲	-		-	0
A18016	Tributyltin sulfamate	磺酸三丁基錫	$(C_4H_9)_3SnSO_3NH_2$		6517-25-5	0
A18017	Bis(tributyltin) maleate	馬來酸三丁基錫	$C_2H_2(COO)_2((C_4H_9)_3$		14275-57-1	0
A18018	Tributyltin chloride	氯化三丁基錫	$(C_4H_9)_3SnCl$		1461-22-9	0
A18019	Mixture of tributyltin	環戊烷甲酸甲酯三丁基錫及其異構	$(C_4H_9)_3SnCO_2C_5H_9$		-	0
A18020	Mixture of tributyltin	1,2,3,4,4a,4b,5,6,10,10a-十氫-7-異丙基-	-		-	0
A18021	Tributyl tin bromide	溴化三丁基錫	-		1461-23-0	0
A18022	Triphenyl tin	三苯基錫	-		668-34-8	0
A18023	Triphenyl tin chloroacetate	三苯基錫氯代乙酸鹽	-		7094-94-2	0
A18024	Triphenyl tin methacrylate	三丁基錫甲基甲基丙酮酸鹽	-		2155-70-6	0
A18025	Triphenyl tin fluoride	三丁基錫氟化物	-		1983-10-4	0
A18026	Bis(tributyl tin)2,3-Dibromosuccinate	雙(三丁基錫)2，3-二溴丁二酸鹽	-		31732-71-5	0
A18027	Triphenyl tin acetate	三丁基錫乙酸鹽(醋酸三丁基錫)	-		56-36-0	0
A18028	Bis(tributyltin)maleate	雙(三丁基錫)馬來酸鹽	-		14275-57-1	0
A18029	Mixture of tributyl tin	三丁基錫=環戊烷羧酸鹽和類似化合	-		85409-17-2	0
A1800001	Other Tributyl Tin & Triphenyl Tin	-	-		-	0
A1800002	Other Tributyl Tin & Triphenyl Tin	-	-		-	0
B02	B02-Poly-brominated biphenyls	PBB多溴聯苯	$C_{12}H_xBr_{(10-X)}$		59536-65-1	0
B02001	Bromobiphenyl-1	-	-		2052-07-05	0
B02002	Bromobiphenyl-2	-	-		2113-57-7	0
B02003	Bromobiphenyl-3	-	-		92-66-0	0
B02004	Dibromobiphenyl	-	-		92-86-4	0
B02005	Tribromobiphenyl	-	-			0
B02006	Tetrabromobiphenyl	-	-		40088-45-7	0
B02007	Pentabromobiphenyl	-	-			0
B02008	Hexabromobiphenyl-1	-	-		59080-40-9	0
B02009	Hexabromobiphenyl-2	-	-		36355-01-8	0
B02010	Hexabromobiphenyl-3	-	-		6777-32-7	0
B02011	Heptabromobiphenyl	-	-		-	0
B02012	Octabromobiphenyl	-	-		61288-13-9	0
B02013	Nonabromobiphenyl	-	-		-	0
B02014	Decabromobiphenyl	-	-		13654-09-06	0
B0200001	Other Poly-brominated biphenyls	-	-		-	0
B0200002	Other Poly-brominated biphenyls	-	-		-	0
B03	B03-Polybrominated diphenyl ethers	PBDEs多溴二苯醚	$C_{12}H_xBr_{(10-X)}O$			0
B03001	Bromobiphenyl Ether	-	-		101-55-3	0
B03002	Dibromobiphenyl Ether	-	-		2050-47-7	0
B03003	Tribromobiphenyl Ether	-	-		49690-94-0	0
B03004	Tetrabromobiphenyl Ether	-	-		40088-47-9	0
B03005	Pentabromobiphenyl Ether	五溴二苯醚	-		32534-81-9	0
B03006	Hexabromobiphenyl Ether	六溴二苯醚	-		36483-60-0	0
B03007	Heptabromobiphenyl Ether	-	-		68928-80-3	0
B03008	Octabromobiphenyl Ether	八溴二苯醚	-		32536-52-0	0
B03009	Nonabromobiphenyl Ether	-	-		63936-56-1	0
B03010	Decabromobiphenyl Ether	十溴二苯醚	-		1163-19-5	0
B0300001	Other Polybrominated diphenyl ethers	-	-		-	0
B0300002	Other Polybrominated diphenyl ethers	-	-		-	0
B05	B05-Polychlorinated biphenyls	多氯聯苯(PCB類)				0
B05001	Polychlorinated biphenyls	PCB(聚氯聯苯)			1336-36-3	0
B05002	Polychlorinated terphenyls	PCT(多氯三聯苯)			61788-33-8	0
B0500001	Other Polychlorinated biphenyls	-	-		-	0
B0500002	Other Polychlorinated biphenyls	-	-		-	0
B06	B06-Polychlorinated biphenyls(Cl=>3)	多氯化物(氯原子數3個以上)			70776-03-3	0
B0600001	Other polychlorinated Naphthalene	-	-		-	0
B0600002	Other polychlorinated Naphthalene	-	-		-	0
B09	B09-Short Chain Chlorinated paraffine	短鏈氯化石蠟				0
B09001	Chlorinated paraffine(C10-13)	氯化石蠟			85535-84-8	0
B0900001	Other Short Chain Chlorinated Paraffin	-	-		-	0
B0900002	Other Short Chain Chlorinated Paraffin	-	-		-	0
C01	C01-Asbestor	石棉				0
C01001	Actinolite	陽起石			77536-66-4	0
C01002	Amosite	鐵石棉			12172-73-5	0
C01003	Anthophyllite	直閃石			77536-67-5	0
C01004	Chrysotile	溫石棉			12001-29-5	0
C01005	Crocidolite	藍石棉			12001-28-4	0
C01006	Tremolite	透閃石			77536-68-6	0
C0100001	Other asbesto	-	-		-	0
C0100002	Other asbesto	-	-		-	0
C02	C02-Azonitrides Compounds	偶氮化合物				0
C02001	4-Aminoazobenzene	4-氨基偶氮苯	$C_{12}H_{11}N_3$		60-09-3	0
C02002	o-Anisidine	鄰胺基苯甲醚	C_7H_9NO		90-04-0	0
C02003	2-Naphthylamine	2-奈胺	$C_{10}H_9N$		91-59-8	0
C02004	3,3-Dichlorobenzidene	3，3-二氯聯苯胺	$C_{12}H_{10}Cl_2N_2$		91-94-1	0
C02005	biphenyl-4-ylamine	4-氨基聯苯	$C_{12}H_{11}N$		92-67-1	0
C02006	Benzidine	聯苯胺	$C_{12}H_{12}N_2$		92-87-5	0
C02007	o-Toluidine	鄰甲苯胺	C_7H_9N		95-53-4	0
C02008	4-chloro-o-toluidine	4-氯-鄰甲基苯胺	C_7H_8ClN		95-69-2	0
C02009	2,4-toluenediamine	2,4-甲苯二胺	$C_7H_{10}N_2$		95-80-7	0
C02010	o-Aminoazotoluene	鄰氨基偶氮甲苯	$C_{14}H_{15}N_3$		97-56-3	0

NO	Chemical Category and Example Compounds 註：N 表示沒有管控, y 表示有管控但沒有量	中文名稱	Chemical Formula	金屬換算系數	Example CAS Numbers (not all-inclusive)	PPM 含量
A09006	Lead (II) oxide	氧化鉛(二價)	PbO	0.928	1317-36-8	0
A09007	Lead(II) carbonate basic	鹼式碳酸鉛	$2PbCO_3.Pb(OH)_2$	0.801	1319-46-6	0
A09008	Lead hydroxidcarbonate	羥基碳酸鉛	$2PbCO_3.Pb(OH)_2$	0.801	1344-36-1	0
A09009	Lead(II) sulfide	硫酸鉛	$PbSO_4$	0.683	7446-14-2	0
A09010	Lead(II) phosphate	磷酸鉛	$Pb_3(PO_4)_2$	0.766	7446-27-7	0
A09011	Lead(II) chromate	鉻酸鉛	$PbCrO_4$	0.641	7758-97-6	0
A09012	Lead(II) titanate	鈦酸鉛	$PbTiO_3$	0.686	12060-00-3	0
A09013	Lead sulfate,sulphuric acid, Lead salt	鉛的硫酸鹽	Pb_ySO_4	1.000	15739-80-7	0
A09014	Lead sulphate ,tribasic	三鹽基硫酸鉛	$PbSO_4.H_2O$	0.850	12202-17-4	0
A09015	Lead stearate	硬脂酸鉛	$Pb(C_{17}H_{35}COO)_2$	0.268	1072-35-1	0
A09016	Lead stearate，dibasic	二鹽基硫酸鉛	$2PbO_x$	0.410	56189-09-4	0
A09017	Lead/tin alloy	鉛錫合金	-		39412-44-7	0
A09018	Dilead trioxide	三氧化二鉛	Pb_2O_3		-	0
A09019	Lead azide	疊氮化鉛	-		13424-46-9	0
A09020	Lead (II) fluoride	氟化鉛(二價)	PbF_2		7783-46-2	0
A09021	Lead (II) chloride	氯化鉛(二價)	$PbCl_2$		7758-95-4	0
A09022	Lead (II) chloride	四氯化鉛	$PbCl_4$		13463-30-4	0
A09023	Lead (II) iodide	碘化鉛(二價)	PbI_2		10101-63-0	0
A09024	Lead (II) cyanide	氰化鉛(二價)	$Pb(CN)_2$		592-05-2	0
A09025	Lead fluoroborate	氟化硼鉛	-		13814-96-5	0
A09026	Lead fluosilicate	氟化矽鉛	-		25808-74-6	0
A09027	Lead nitrate	硝酸鉛	$Pb(NO_3)_2$		10099-74-8	0
A09028	Lead perchlorate	高氯化鉛	-		13637-76-8	0
A09029	Lead thiocyanate	硫氰酸鉛	-		592-87-0	0
A09030	Lead (II) sulfide	硫酸鉛(二價)	$PbSO_4$		7446-14-2	0
A09031	Lead hydrocarbonate	氫氧碳化鉛	-		1319-46-6	0
A09032	Lead (II) acetate	醋酸鉛(二價)	$PbAc_2$		301-04-2	0
A09033	Lead (II) acetate, trihydride	三水醋酸亞鉛(二價)	-		6080-56-4	0
A09034	Lead (IV) acetate	醋酸鉛(四價)	$Pb(Ac)_4$		546-67-8	0
A09035	Lead selenide	亞硒酸鉛	-		12069-00-0	0
A09036	Lead oleate	油酸鉛	-		1120-46-3	0
A09037	Lead(II)metaborate	偏硼酸鉛(二價)	-		10214-39-8	0
A09038	Lead metasilicate	硅酸鉛	-		11120-22-2 / 22569-	0
A09039	Lead antimonate	亞銻酸鉛	-		122666-38-5 / 13150-	0
A09040	Lead arsenate(1:1)	砷酸鉛	-		7784-40-9	0
A09041	Lead (II)arsenate	亞砷酸鉛(二價)	-		10031-13-7	0
A09042	Lead chromate,chrome yellow	鉻酸鉛，鉻黃	-		1344-37-2	0
A09043	Lead molybdate	鉬酸鉛	-		10190-55-3	0
A09044	Calcium plumbate	鉛酸鈣	-		12013-69-3	0
A09045	Tetramethyllead	四甲基鉛	-		75-74-1	0
A09046	Tetraethyllead	四乙鉛	-		78-00-2	0
A0900001	Other lead compound	-	-		-	0
A0900002	Other lead compound	-	-		-	0
A10	A10-Mercury and its compounds	汞及其化合物				0
A10001	Mercury	汞	Hg	1.000	7439-97-6	0
A10002	Mercuric (II) chloride	二氯化汞(二價)	$HgCl_2$	0.739	7487-94-7	0
A10003	Mercuric(II) oxide	氧化汞	HgO	0.926	21908-53-2	0
A10004	Mercuric alloys,amalgam	汞合金：汞齊	-		15829-53-5	0
A10005	Mercuric (I) chloride	二氯化汞(一價)	Hg_2Cl_2		10045-94-0	0
A10006	Mercuric(I) sulfate	硫酸汞(一價)	Hg_2SO_4		-	0
A10007	Mercuric(II) nitrate	硝酸汞(二價)	$Hg(NO_3)_2$		10045-94-0	0
A10008	Mercuric sulfide	硫化汞	HgS		1344-48-5	0
A10009	Mercuric(I) oxide	氧化二汞	Hg_2O		15829-53-5	0
A10010	Mercury (II) acetate	醋酸汞(二價)	$HgAc_2$		1600-27-7	0
A10011	Methylmercury salts	甲基汞鹽	-		22967-92-6	0
A10012	Ethylmercury salts	乙烷基汞鹽	-		-	0
A10013	Propylmercury salts	丙基汞鹽	-		-	0
A10014	Phenylmercury salts	苯基汞鹽	-		-	0
A10015	Methoxyethylmercury salts	甲基氧乙烷基汞鹽	-		-	0
A10016	Dialkylmercury	二烷基組汞	-		-	0
A10017	Diphenylmercury	二苯基汞	-		587-85-9	0
A1000001	Other mercury compound	-	-		-	0
A1000002	Other mercury compound	-	-		-	0
A17	A17-Bis(tri-n-butyltin) oxide	三丁基氧化錫(TBTO)				0
A17001	Bis(tri-n-butyltin) oxide	三丁基氧化錫	$O(Sn(C_4H_9)_3)_2$		56-35-9	0
A17006	Tributyl tin oxide bis(tributy tin)oxide	雙三丁基錫氧化物			56-35-9	0
A1700001	others					0
A1700002	others					0
A18	A18-TBT類&TPT類	三丁基錫類&三苯基錫類				0
A18001	Triphenyl tin N,N'-Dimethyldithiocar-	三苯基錫N,N'-二甲基二硫代氨基甲	$(C_6H_5)_3Sn(CH_3)_2NCS$		1803-12-9	0
A18002	Triphenyl tin fluoride	氟化三苯基錫	$(C_6H_5)_3SnF$		379-52-2	0
A18003	Triphenyl tin acetate	醋酸三苯基錫	$(C_6H_5)_3SnOCOCH_3$		900-95-8	0
A18004	Triphenyl tin chloride	氯化三苯基錫	$(C_6H_5)_3SnCl$		639-58-7	0
A18005	Triphenyltin hydroxide	三苯基氫氧化錫	$(C_6H_5)_3SnOH$		76-87-9	0
A18006	Triphenyltin fatty acid salts (C=9-11)	三苯基錫脂肪酸鹽(脂肪酸的碳原子	-		47672-31-1	0
A18007	Triphenyltin chloroacetate	氯化三丁基錫	$(C_6H_5)_3SnOCOCH_2Cl$		7094-94-2	0
A18008	Tributyltin methacrylate	丙基酸甲酯三丁基錫	$(C_4H_9)_3SnC_4H_5O_2$		2155-70-6	0
A18009	Bis(tributyltin) fumarate	三丁基錫富馬酸鹽	$C_2H_2(COO)_2((C_4H_9)_3$		6454-35-9	0
A18010	Tributyltin fluoride	氟化三苯基錫	$(C_4H_9)_3SnF$		1983-10-4	0
A18011	Bis(tributyltin) 2,3-dibromosuccinate	2，3-二溴琥珀酸三丁基錫	$((C_4H_9)_3Sn)_2C_2H_2(Br)$		31732-71-5	0
A18012	Tributyltin acetate	醋酸三丁基錫	$(C_4H_9)_3SnOCOCH_3$		56-36-0	0

產品含有害物質_非刻意添加宣告書
"Unintentionally Added" Declaration for RoHS

此宣告確認產品中含有害物質乃基於以下一項或多項原因

1. 天然雜質
2. 製程上不可避免
3. 符合RoHS排除條款

This purpose to declare for RoHS(Restriction of Hazardous Substances) that satisfies any of the following conditions:

1) One contained in a natural material, which cannot technically be removed in a refining process totally (i.e. natural impurities)

2) One generated in a synthesis process, the total removal of which is technically impossible. Additionally, there are substances called "impurities," the name of which is used to distinguish them from main materials.

3)Comply to 2002/95/EC "Applications of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirements of Article 4(1)"

註:如添加目的為改變物質特性,稱為含有或故意添加

If they are used for the purpose of changing the characteristics of a material, they are treated as "Contained" or " Intentionally Added"

宣告之產品(Parts List of Declaration)

料號：C407-510316-A 名稱：RF Antenna Cable Assembly 有毒物質所在部位：鉚釘 有毒物質含量：Pb=24987.5PPM ※符合ROHS排除條款→銅合金類 Pb < 40000PPM

請簡單描述含有害物質的原因(Please to describe the cause of containted Hazardous Substances)

物料材質即內含

公司名稱(Company)	填寫人(Prepared by)
謙裕實業股份有限公司	柯美雪

茲保證上表各欄所填均屬實,如有因所填不實,造成可歸因於本公司之不良結果,本公司願負所衍生之責任

It is promised that the filled column is true. If it makes bad influence resulting from the false filling in caused by our company , we will be responsibile for them.