

LITE

承認書

SPECIFICATION FOR APPROVAL

客戶名稱(CUSTOMER): 銳珂 (上海) 醫療器材有限公司

品名(DESCRIPTION): Antenna-Wi-Fi, 2.4G, White Plastic Cover

客戶料號(PART NO): 2G6692

料號(PART NO): CAR-ATR-187-004

送樣日期(DATE): 2009.06.22

承認號碼(APPROVED NO):

研 發 部 R&D. DEP	品 管 部 Q. C DEP	採 購 部 PURCHASER DEP	經 理 MANAGER

堅詠工業有限公司
利慶科技 (深圳) 有限公司

台北: 三重市中興北街188巷19號
電話: 886-2-2995-0485
傳真: 886-2-2995-7395

域名: liteconn.com

香港: 九龍九龍灣啟祥道9號
信和工商中心9字樓52室
電話: 852-2243 4211
傳真: 852-2758 7189

網址: <http://www.liteconn.com>

深圳: 深圳市寶安區松崗街道紅星西坊
大田洋工業園D區
電話: 86-755-2962 6909-17
傳真: 86-755-2962 6919-20

LITE 利慶科技(深圳)有限公司

LITETEK TECHNOLOGY (SHEN ZHEN) CO., LTD

樣品承認書

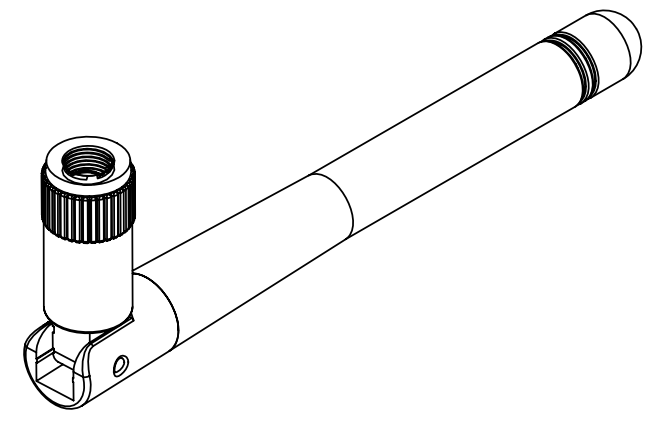
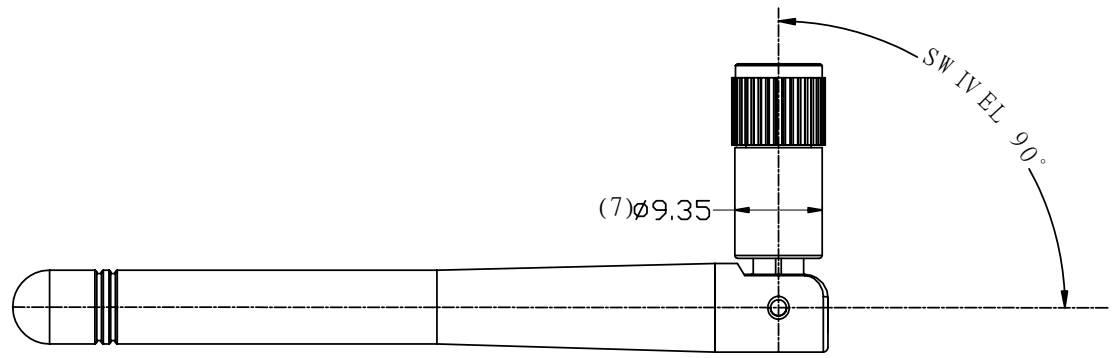
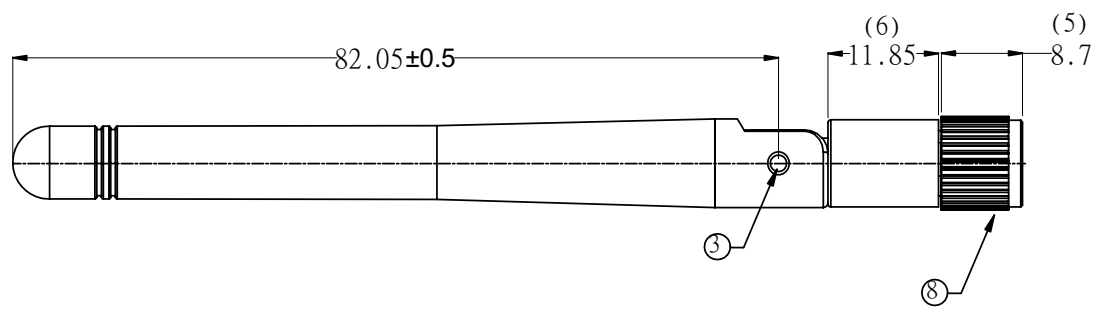
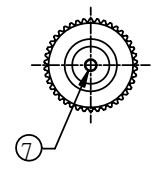
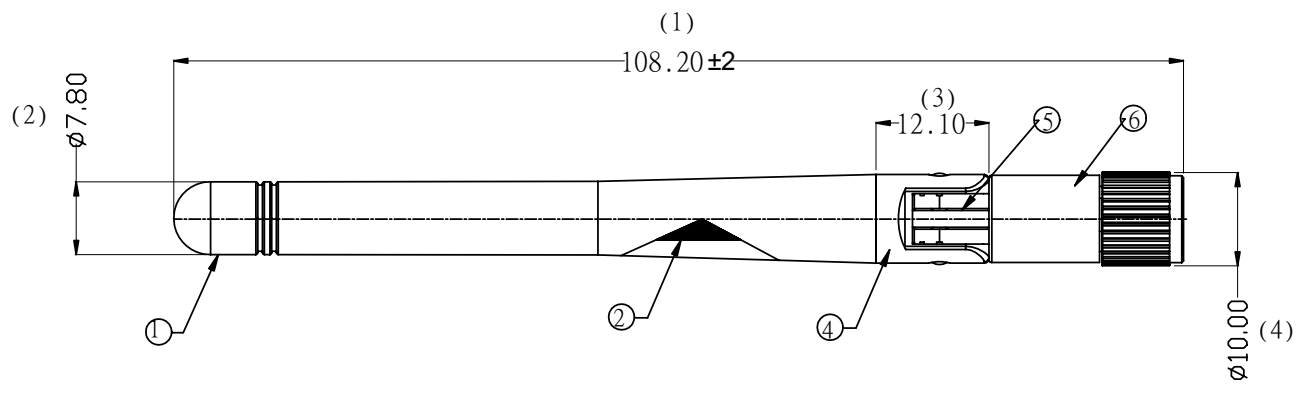
SAMPLE SPECIFICATION FOR APPROVAL

產品名稱: CAR-ATR-187-001

目 錄

INDEX


1	APPROVAL INDEX-----	2-2
2	PRODUCT DEAWING -----	3-3
3	ELECTRCAL PROPERTIES TIES TEST REPORT-----	4-12
4	CABLE MATERIAL CERTIFIABLE AND SGS-----	13-25
5	PLASTIC SGS MATERIAL PROOF REPORT-----	26-40
6	BRASS MATERIAL PROOF AND SGS -----	41-49
7	SMA MATERIAL CERTIFIABLE AND SGS-----	50-68



本產品需符合 RoHS SONY00259 其它
 ※禁止使用本公司所禁用之有毒物質

A0	NEW DWG	姜偉	09.06.22
REV	ECN.NO:	BY	DATE

-TOLERANCES-	
UNLESS OTHERWISE SPECIFIED	
X.X ±0.30	X.X° ±3°
X.XX ±0.20	X.XX° ±1°
X.XXX ±0.10	X.XXX° ±0.5°

 	LITE 利慶科技(深圳)有限公司 LITETEK TECHNOLOGY (SHEN ZHEN) CO.,LTD.			
	TITLE: 小S天線			
APPD: 陳能福	DWG NO: CAR-ATR-187-004			
CHECK: 鄒清華	DATE	SCALE	UNIT	PAGE
DRAW: 姜偉	2009.06.22	FREE	mm	1

TECHNICAL DATA

Material/Finish:

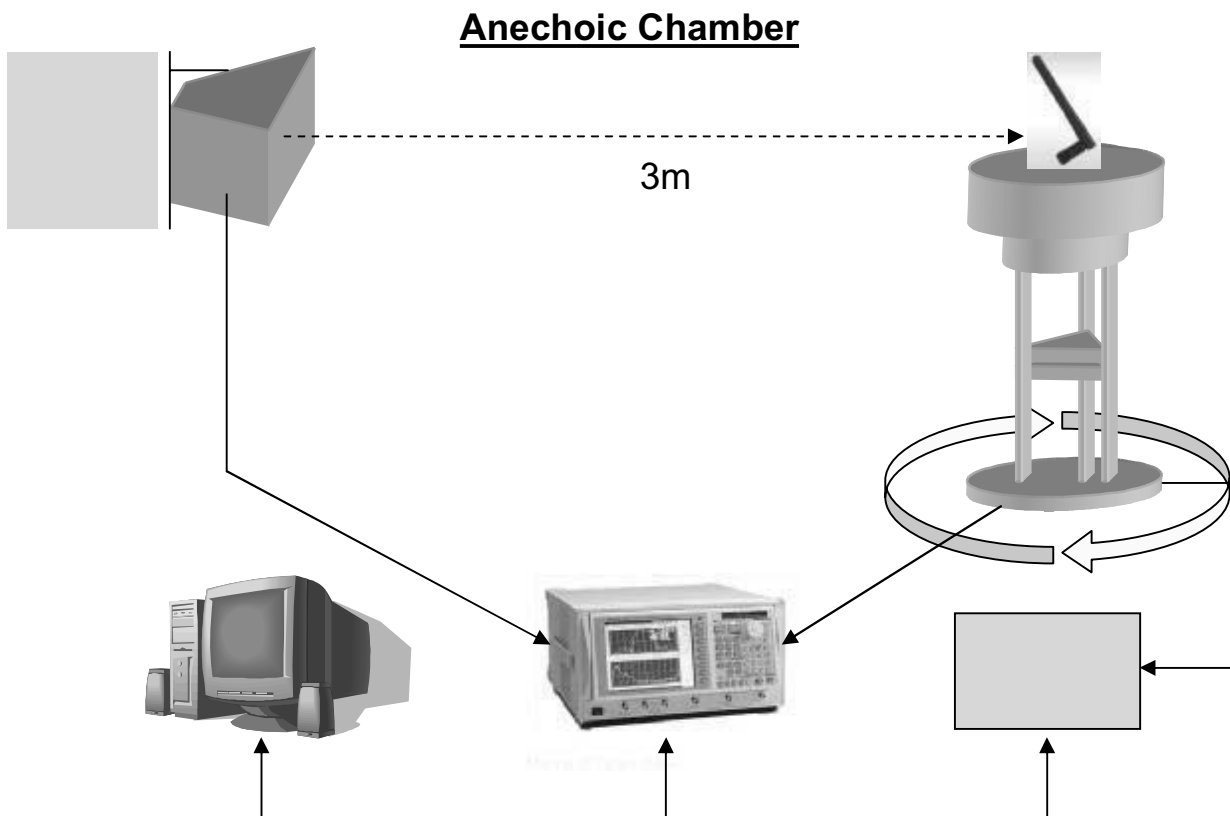
Name	Material	Finish
Connector Shell	POM	None
Center PIN	BRASS	Gold Plated
Insulator	PTFE	None
Plastic	PC+ABS (White)	None
Plastic	TPE (White)	None

Electrical:

Frequency Range	2.4-2.5GHz
Nominal Impedance	50Ω
VSWR	2.0 MAX
Gain	1.6dBi MAX
Radiation	Omni
Polarization	Vertical

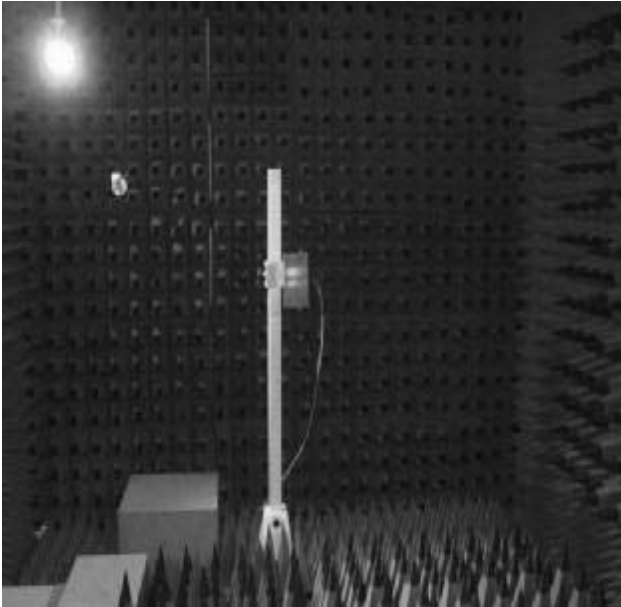
Mechanical & Environmental

Durability	500 Cycles MIN
Temperature Range	-55°C to +165°C
Relative Humidity	MIL-STD-202, method 106
Vibration	MIL-STD-202, method 213
Corrosion	MIL-STD-202, method 101

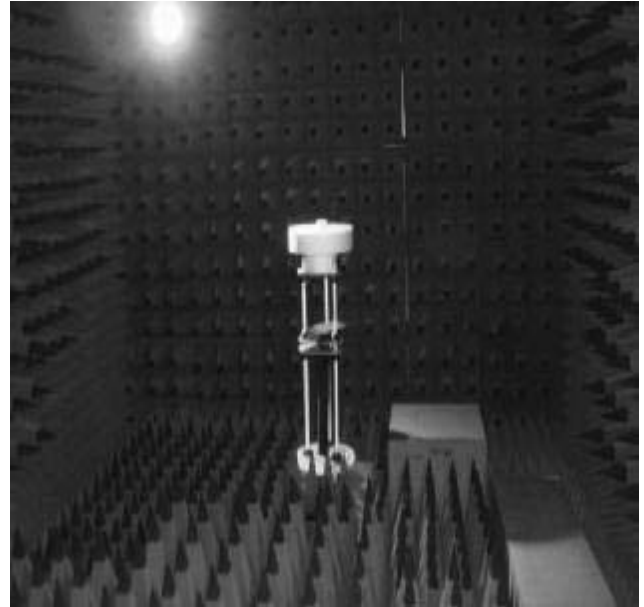
Antenna Testing Conditions :**Radiation Pattern Testing**

Anechoic Chamber

Standard Horn Antenna

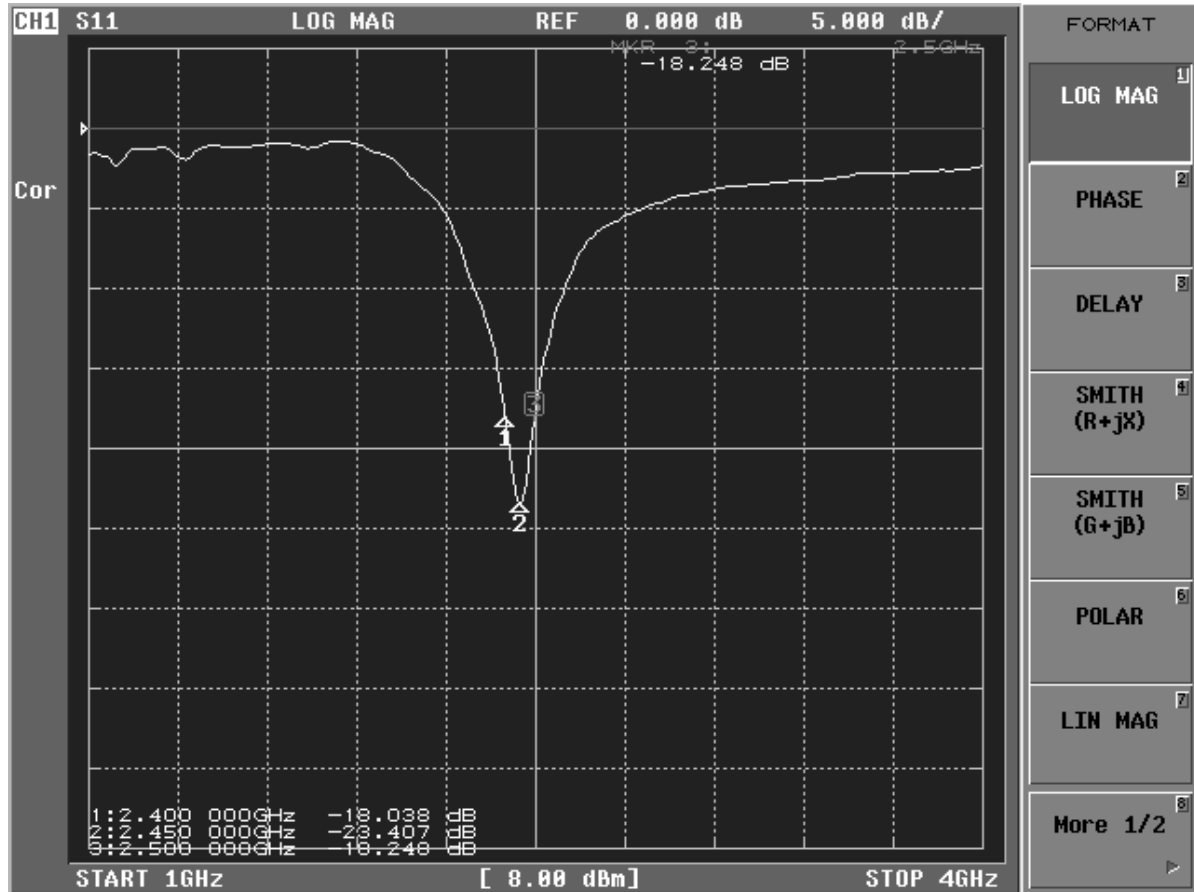


Antenna Test



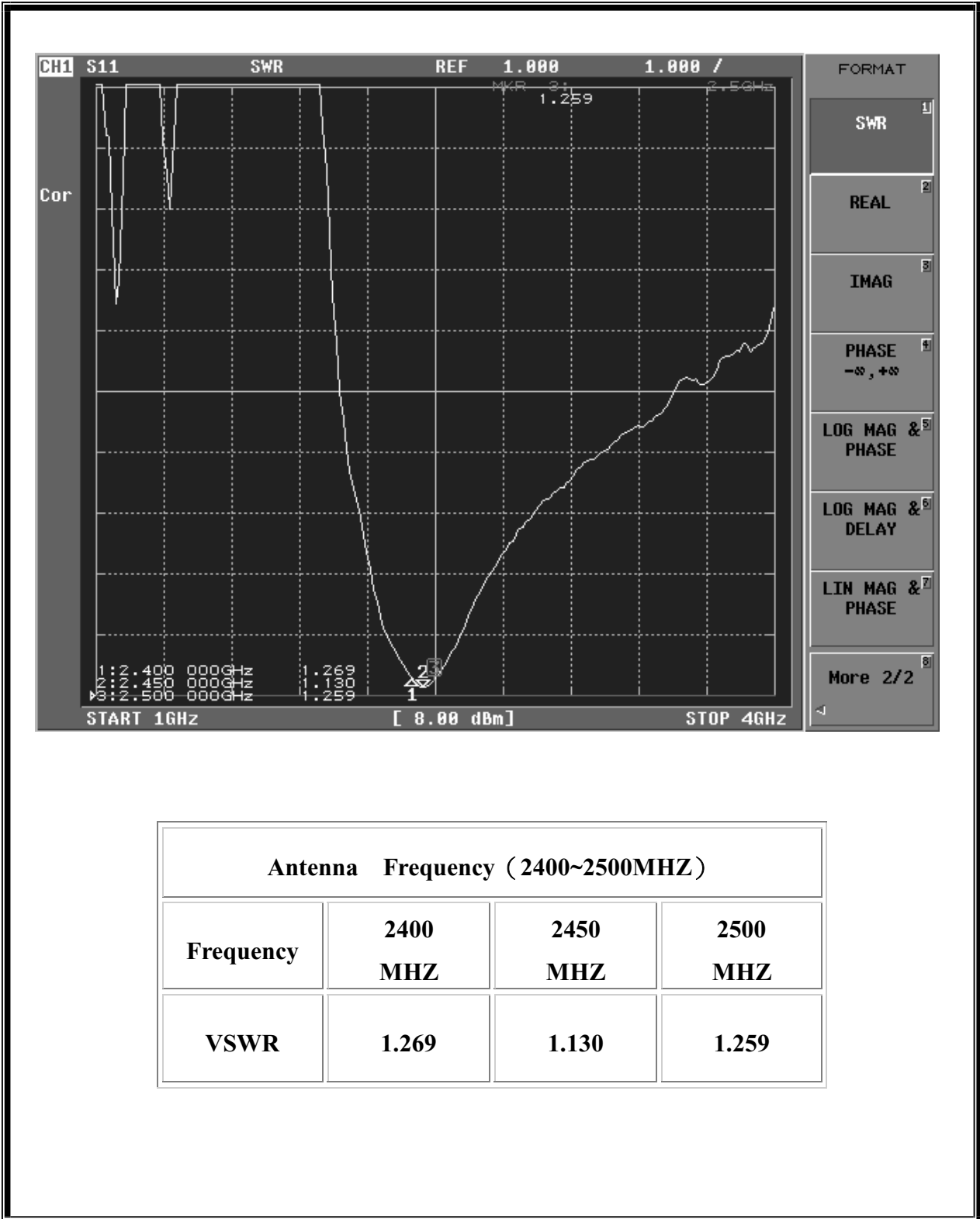
Antenna Electricity Characteristics :

1. Return Loss :

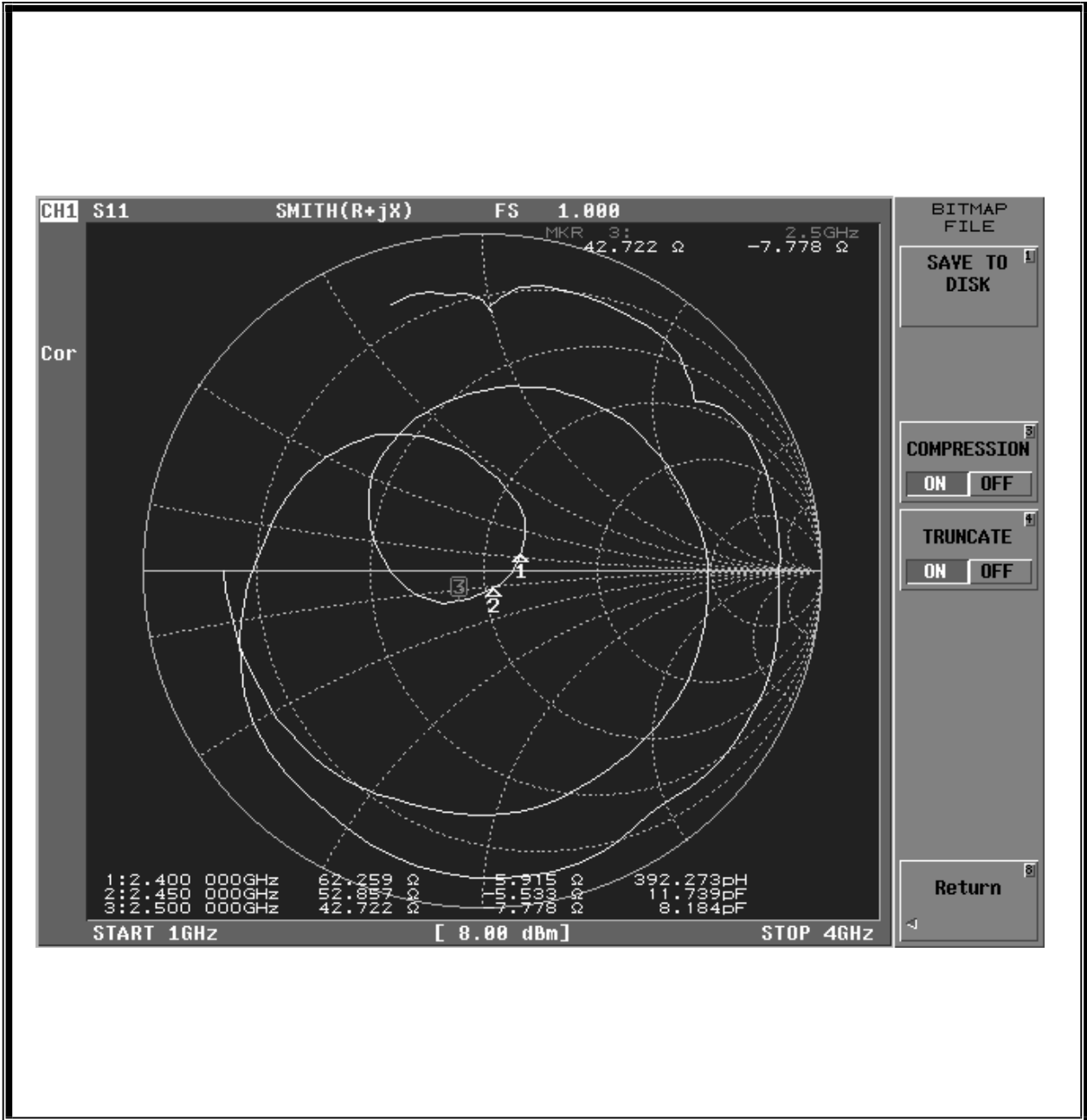


Antenna Frequency (2400~2500MHZ)			
Frequency	2400	2450	2500
	MHZ	MHZ	MHZ
Return Loss	-18.038	-23.407	-18.248

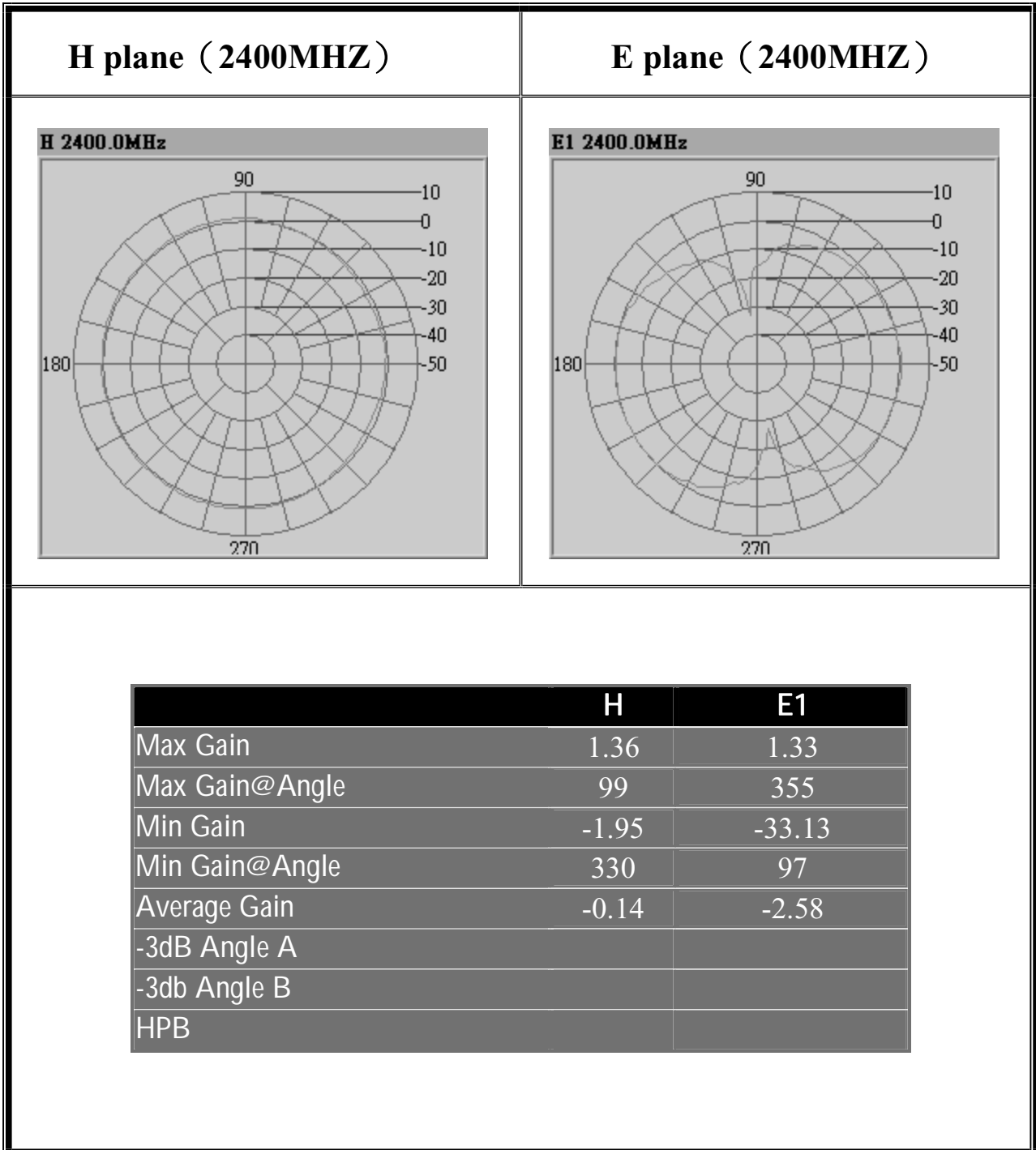
2. VSWR :



3. Smith Chart :

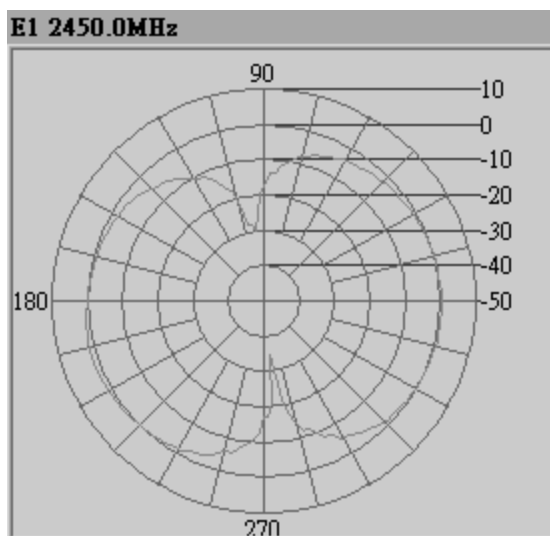
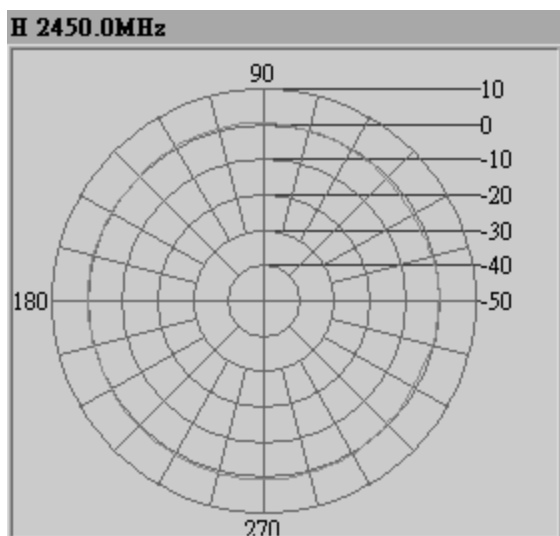


Antenna Radiation pattern :



H plane (2450MHZ)

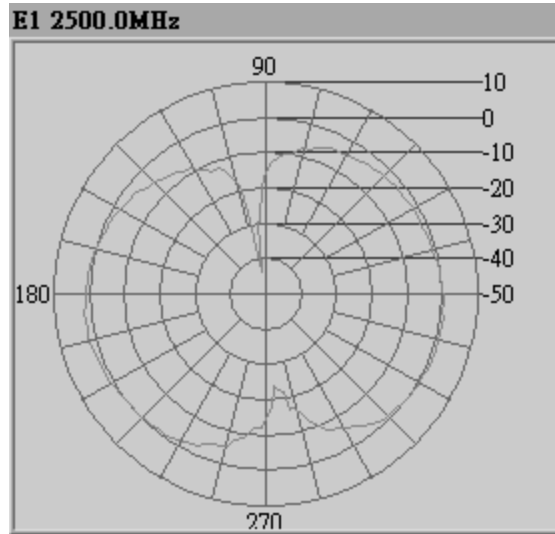
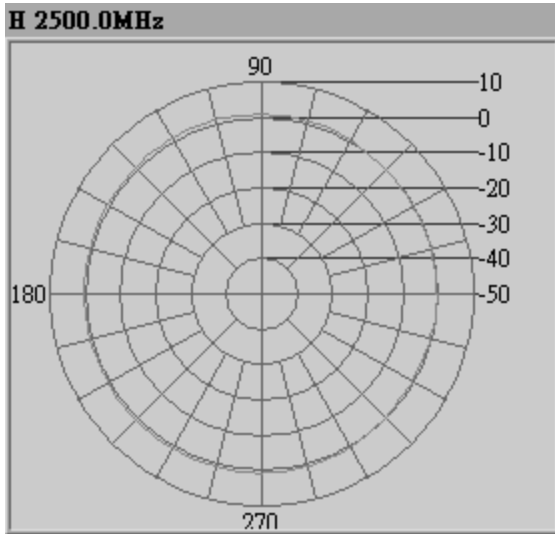
E plane (2450MHZ)



	H	E1
Max Gain	1.43	1.2
Max Gain@Angle	275	198
Min Gain	-1.39	-34.33
Min Gain@Angle	30	277
Average Gain	-0.19	-2.23
-3dB Angle A		
-3db Angle B		
HPB		

H plane (2500MHZ)

E plane (2500MHZ)



	H	E1
Max Gain	1.23	1.59
Max Gain@Angle	99	196
Min Gain	-1	-43.71
Min Gain@Angle	332	99
Average Gain	0.18	-2.21
-3dB Angle A		
-3db Angle B		
HPB		



Shin Din Cable, Ltd.

Office Address:
 Unit 4101-11, 41/F.,
 Metroplaza Tower 1,
 223 Hing Fong Road
 Kwai Fong, N.T., Hong Kong

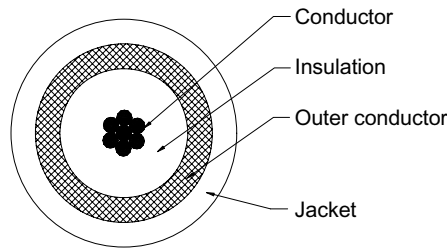
Factory:
 Engineering Department
 Tel: (86)-755-2765 3333
 Fax: (86)-755-2765 3338

Date: Feb.27, 2008

Environmental Document for RF1.37

1. Product name and Configuration:

RF1.37 Coaxial Cable



2. Element table:

Product part	Material Name	Tested articles
Conductor	Silver plated copper wire	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs
Insulation	FEP: 5100J	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs
Outer conductor	Tinned plated copper wire	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs
Jacket	FEP: NP-101	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs
CMB	BTH046 BK/ BTH040 GR /BTH047 WH	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs

CMB: Color Master Batch

3. Document list:

Product Part	Tested articles	SGS Report No.	Tested Date
Tinned copper wire	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	EC406535100	2007-7-27
Silver plated copper wire	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	SH7056525	2007-6-2
Insulation 5100J	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	SH7074023	2007-7-11
Jacket NP-101	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	SH7037378	2007-4-17
BTH046 BK	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	EC407409708	2007-12-15
BTH040 GR	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	EC407409705	2007-12-15
BTH047 WH	Cd, Pb, Hg, Cr ⁺⁶ , PBBs, PBDEs	EC407409711	2007-12-15

Prepared by: HuangDiao
 Approved by: Yokoyama Katsuji
 Shin Din Cable, Ltd.

Test Report

No. EC408938903

Date: Dec 18 2008

Page 1 of 5

DAINICHISEIKA COLOR & CHEMICALS MFG. CO.. LTD.
7-6, BAKUROCHO 1-CHOME,
NIHONBASHI, CHUO-KU,
TOKYO 103-8383,
JAPAN

The following sample was submitted and identified on behalf of the client as :
FCM H 1374 GRAY

SGS Job No. : 1231578
Lot No : 18H-6298
Manufacturer : DAINICHISEIKA COLOR & CHEMICALS MFG. CO., LTD.
Country of Origin : JAPAN
Date of Sample(s) Received : DEC 10 2008
Testing Period : DEC 10 - 17 2008

Test Requested : Select test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Result(s) : Please refer to next page(s).
Conclusion : - Based on the performed tests on submitted sample, the results comply with the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS Hong Kong Ltd.



Hui Ying Ngai, Alex
Section Manager

Test Report

No. EC408938903

Date: Dec 18 2008

Page 2 of 5

Test Results:

ID for sample 1 : 4089389S003
 Description for sample 1 : Grey Plastic Pellet

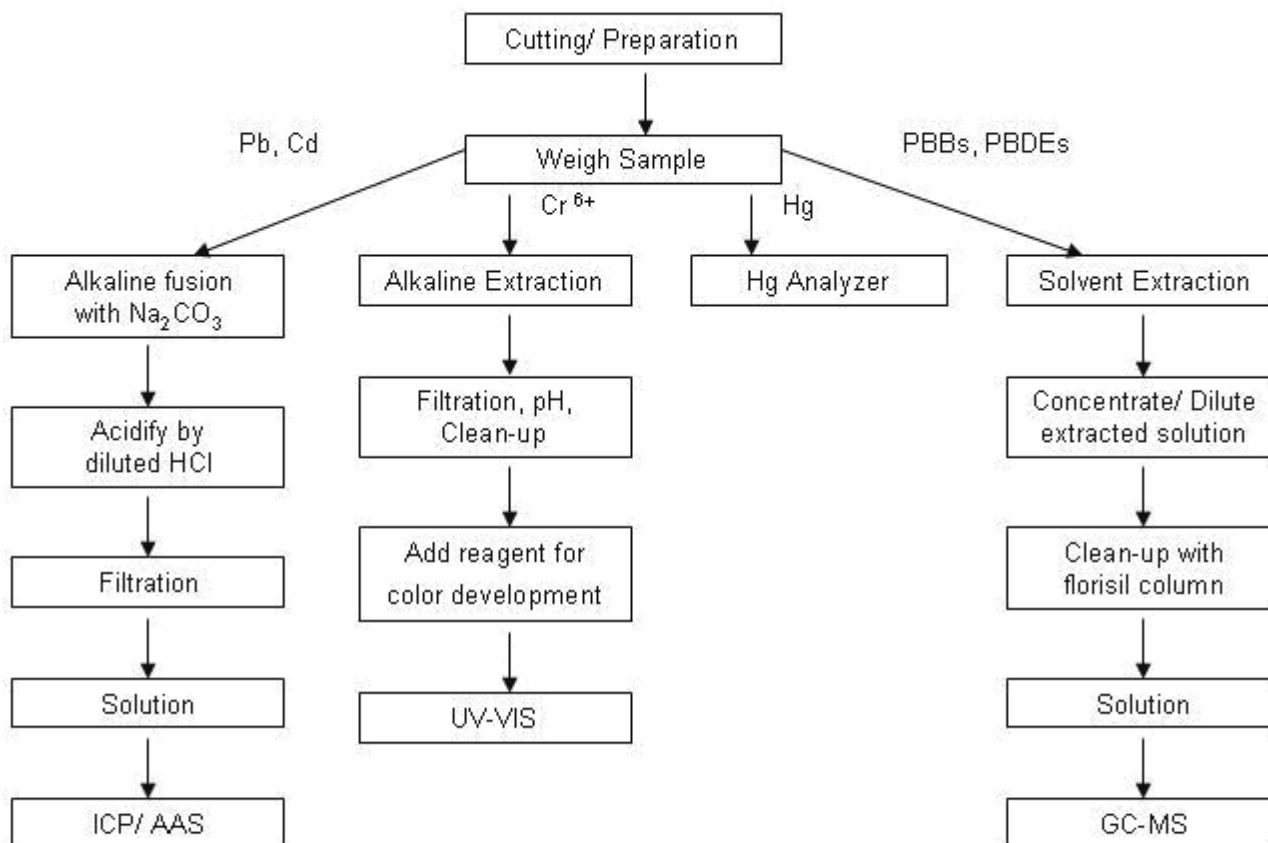
RoHS Directive 2002/95/EC

<u>Test Item(s)</u>	<u>Unit</u>	<u>Test Method</u>	<u>Results</u>	<u>MDL</u>	<u>Limit</u>
Cadmium(Cd)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES/ AAS	n.d.	2	100
Lead (Pb)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES/ AAS	12	5	1000
Mercury (Hg)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), Mercury Analyzer	n.d.	2	1000
Hexavalent Chromium (CrVI) by colorimetric method	mg/kg	IEC 62321/2ndCDV (111/95/CDV), UV-VIS	n.d.	2	1000
Sum of PBBs	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Dibromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Tribromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Pentabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Hexabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Heptabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Octabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Nonabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Decabromobiphenyl	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Sum of PBDEs	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	-	1000
Dibromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Monobromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	
Decabromodiphenyl ether ##	mg/kg	IEC 62321/2ndCDV (111/95/CDV), GC-MS	n.d.	5	

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Flowchart:



Note : 1) The Cd and Pb contents test on polymeric samples were dissolved totally by pre-conditioning method according to above flow chat.

Operator : Chiu Kan Yuen (Alkaline Fusion)
Fok Chi Shan (Hg Analyzer)
Lam Ka Yung, Allen (Hexavalent Chromium)
Lau Chung Yin, Eric (PBBs and PBDEs)

Section Chief : Hui Ying Ngai, Alex

Test Report

No. EC408938903

Date: Dec 18 2008

Page 3 of 5

Note :

- (1) mg/kg = ppm; 0.1%wt = 1000ppm
- (2) n.d. = not detected
- (3) MDL = Method Detection Limit
- (4) ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE will be included in the sum of PBDE after 01.07.2008
- (5) - = Not regulated

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Sample photo:



SGS authenticate the photo on original report only

*** End Of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Test Report

No. EC408259800

Date: Jul 16 2008

Page 1 of 4

SHIN DIN CABLE LIMITED
UNIT 4101-4111, 41/F., METROPLAZA TOWER 1,
223 HING FONG ROAD,
Kwai Fong,
N.T.
HONG KONG

The following sample was submitted and identified on behalf of the client as :
TINNED COPPER WIRE

SGS Job No. : 1192148
Lot No : CT7*37-2-2
Date of Sample(s) Received : JUL 10 2008
Testing Period : JUL 10 - 15 2008

Test Requested : Select test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Result(s) : Please refer to next page(s).

Conclusion : - Based on the performed tests on submitted sample, the results comply with the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS Hong Kong Ltd.



Leung Wai Yin Jessica
Section Manager

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Test Report

No. EC408259800

Date: Jul 16 2008

Page 2 of 4

Test Results:

ID for sample 1 : 4082598S001

Description for sample 1 : Metal w/ Silvery Plating (Base: Coppery Metal)

ROHS Test

<u>Test Item(s)</u>	<u>Unit</u>	<u>Test Method</u>	<u>Results</u>	<u>MDL</u>	<u>Limit</u>
Cadmium(Cd)	mg/kg	IEC 62321/ 2nd CDV (111/95/CDV), ICP-OES	n.d.	2	100
Lead (Pb)	mg/kg	IEC 62321/ 2nd CDV (111/95/CDV), ICP-OES	n.d.	5	1000
Mercury (Hg)	mg/kg	IEC 62321/ 2nd CDV (111/95/CDV), ICP-OES	n.d.	2	1000
Hexavalent Chromium (CrVI) by spot-test/ boiling-water-extraction		IEC 62321/2ndCDV (111/95/CDV)	Negative		#

Note :

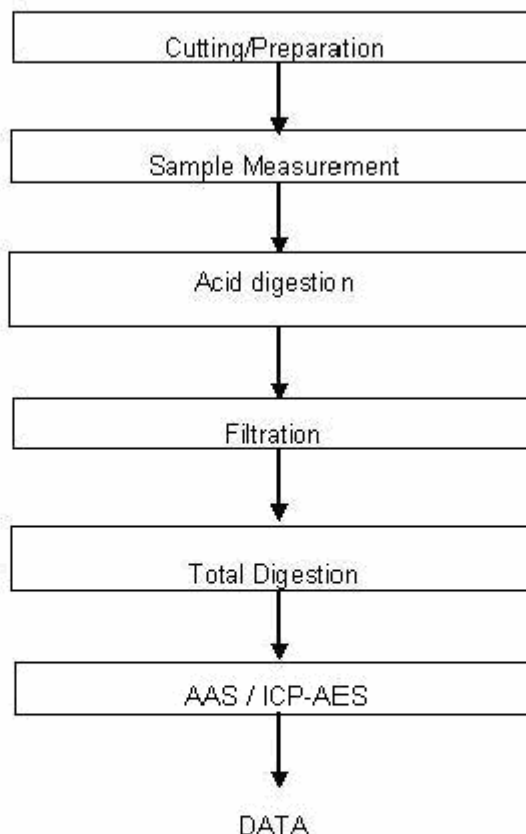
- (1) mg/kg = ppm; 0.1%wt = 1000ppm
- (2) n.d. = not detected
- (3) MDL = Method Detection Limit
- (4) # : Positive means the presence of CrVI on the tested areas
Negative means the absence of CrVI on the tested areas
- (5) - = Not regulated

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Flowchart of Digestion for Cd and Pb Measurement

Method: IEC 62321/ 2nd CDV 11/95/CDV



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

Operator : Chiu Kan Yuen

Section Chief : Leung Wai Yin, Jessica

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Sample photo:



SGS authenticate the photo on original report only

*** End Of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

Test Report

No. SH9089475-1/CHEM

Date: May. 27, 2009

Page 1 of 4

SHANGHAI YINMU ELECTRONICS MANUFACTURE CO., LTD
NO.15 HUAGONG RD, SONGJIANG, SHANGHAI

THIS REPORT IS TO SUPERSEDE TEST REPORT NO.SH9089475/CHEM DATE: 2009/05/16

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

Sample Name : COPPER WIRE PLATED SILVER
SGS Ref No. : 11834659-1

Sample Receiving Date : May.13, 2009
Testing Period : May.13-16, 2009

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives

Test Method : (1) With reference to IEC 62321:2008 for Cadmium content.
Analysis was performed by ICP
(2) With reference to IEC 62321:2008 for Lead content.
Analysis was performed by ICP
(3) With reference to IEC 62321:2008 for Mercury content.
Analysis was performed by ICP.
(4) With reference to IEC 62321:2008 for Hexavalent Chromium by spot test /
Colorimetric Method.

Test Results : Please refer to next pages

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Sandy Hao
Lab Manager

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

Test Report

No. SH9089475-1/CHEM

Date: May. 27, 2009

Page 2 of 4

Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	1	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	2	100
Lead (Pb)	(2)	ND	2	1000
Mercury (Hg)	(3)	ND	2	1000
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction	(4)	Negative	#	-

Test Part Description:

1. Silvery metal wire

Note:

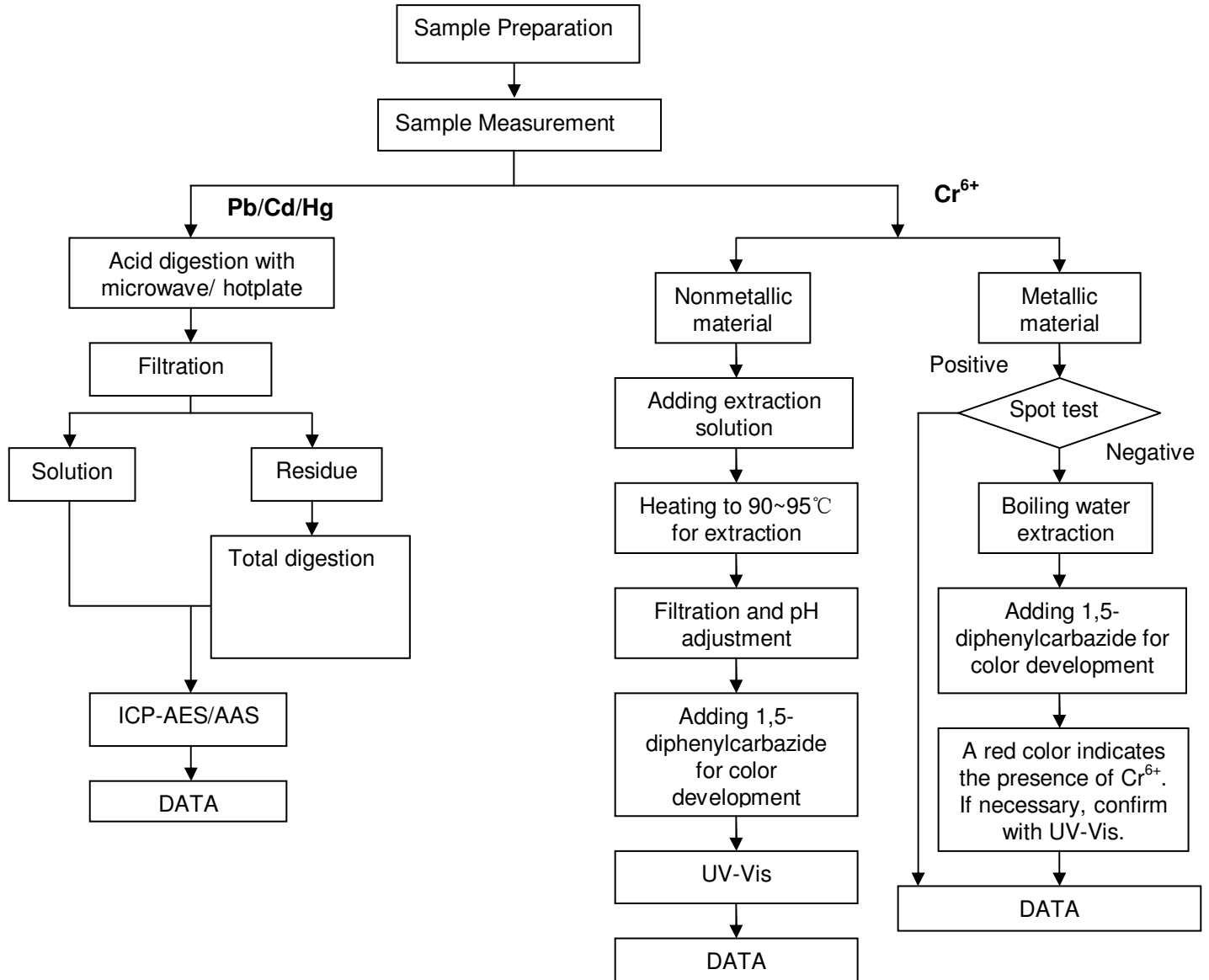
- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) # = Spot-test:
 - Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
 - (The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)
 - Boiling-water-extraction:
 - Negative = Absence of CrVI coating
 - Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
 - For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing
- (5) “-” = Not Regulated
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



ATTACHMENTS

- 1) Name of the person who made measurement: Jeff Zhang/Chaven Lian/Frank Fang
- 2) Name of the person in charge of measurement: Terry Wang
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.





Product Information

LUPOY HP-5004

PC/ABS Plastic Alloy

 **LG Chem**

产品介绍

LUPOY PC/ABS 的合金,它结合了PC的超强冲击性能,热稳定性能和ABS的加工延展性能.

LUPOY HP-5004 是具有高冲击和热稳定性能的非增强 PC/ABS 合金,其良好的延展性和加工加工性能适用于电子电气和汽车产品.

典型特性

性能	单位	测试方法	HP-5004
物理性能			
比重	-	ASTM D792	1.14
模缩系数 [~]	%	-	5~8
MI, 250℃ 2.16kg	g/10min	ASTM D1238	3-6
机械性能			
拉伸强度(屈服)	Kgf/cm ²	ASTM D638	545
断裂伸长率	%	ASTM D638	>100
弯曲强度	Kgf/cm ²	ASTM D790	900
弯曲模量	Kgf/cm ²	ASTM D790	23,000
Izod缺口冲击强度	Kgfcm/cm	ASTM D256	65
	Kgfcm/cm	ASTM D256	50
硬度 R	-	ASTM D785	111
热性能			
HDT, 264psi, 0.250"	℃	ASTM D648	115
维卡软化点	℃	ASTM D1525	-

加工指南

干燥

- 如果树脂含有较高的水分，会造成制品出现银纹等表面缺陷和使制品的机械性能下降。所以，为了确保制品有最优的性能和预防表面缺陷的出现 LUPOY HP-5004在成型前一定要预干燥，对于LUPOY HP-5004，干燥条件为：温度 80~100℃，时间3~4小时。

成型温度& 加工条件

位置		成型温度
料筒.	后部	230 ~ 240 °C
	中部	240 ~ 250 °C
	前部	250 ~ 260 °C
喷嘴		250 ~ 260 °C
模温		40 ~ 80 °C
注射压力	第一	600 ~ 1,200 kg/cm ²
	第二	500 ~ 1,000 kg/cm ²
	背压	10 ~40 kg/cm ²
保压		40~80%最大注射压力
螺杆RPM		40 ~80

注塑速度

- 注射速度和注射压力依据树脂的类型和制品的性质而有所不同。在注射速度控制阶段，当注射速度的设定值确定时，注射压力必须足够高，以确保注射速度不会低于其设定值。一般推荐使用高的注射速度，但为了避免制品在浇口位置产生表面缺陷，在注射开始时以低速为宜。在保压阶段之前降低注射速度，有利于保持压力平稳和防止熔体的回流。
- 推荐注塑速度过程

慢-->快-->慢--> 切换到保压阶段

慢 : 25 ~ 50%

快 : 50 ~ 75%

保压

- 当制品在模具中冷却时，会发生体积收缩，保压是为了补偿制品的体积收缩。保压要保持至熔体在浇口位置充分凝结。保压时间的长短可通过测量制品的重量来确定。

螺杆速度RPM

- 螺杆速度取决于外围设备的速度。如果外围设备的速度过大会造成加工问题。推荐的螺杆速度RPM是40到80。

耐化学品性能

- 热塑性塑料的耐化学品性能是指材料在一定的温度压力下,与化学品接触一段时间所受的影响. 图 1 显示了LUPOY HP-5004的耐化学品的性能, PC/ABS 树脂有着优良的耐稀酸,植物油和矿物油性能.但对于芳环族,脂类,丙酮和氯化物,会产生膨胀和开裂.

图 1. LUPOY HP-5004 耐化学品性能

化学品	保持率		
	拉伸强度(屈服)	拉伸 模量	断裂伸长率
醋酸 (5%)	94	88	95
丙酮	o (溶解)	o (溶解)	o (溶解)
汽车刹车油	74	85	42
汽车防冻液	88	84	70
醋酸丁脂	54	80	2
柴油	90	98	75
醋酸乙二脂	95	98	98
汽油	82	99	50
WD40 (喷雾剂)	100	100	100
甲醇	85	92	72
甲乙酮	o (溶解)	o (溶解)	o (溶解)
甲苯	o (溶解)	o (溶解)	o (溶解)
二甲苯	30	60	20
烧碱 (10%)	85	100	82
硫酸 (5%)	98	81	100
水	23°C	97	99
	85°C	80	30

23°C 浸8小时后测试

QMFZ2 Component - Plastics

Friday, August 10, 2007

E248280

LG CHEMICAL (GUANGZHOU) ENGINEERING PLASTICS CO LTD

1 YECHENG 1ST RD EAST SEC OF ECONOMIC & TECH DEV DIST GUANGZHOU GUANGDONG 510760 CN

Material Designation: **HP-5004, HP5004HF, HP5004(m)(#)**

Product Description: Acrylonitrile Butadiene Styrene/Polycarbonate (ABS/PC), designated "Lupoy" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	0.75	HB	-	-	60	60	60	-	-

CTI: - **IEC CTI (V):** - **HVTR:** - **D495:** - **IEC Ball Pressure (°C):** -

Dielectric Strength (kV/mm): -

Volume Resistivity (10¹⁰ohm-cm): -

Dimensional Stability(%): -

ISO Tensile Strength (MPa): -

ISO Flexural Strength (MPa): -

ISO Heat Deflection (°C): -

ISO Tensile Impact (kJ/m²): -

ISO Izod Impact (kJ/m²): -

ISO Charpy Impact (kJ/m²): -

(#) May be followed by 1 or 2 suffix letters from A-Z incl. except F, FF.

(m) denotes the letters of S, L, A, M, H and ML.

Report Date: 11/10/2004

Underwriters Laboratories Inc®

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.



TEST REPORT

NUMBER: SZHH0023255101

APPLICANT: LG CHEMICAL (GUANGZHOU) ENGINEERING PLASTICS CO.,LTD.
NO.1,1ST YECHENG ROAD, EASTERN SECTION OF ECONOMIC TECHNOLOGICAL DEVELOPMENT DISTRICT, GUANGZHOU, PRC

DATE: Apr 11, 2008

ATTN: ZHU XUE ZHEN

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE SEMI-TRANSPARENT PLASTIC GRANULE (LUPOY HP5004-NPI).



TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
SHENZHEN LTD.




BEN N.L. LIN
GENERAL MANAGER

TEST REPORT

NUMBER: SZHH0023255101

TESTS CONDUCTED

(A) TEST RESULT SUMMARY :

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND (<2)
LEAD (Pb) CONTENT (mg/kg)	ND (<2)
MERCURY (Hg) CONTENT (mg/kg)	ND (<2)
CHROMIUM (VI) (Cr ⁵⁺) CONTENT (mg/kg) (FOR NON-METAL)	ND (<1)
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMOBIPHENYL (MonoBB)	ND (<5)
DIBROMOBIPHENYL (DiBB)	ND (<5)
TRIBROMOBIPHENYL (TriBB)	ND (<5)
TETRABROMOBIPHENYL (TetraBB)	ND (<5)
PENTABROMOBIPHENYL (PentaBB)	ND (<5)
HEXABROMOBIPHENYL (HexaBB)	ND (<5)
HEPTABROMOBIPHENYL (HeptaBB)	ND (<5)
OCTABROMOBIPHENYL (OctaBB)	ND (<5)
NONABROMOBIPHENYL (NonaBB)	ND (<5)
DECABROMOBIPHENYL (DecaBB)	ND (<5)
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMODIPHENYL ETHER (MonoBDE)	ND (<5)
DIBROMODIPHENYL ETHER (DiBDE)	ND (<5)
TRIBROMODIPHENYL ETHER (TriBDE)	ND (<5)
TETRABROMODIPHENYL ETHER (TetraBDE)	ND (<5)
PENTABROMODIPHENYL ETHER (PentaBDE)	ND (<5)
HEXABROMODIPHENYL ETHER (HexaBDE)	ND (<5)
HEPTABROMODIPHENYL ETHER (HeptaBDE)	ND (<5)
OCTABROMODIPHENYL ETHER (OctaBDE)	ND (<5)
NONABROMODIPHENYL ETHER (NonaBDE)	ND (<5)
DECABROMODIPHENYL ETHER (DecaBDE)	ND (<5)

CHEMIST: LV LINNA

mg/kg = MILLIGRAM PER KILOGRAM = ppm

< = LESS THAN

ND = NOT DETECTED

NOTE : DecaBDE IN POLYMERIC APPLICATIONS IS EXEMPTED ACCORDING TO RoHS
DIRECTIVE AMENDMENT 2005/717/EC.

TEST REPORT

NUMBER: SZHH0023255101

TESTS CONDUCTED

(B) RoHS REQUIREMENT

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 ppm)
LEAD (Pb)	0.1% (1000 ppm)
MERCURY (Hg)	0.1% (1000 ppm)
CHROMIUM (VI) (Cr ⁶⁺)	0.1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 ppm)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000 ppm)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

(C) TEST METHOD :

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 -111/95/CDV, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 -111/95/CDV, BY ACID DIGESTION AND DETERMINED BY ICP - OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 -111/95/CDV, BY ACID DIGESTION AND DETERMINED BY ICP - OES	2 mg/kg
CHROMIUM (VI) (Cr ⁶⁺) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 -111/95/CDV, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 mg/kg
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC 62321 -111/95/CDV, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND HPLC CONFIRMATION WHEN NECESSARY	5 mg/kg

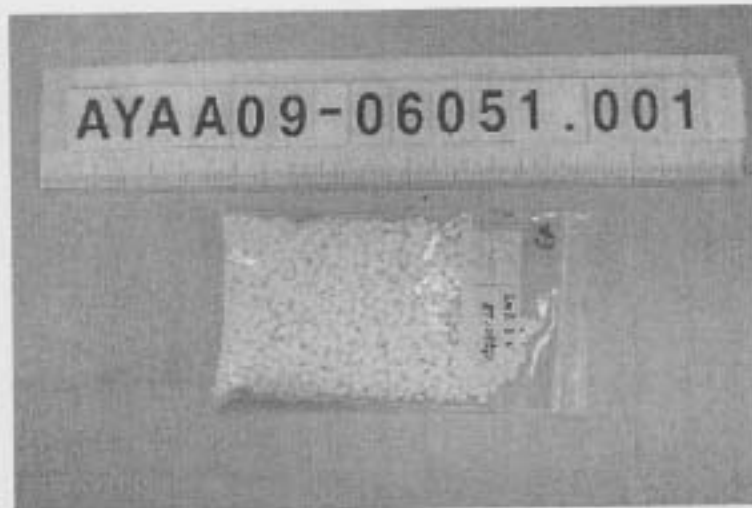
NOTE : TESTS WERE CONDUCTED WITH REFERENCE TO 111/95/CDV VERSION 2007-10-12 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTURE CHANGES PRIOR TO PUBLICATION.

DATE SAMPLE RECEIVED : APR 08, 2008

TESTING PERIOD : APR 08, 2008 TO APR 10, 2008

END OF REPORT

Picture of Sample as Received:



*** End ***

- NOTE
- (1) N.D. = Not detected. (<MDL)
 - (2) mg/kg = ppm
 - (3) MDL = Method Detection Limit
 - (4) - = No regulation
 - (5) ** = Qualitative analysis (No Unit)
 - (6) Negative = Undetectable / Positive = Detectable

This document is issued by the company subject to its General Conditions of Sale and printed matter, neither on request or otherwise. It contains confidential information and its disclosure is prohibited. The company is not responsible for the accuracy of the information provided in this document and does not warrant the accuracy of the information provided. The document is intended for use as a reference only and does not constitute a contract. The company is not responsible for the accuracy of the information provided in this document and does not warrant the accuracy of the information provided. The document is intended for use as a reference only and does not constitute a contract.

Future for you

Injection Condition

LG Chemical Keyflex BT

(TPEE)

Drying, Injection and Hold pressure

Drying

Above the melting point, excess moisture causes hydrolytic degradation of the polymer.

The moisture content should be less than 0.1%.

Effective drying with such ovens take place in 3~4 hrs at 80~90 °C (or 90~100 °C), 7~8 hrs at 60~70 °C (or 70~80 °C).

Drying Condition	Grade
60~70 °C (7~8 hrs) 80~90 °C (3~4 hrs)	1028D, 1030D, 1033D, 1035D, 1040D, 1045D, 1140D, 1145D, 3140D, 1245D
70~80 °C (7~8 hrs) 90~100 °C (3~4 hrs)	1047D, 1055D, 1063D, 1068D, 1072D, 1155D, 1163D, 1172D, 1182D

Injection and Hold pressure

The injection pressure should be set to the minimum pressure required for filling the cavity.


The hold pressure is typically held constant with sufficient time and pressure to optimize dimensions and appearance. High pressure will reduce the apparent mold shrinkage, but increase flash.

Minimize thermal degradation during metering & filling processes.

Efficient designing gas vent at flow-end.

Injection molding condition

Table 15. Injection molding condition



	Mold	Nozzle	Front	Middle	Rear	Hopper
1028D	10-35	190-200	190-200	180-190	180-190	170-180
1030D	10-35	195-205	195-205	185-195	185-195	175-185
1033D	10-35	200-210	200-210	190-200	190-200	180-190
1035D	10-35	195-205	195-205	195-205	195-205	185-195
1040D(1140D)*	10-35	200-210	200-210	190-200	190-200	180-190
1045D(1145D)*	20-40	205-215	205-215	195-205	195-205	185-195
1047D	20-40	210-220	210-220	200-210	200-210	190-200
1055D(1155D)*	30-50	215-225	215-225	205-215	205-215	195-205
1053D(1163D)*	30-60	220-230	220-230	210-220	210-220	200-210
1058D	30-60	225-235	225-235	215-225	215-225	205-215
1072D(1172D)*	30-60	230-240	230-240	220-230	220-230	210-220
1182D*	30-60	230-240	230-240	220-230	220-230	210-220

• Injection molding condition of Keyflex BT could be altered by the kind of injection machine, the mold structure, and the shape of product.

• All Keyflex BT extrusion grades (1100 series) are also available for injection molding.



QMFZ2 Component - Plastics

Friday, October 24, 2003

E67171

LG CHEMICAL LTD

20 YOIDO-DONG YONGDUNGPO-GU SEOUL 150-721 KR

Material Designation: **BT-1055D**

Product Description: Thermoplastic Elastomer (TPE), designated "KEYFLEX" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
NC, BK	1.5	HB	3	0	50	50	50	-	-
	3.0	HB	3	0	50	50	50	-	-

CTI: 0 **IEC CTI** (V): - **HVTR: 0** **D495: 5** **IEC Ball Pressure** (°C): -

Dielectric Strength (kV/mm): - **Volume Resistivity** (10⁹ohm-cm): - **Dimensional Stability**(%): -

ISO Tensile Strength (MPa): - **ISO Flexural Strength** (MPa): - **ISO Heat Deflection** (°C): -

ISO Tensile Impact (kJ/m²): - **ISO Izod Impact** (kJ/m²): - **ISO Charpy Impact** (kJ/m²): -

Report Date: 6/11/2002

Underwriters Laboratories Inc®


UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

宮前五金股份有限公司

檢驗報告表

編號:910707

91年7月2日

客 戶	萬鄉有限公司			
品 名	FREE CUTTING BRASS ROD 丸, 2.0, 2.3, 3.18, 1.5, 4.0, 12.0 mm 丸, 12.7, 13.0 mm			
規 格	JIS H3250 (C3604 B1)			
數 據	標準值	實測值	備 註	
項 目				
化 學 成 份 %	Cu	57.0 - 61.0	58.20	
	Pb	1.8 - 3.7	3.00	
	Fe	< 0.5	---	
	Sn+Fe	< 1.2	0.71	
	Zn	REMAINDER	REMAINDER	
其 它				



南钢

南钢实业有限公司

产品质量合格证

编号: 11-9

2007年11月14日

产品名称	铅黄铜	牌号	Hpb59-1	规格	Φ6	门市	寮步
化 学 成 份 % (重 量)							
铜 (Cu)	铁 (Fe)	镍 (Ni)	铅 (Pb)	锰 (Mn)	锡 (Sn)	铝 (Al)	锌 (Zn)
58.9	0.197	0.186	2.37	0.0089	0.274	0.0904	余量
力 学 性 能							
抗拉强度, σ_b N/mm ²	延伸率, δ %	硬度值 HRB		备注 			
437.5	9.5	76					

检验员: 唐 毅

质检员: 邢 五 华

技术质量部: 马 嘉 春

TEST REPORT

NUMBER: SZHH0028022602

APPLICANT: DONGGUAN CITY LIAOBU LUXIN HARDWARE FACTORY
XINJIUWEI CITY GULOULING STREET
NO.62, LIAOBU TOWN DONGGUAN
CITY, GUANGDONG PROVINCE, CHINA

DATE: Jul 28, 2008

ATTN: MS LEI

SAMPLE DESCRIPTION:

以下測試樣品乃供應商所提供及確認:

ONE (1) SUBMITTED SAMPLE SAID TO BE GOLD COLOR METAL SHAFT.

樣品名稱 SAMPLE DESCRIPTION : 黃銅棒, 塊 (本体) C3604/HPB59-1.

原產地 REGION OF ORIGIN : CHINA.

買家名稱 BUYER'S NAME : DELTA.

工廠名稱 FACTORY'S NAME : 路鑫五金.

收件日期 DATE SAMPLE RECEIVED : JUL 21, 2008.

開始測試日期 DATE TEST STARTED : JUL 22, 2008



測試執行 TEST CONDUCTED:

依申請商之要求, 細節請參考附頁.

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
SHENZHEN LTD.

BEN N.L. LIN
GENERAL MANAGER

TEST REPORT

NUMBER: SZHH0028022602

TESTS CONDUCTED

(A) TEST RESULT SUMMARY 測試結果:

TESTING ITEM 測試項目	RESULT 結果
CADMIUM (Cd) CONTENT 鎘含量 (mg/kg)	14
LEAD (Pb) CONTENT 鉛含量 (mg/kg)	17600
MERCURY (Hg) CONTENT 汞含量 (mg/kg)	ND (<2)
CHROMIUM (VI) (Cr6+) RESULT (FOR METAL) 六價鉻結果 (金屬材質) (mg/kg with 50cm ²)#	NEGATIVE (<0.02)

CHEMIST: LV LINNA

REMARKS: mg/kg = MILLIGRAM PER KILOGRAM 毫克每千克

備註: mg/kg with 50cm² = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETRE
毫克每千克 (50平方釐米)

ND = NOT DETECTED 未檢測出

< = LESS THAN 小於

SAMPLES WERE RANDOMLY SELECTED FOR TEST 測試樣品隨機選取

= ACCORDING TO IEC 62321, A POSITIVE RESULT INDICATES THE PRESENCE OF Cr(VI). IT IS THE Cr(VI) CONCENTRATION DETECTED IN THE BOILING-WATER-EXTRACTION SOLUTION AND SHOULD NOT BE INTERPRETED AS THE Cr(VI) CONCENTRATION IN THE COATING LAYER OF THE SAMPLE. 依據 IEC 62321, 如果測試結果呈陽性, 表明六價鉻的存在。這種現象只表明在沸水抽提液中檢測到了六價鉻, 而不應認為是樣品鍍層中的六價鉻含量。

DATE SAMPLE RECEIVED : JUL 22, 2008

收到樣板時間 : 2008年07月22日

TESTING PERIOD 測試周期 : JUL 22, 2008 TO JUL 26, 2008

: 2008年07月22日至 2008年07月26日

TEST REPORT

NUMBER: SZHH0028022602

TESTS CONDUCTED

(B) TEST METHOD 測試方法:

TESTING ITEM 測試項目	TESTING METHOD 測試方法	REPORTING LIMIT 報告極限
CADMIUM (Cd) CONTENT 鎘含量	WITH REFERENCE TO IEC 62321-111/95/CDV, BY ACID DIGESTION AND DETERMINED BY ICP-OES (SEE NOTE). 參考IEC 62321-111/95/CDV, 以酸消解並用電感耦合等離子體原子發射光譜儀分析 (見注釋)。	2 mg/kg
LEAD (Pb) CONTENT 鉛含量	WITH REFERENCE TO IEC 62321-111/95/CDV, BY ACID DIGESTION AND DETERMINED BY ICP-OES (SEE NOTE). 參考IEC 62321-111/95/CDV, 以酸消解並用電感耦合等離子體原子發射光譜儀分析 (見注釋)。	2 mg/kg
MERCURY (Hg) CONTENT 汞含量	WITH REFERENCE TO IEC 62321-111/95/CDV, BY ACID DIGESTION AND DETERMINED BY ICP-OES (SEE NOTE). 參考IEC 62321-111/95/CDV, 以酸消解並用電感耦合等離子體原子發射光譜儀分析 (見注釋)。	2 mg/kg
CHROMIUM (VI) (Cr ⁶⁺) CONTENT (FOR METAL) 六價鉻含量 (金屬材質)	WITH REFERENCE TO IEC 62321-111/95/CDV, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER (SEE NOTE). 參考IEC 62321-111/95/CDV, 以沸水萃取並用可見光-紫外光分光光度計分析 (見注釋)。	0.02mg/kg WITH 50cm ²

REMARK REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

備註: 報告極限 = 測試樣品之定量偵測極限

NOTE TESTS WERE CONDUCTED WITH REFERENCE TO 111/95/CDV VERSION 2007-10-12

注釋: WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTURE CHANGES PRIOR TO PUBLICATION.

本測試是參考111/95/CDV VERSION 2007-10-12, 此方法仍然是草稿, 在公佈之前還可能會有改動。

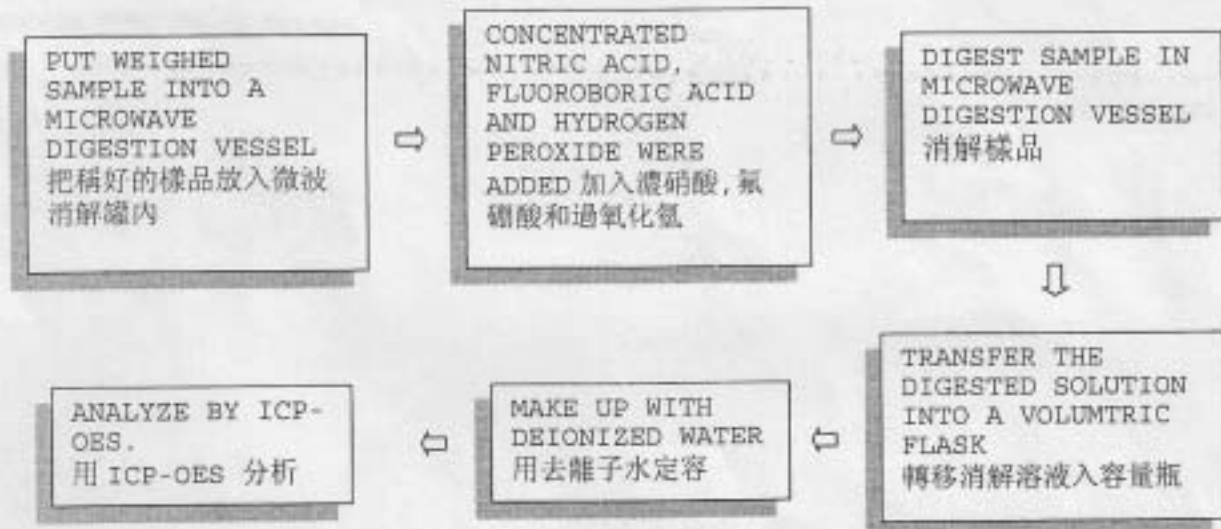
TESTS CONDUCTED

(C) MEASUREMENT FLOWCHART 測試流程圖:

1. TEST FOR Cd/Pb CONTENTS 鎘/鉛含量的測試:

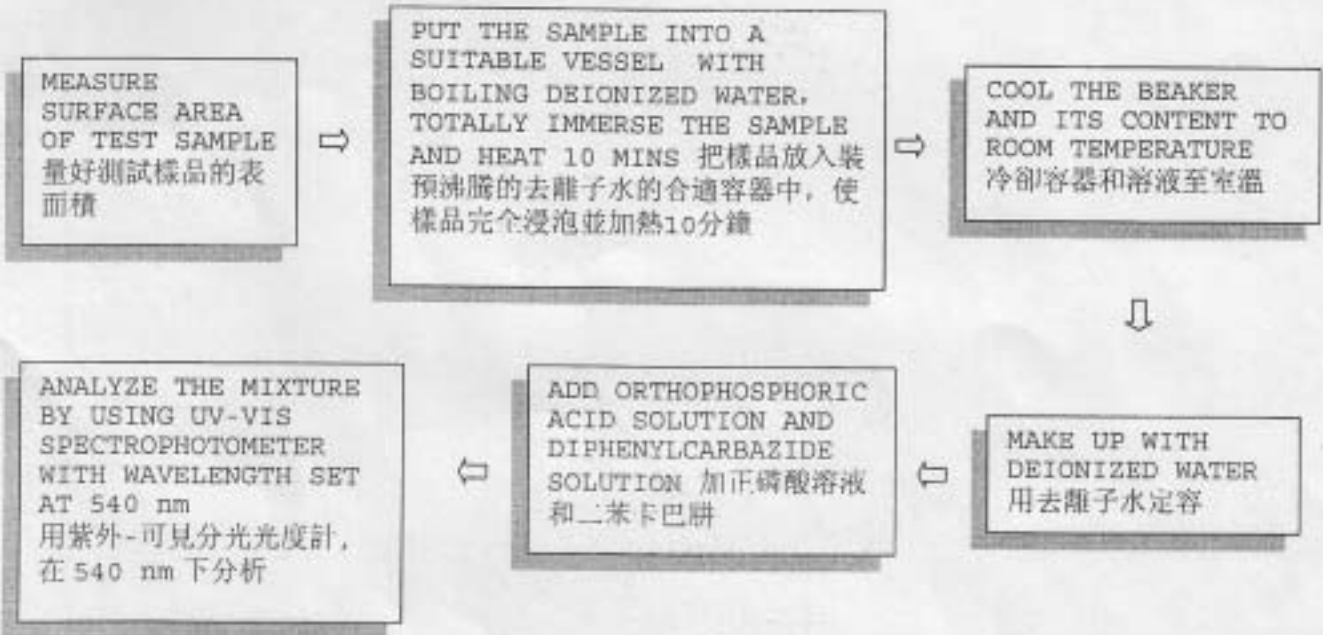


2. TEST FOR Hg CONTENT 汞含量的測試:



TESTS CONDUCTED

3. TEST FOR CHROMIUM (VI) CONTENT (BOILING WATER EXTRACTION)
六價鉻含量的測試 (沸水提取):



END OF REPORT

Test Report

No. CANEC0805640301

Date: 24 Oct 2008

Page 1 of 4

ZHONG SHAN SHI YANG METAL PRODUCT CO.,LTD
THE THIRD INDUSTRIAL AREA NANLANG TOWN ZHONG SHAN CITY GUANGDONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :
Jis C3604 BD COPPER

SGS Job No. : 11354821 - SZ
Client Reference Information : LOT NO 1931
Date of Sample Received : 04 Sep 2008
Testing Period : 04 Sep 2008 - 10 Sep 2008
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

Signed for and on behalf of
SGS-CSTC Ltd.



Huang Fang, Sunny
Sr. Engineer

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at <http://www.sgs.com/termsandconditions.htm>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

Test Report

No. CANEC0805640301

Date: 24 Oct 2008

Page 2 of 4

Test Results:

ID for specimen 1 : CAN08-056403.001
 Description for specimen 1 : Brassy metal rod

Heavy Metal(s)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Cadmium (Cd)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	12	2
Lead (Pb)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	31199	2
Mercury (Hg)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321/2nd CDV (111/95/CDV), UV-Vis	Negative	◇

Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. ◇ = Spot-Test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
 (The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of CrVI coating
 Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

5. "-" = Not regulated

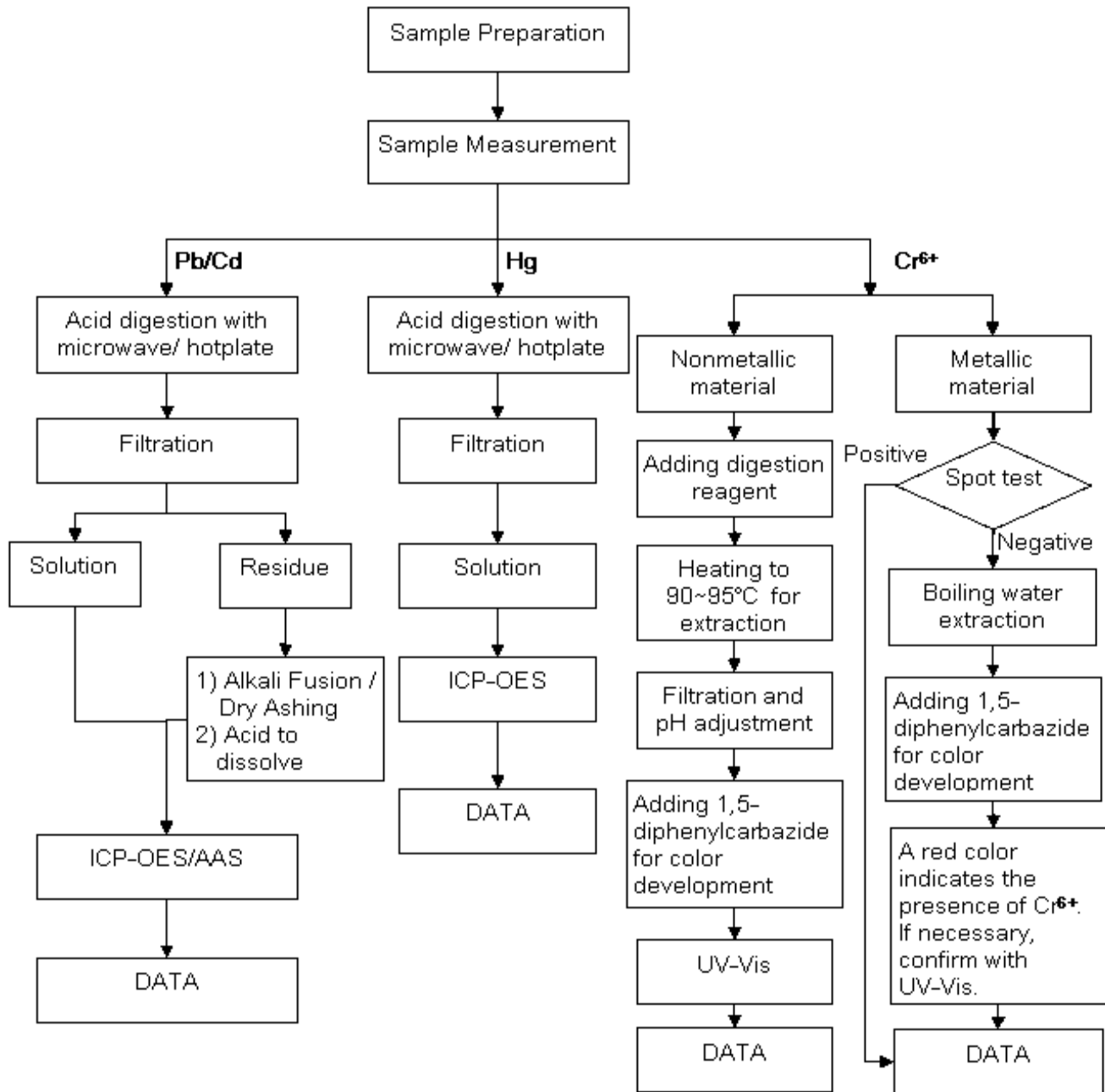
Remark: Results & photo(s) of this report refer to test report CANEC0804900401.

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at <http://www.sgs.com/termsandconditions.htm>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

ATTACHMENTS

Testing Flow Chart

- 1) Name of the person who made measurement: Bowen Chen
- 2) Name of the person in charge of measurement: Adams Yu



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at <http://www.sgs.com/termsandconditions.htm>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not establish any liability to any other party to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at <http://www.sgs.com/termsandconditions.htm>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate the parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



Test Report

No. CANEC0806700101

Date: 12 Dec 2008

Page 1 of 4

SHENZHEN DONGHAOYUAN MACHINE & ELECTRICS SCIENCE-TECHNOLOGY CO.,LTD.
39 BILK,5 ZONE,CUIGANG INDUSTRIAL PARK,HUAIDE,FU YONG BAOAN,SHENZHEN
CHINA

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

镍/金镀层

SGS Job No. : 11478899 - SZ
Buyer : 东浩源
Client Reference Information : MATERIAL:镍,金
SGS Internal Reference No. : 5.2
Date of Sample Received : 08 Dec 2008
Testing Period : 08 Dec 2008 - 12 Dec 2008

Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).
Conclusion : Based on the performed tests on submitted sample(s), the results **comply with** the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS-CSTC Ltd.

Huang Fang, Sunny
Sr. Engineer

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exempt the parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

SGS-CSTC Standards Technical Service Co., Ltd.
Guangzhou Testing & Certification Laboratory

198 Kezhu Road, Science Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663
中国·广州·经济技术开发区科学城科珠路198号 邮编:510663

t (86-20)82155555 f (86-20)82075113 www.cn.sgs.com
t (86-20)82155555 f (86-20)82075113 e sgs.china@sgs.com

Member of the SGS Group (SGS SA)

Test Report

No. CANEC0806700101

Date: 12 Dec 2008

Page 2 of 4

Test Results:

ID for specimen 1 : CAN08-067001.002
 Description for specimen 1 : Golden piece (plating)

RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321/2nd CDV (111/95/CDV), UV-Vis	Negative	◇	#

Note:

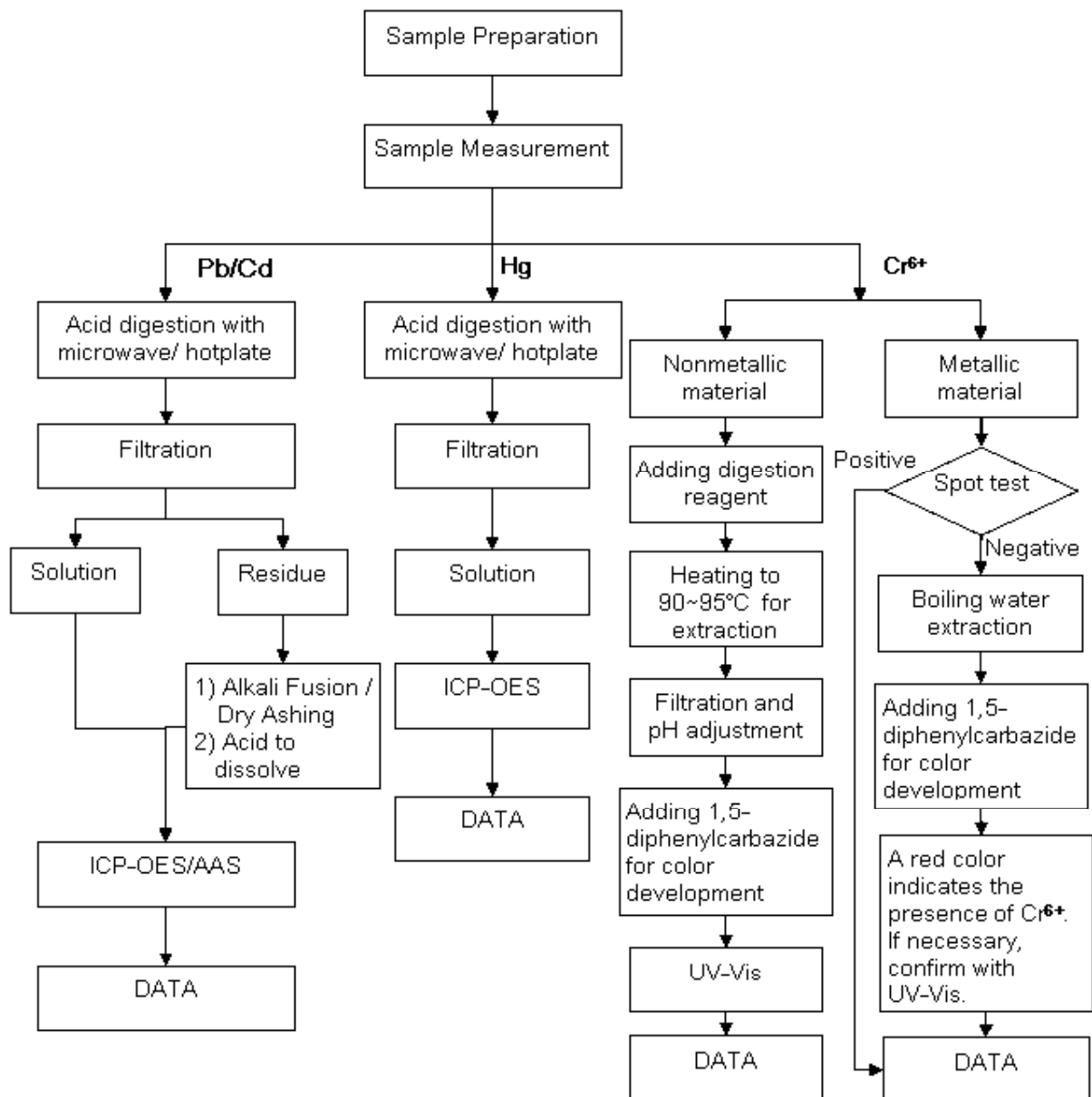
1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. ◇ = Spot-Test:
 Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
 (The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed.)
 Boiling-water-extraction:
 Negative = Absence of CrVI coating
 Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
5. # = Positive indicates the presence of CrVI on the tested areas.
 Negative indicates the absence of CrVI on the tested areas.
6. "- " = Not regulated

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exempt the parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

ATTACHMENTS

Testing Flow Chart

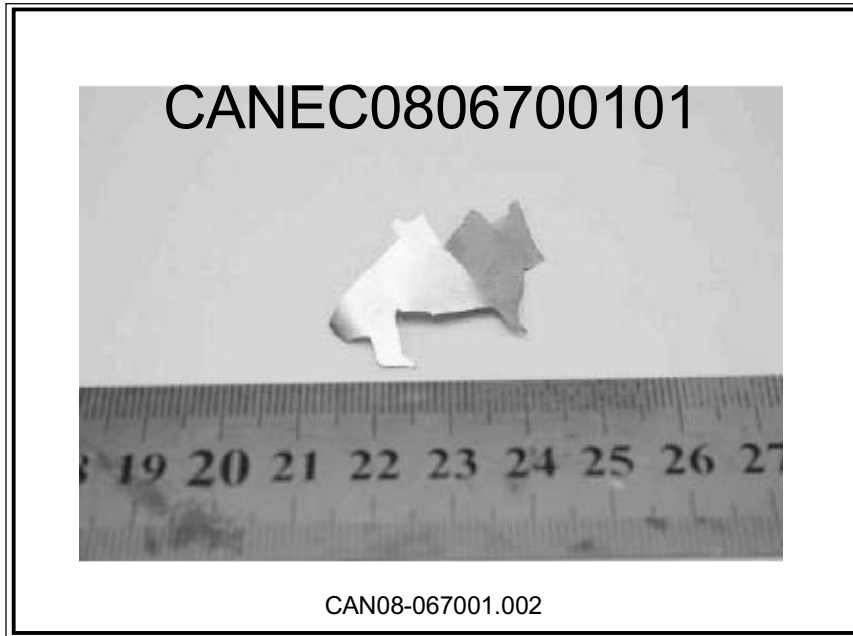
- 1) Name of the person who made measurement: Bowen Chen
- 2) Name of the person in charge of measurement: Adams Yu



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at <http://www.sgs.com/terms-and-conditions.htm>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not extend to parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



SHI ZHAI VALQUA FLUOROCARBON PRODUCTS CO., LTD
 PROPERTIES OF PTFE PRODUCTS

MECHANICAL PROPERTIES		项目	测试值	单位	试验方法
Tensile Strength	(Moulding Direction)	拉伸强度	9.8~34	MPa	ASTM D638
Elongation at Break	(Moulding Direction)	伸长率	100~400	%	ASTM D638
Density		比重	2.13~2.25	—	ASTM D792
Hardness		硬度	50~55	杜罗硬度计	ASTM D2240
Flexural Yield Strength	@0.2% Offset, 23°C	弯曲强度	—	MPa	ASTM D790
Flexural Modulus	@23°C	弯曲模量	350~550	MPa	ASTM D790
Compressive Strength	@0.2% Offset, 23°C	压缩强度	7.7~11.8	MPa	ASTM D695
ELECTRICAL PROPERTIES					
Dielectric Strength	@Air (Tape)	项目	测试值	单位	试验方法
Dielectric Constant	@Oil (Extrusion/Moulding)	绝缘强度	19.2	KV/mm	ASTM C149
Dissipation Factor	@50Hz	介电常数	1.95~2.1	—	ASTM D150
	@10 ⁶ Hz	介质损耗	<0.0002	(60Hz)	ASTM D150
	@Surface	表面电阻	>10 ¹⁶	Ω	ASTM D257
	@Volume	体积电阻	>10 ¹⁸	Ω cm	ASTM D257
THERMAL PROPERTIES					
Point of Fusion DSC		项目	测试值	单位	试验方法
Max. Working Temperature		熔点	327±10	°C	ASTM D792
Thermal Conductivity	@Moulding Direction (MD)	耐热温度	260	°C	—
WEAR PROPERTIES					
Coefficient of Dynamic Friction		导热系数	1.9	10 ⁻⁶ W/(m.K)	ASTM C177
		项目	测试值	单位	试验方法
		动摩擦系数	0.1	—	0.7MPa3M/minSTEEL

核准: 2004.11.09 日期: 2004.11.09

制表: 日期: 2004.11.09

測試報告 Test Report

號碼(No.): CE/2008/B0420 日期(Date): 2008/11/11 頁數(Page): 1 of 6

名佳利金屬工業股份有限公司
 MINCHALI METAL INDUSTRY CO., LTD.
 中壢市北園路11號
 11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN



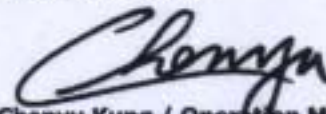
以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : 黃銅
 樣品型號(Style/Item No.) : C2680(65/35) 79A526A
 收件日期(Sample Receiving Date) : 2008/11/4
 測試期間(Testing Period) : 2008/11/4 TO 2008/11/11

- =====
 測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求。(In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).
- 測試方法(Test Method) : (1) 參考IEC 62321/2nd CDV (111/95/CDV) - Clause 9方法，用感應耦合電漿原子發射光譜儀檢測鎘含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 9. Determination of Cadmium by ICP-AES.
 (2) 參考IEC 62321/2nd CDV (111/95/CDV) - Clause 9方法，用感應耦合電漿原子發射光譜儀檢測鉛含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 9. Determination of Lead by ICP-AES.
 (3) 參考IEC 62321/2nd CDV (111/95/CDV) - Clause 7方法，用感應耦合電漿原子發射光譜儀檢測汞含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 7. Determination of Mercury by ICP-AES.
 (4) 針對金屬材質之樣品，參考IEC 62321/2nd CDV (111/95/CDV) - Annex B方法檢測，用Spot test / boiling water extraction方法檢測六價鉻含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Annex B. Determination of Hexavalent Chromium for metallic samples by Spot test / boiling water extraction Method.
 (5) 參考IEC 62321/2nd CDV (111/95/CDV) - Annex A方法，以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Annex A. Determination of PBB and PBDE by GC/MS.

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

結論(Conclusion) : 根據客戶所提供樣品的測試結果，符合RoHS(2002/95/EC)及其修定指令之要求 (Based on the performed tests on submitted samples, the test results are compliant with the limits of RoHS Directive 2002/95/EC and its subsequent amendments).


 Chenyu Kung / Operation Manager
 Signed for and on behalf of
 SGS TAIWAN LTD.
 Chemical Laboratory - Taipei

金沛金屬制品(深圳)有限公司
 GOLD METAL MANUFACTURED (SHENZHEN) CO., LTD.

Unless otherwise stated the results shown in this test report refer only to the samples tested. This test report cannot be reproduced, except in full, without prior written permission of the Company.
 除非另有說明，此報告結果僅針對測試之樣品而言。本報告和樣品公司及其客戶。不可再行複製。
 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

測試報告 Test Report

號碼(No.): CE/2008/B0420

日期(Date): 2008/11/11

頁數(Page): 2 of 6

名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN



測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)	方法偵測 極限值 (MDL)	RoHS 限值 (Limit)
		No.1		
鎘 / Cadmium (Cd)	(1)	n.d.	2	100
鉛 / Lead (Pb)	(2)	7	2	1000
汞 / Mercury (Hg)	(3)	n.d.	2	1000
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 4	#
多溴聯苯總和 / Sum of PBBs	(5)	n.d.	-	1000
一溴聯苯 / Monobromobiphenyl		n.d.	5	-
二溴聯苯 / Dibromobiphenyl		n.d.	5	-
三溴聯苯 / Tribromobiphenyl		n.d.	5	-
四溴聯苯 / Tetrabromobiphenyl		n.d.	5	-
五溴聯苯 / Pentabromobiphenyl		n.d.	5	-
六溴聯苯 / Hexabromobiphenyl		n.d.	5	-
七溴聯苯 / Heptabromobiphenyl		n.d.	5	-
八溴聯苯 / Octabromobiphenyl		n.d.	5	-
九溴聯苯 / Nonabromobiphenyl		n.d.	5	-
十溴聯苯 / Decabromobiphenyl		n.d.	5	-
多溴聯苯醚總和 / Sum of PBDEs		n.d.	-	1000
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	5	-
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	5	-
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	5	-
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	5	-
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	5	-
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	5	-
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	5	-
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	5	-
九溴聯苯醚 / Nonabromodiphenyl ether	n.d.	5	-	
十溴聯苯醚 / Decabromodiphenyl ether	n.d.	5	-	

金沛金屬制品(深圳)有限公司
GOLD METAL MANUFACTURED (SHENZHEN) CO., LTD.

Unless otherwise stated the results shown in this test report refer only to the samples tested. This test report cannot be reproduced, except in full, without prior written permission of the Company.
除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.): CE/2008/B0420

日期(Date): 2008/11/11

頁數(Page): 3 of 6

名佳利金屬工業股份有限公司

MINCHALI METAL INDUSTRY CO., LTD.

中壢市北園路11號

11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN



測試部位描述 (TEST PART DESCRIPTION):

NO.1 : 黃銅色金屬片 (YELLOW-COPPER COLORED METAL SHEET)

備註(Note):

1. mg/kg = ppm
2. n.d. = Not Detected (未檢出)
3. MEL = Method Detection Limit (方法偵測極限值)
4. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer (鍍層中偵測不到六價鉻).

Positive = Presence of Cr(VI) coating / surface layer (鍍層中偵測到六價鉻);

The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.

(當該測項無法確認時, 測試樣品可藉由boiling-water-extraction測試方法進一步確認)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer (鍍層中偵測不到六價鉻).

Positive = Presence of Cr(VI) coating / surface layer (鍍層中偵測到六價鉻);

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

該溶液濃度 ≥ 0.02 mg/kg with 50 cm² (sample surface area)

5. # = Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as not comply with RoHS requirement. (Positive表示測試區域之六價鉻不符合RoHS要求)
Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as comply with RoHS requirement. (Negative表示測試區域之六價鉻符合RoHS要求)
6. ** = Not Regulated (無規格值)

金沛金屬制品(深圳)有限公司
GONGPEI METAL MANUFACTURED (SHENZHEN) CO., LTD

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試之樣品負責。本報告未經本公司書面許可, 不可部分複製。

This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司
Chemical-Taipei 33 WuChuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.): CE/2008/B0420

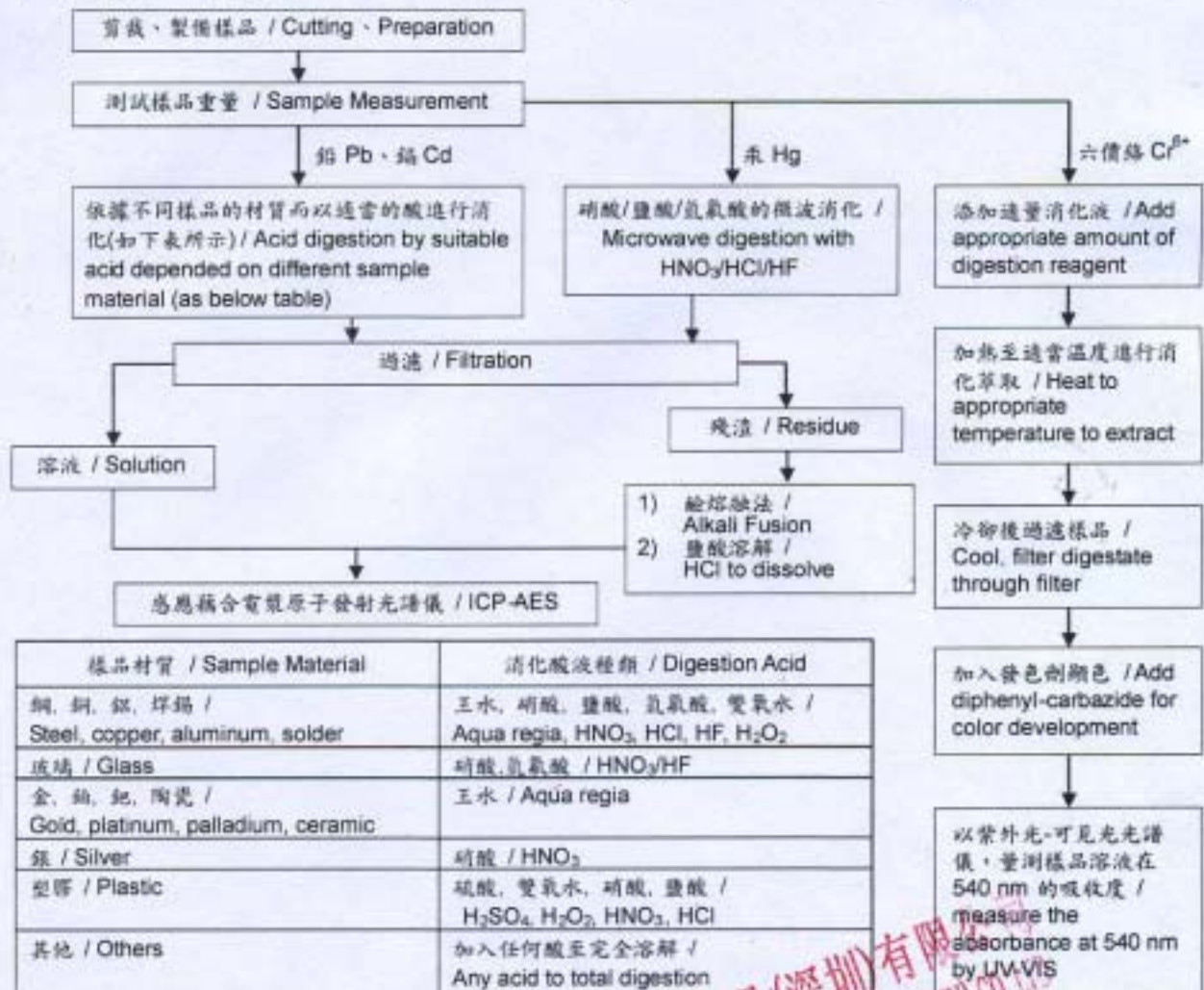
日期(Date): 2008/11/11

頁數(Page): 4 of 6

名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN



- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



金沛金屬製品(深圳)有限公司
MINCHALI METAL MANUFACTURED (SHENZHEN) CO., LTD.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is not to be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告單僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

測試報告 Test Report

號碼(No.): CE/2008/B0420

日期(Date): 2008/11/11

頁數(Page): 5 of 6

名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN



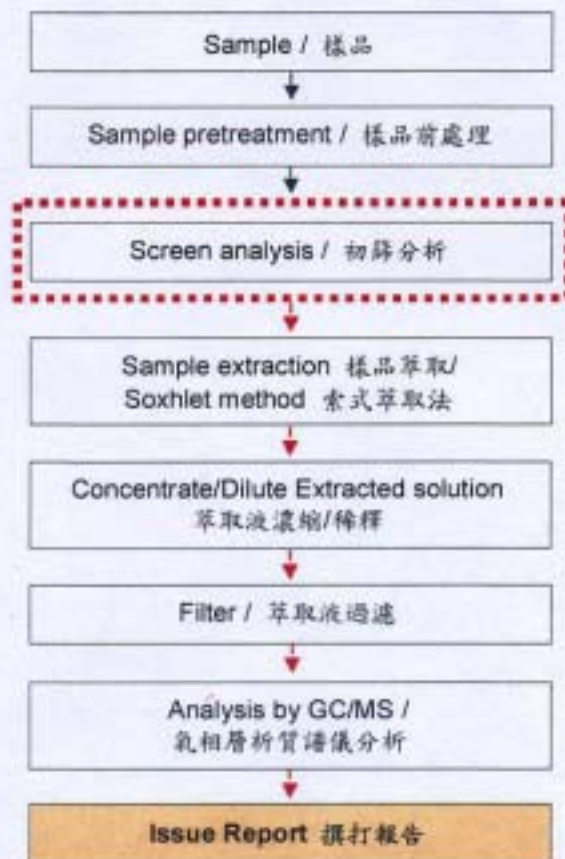
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 1) 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
2) 測試負責人: 陳新智 / Name of the person in charge of measurement: Shinjyh Chen

初次測試程序 / First testing process →

選擇性篩檢程序 / Optional screen process

確認程序 / Confirmation process - - -



金沛金屬制品(深圳)有限公司
CHENG METAL MANUFACTURED (SHENZHEN) CO., LTD

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report shall not be reproduced, except in full, without prior written permission of the Company.
除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不得部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

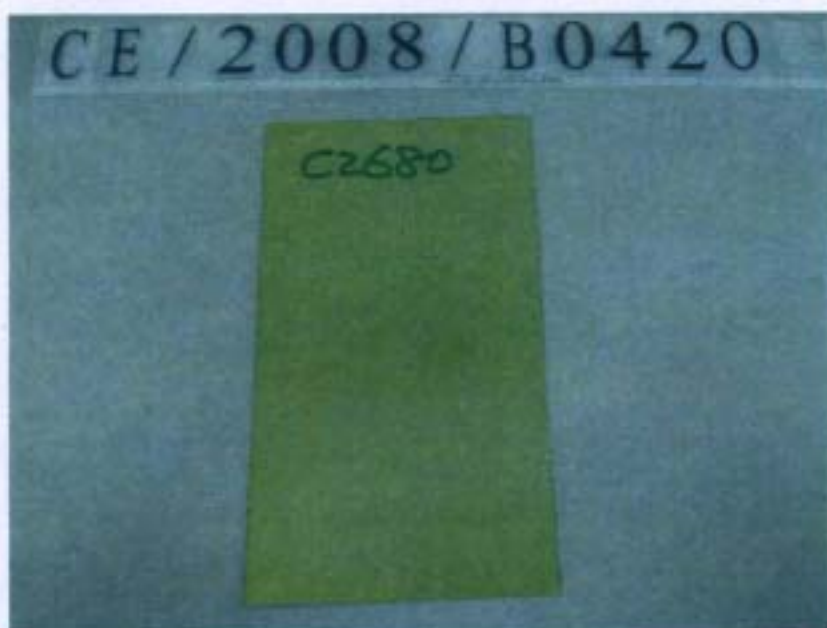
測試報告 Test Report

號碼(No.): CE/2008/B0420

日期(Date): 2008/11/11

頁數(Page): 6 of 6

名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN



** 報告結尾 **

金沛金屬制品(深圳)有限公司
CHINESE METAL MANUFACTURED (SHENZHEN) CO., LTD.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company.
除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。

This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

深圳市华尔莱五金精密制品有限公司
深圳市光明新区公明街道上村社区下寮工业区第 6 幢

委托检验的样品及客户对样品的说明如下:

样品名称 : 塑钢(聚甲醛)绝缘子
SGS 相关号 : 11152033-2
主要成份 : 聚甲醛

样品收到日期 : 2008-07-11
样品试验日期 : 2008-07-11—2008-07-15

试验要求 : 参照 RoHS 指令 2002/95/EC 及后续修正指令。

试验方法 : 参照 IEC 62321/2nd CDV (111/95/CDV): 电子电器产品中限用物质含量的测定程序
(1) 用 ICP 测定铜的含量
(2) 用 ICP 测定铅的含量
(3) 用 ICP 测定汞的含量
(4) 用比色法测定六价铬的含量
(5) 用 GC/MS 测定 PBBs(多溴联苯)和 PBDEs(多溴联苯醚) 的含量

试验结果 : 见后续页

试验结论 : 基于所送样品进行的测试, 测试结果与欧盟 RoHS 指令 2002/95/EC 以及后续修正指令的要求相符。

SGS-CSTC 化学实验室授权签字

张曜

张曜
部门经理

SGS-CSTC 化学实验室授权签字

郝金玉

郝金玉
实验室经理

本报告是发布日期为 2008 年 07 月 15 日编号为 SH8100746/CHEM 英文检测报告的中文译本。如有异议, 以英文版本为准。



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not release parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

SHCHEM 2031837

化学方法的试验结果 (单位: mg/kg)

测试项目:	方法 (参见)	1	MDL	RoHS 限值
镉(Cd)	(1)	ND	2	100
铅(Pb)	(2)	ND	2	1000
汞(Hg)	(3)	ND	2	1000
碱性溶液萃取测六价铬(Cr VI)	(4)	ND	2	1000
多溴联苯(PBBs)之和	(5)	ND	-	1000
一溴联苯		ND	5	-
二溴联苯		ND	5	-
三溴联苯		ND	5	-
四溴联苯		ND	5	-
五溴联苯		ND	5	-
六溴联苯		ND	5	-
七溴联苯		ND	5	-
八溴联苯		ND	5	-
九溴联苯		ND	5	-
十溴联苯		ND	5	-
多溴联苯醚(PBDEs)之和		ND	5	-
一溴联苯醚		ND	-	1000
二溴联苯醚		ND	5	-
三溴联苯醚		ND	5	-
四溴联苯醚		ND	5	-
五溴联苯醚		ND	5	-
六溴联苯醚		ND	5	-
七溴联苯醚		ND	5	-
八溴联苯醚		ND	5	-
九溴联苯醚	ND	5	-	
十溴联苯醚	ND	5	-	

测试部件外观描述:

1. 白色固体

备注:

- (1) 毫克每千克=百万分之一 (mg/kg=ppm)
- (2) ND = 未检出
- (3) MDL = 检测极限值
- (4) 根据欧洲法庭 2008 年 4 月 1 日的决议, 2005/717/EC 中关于聚合物样品中十溴联苯醚的豁免被否决, 自 2008 年 7 月 1 日起, 十溴联苯醚将被包含于多溴联苯醚的总和计算之中。
- (5) "-" = 未规定
- (6) 最大允许极限值引用自 2002/95/EC RoHS 指令和后继修正指令 2005/618/EC。

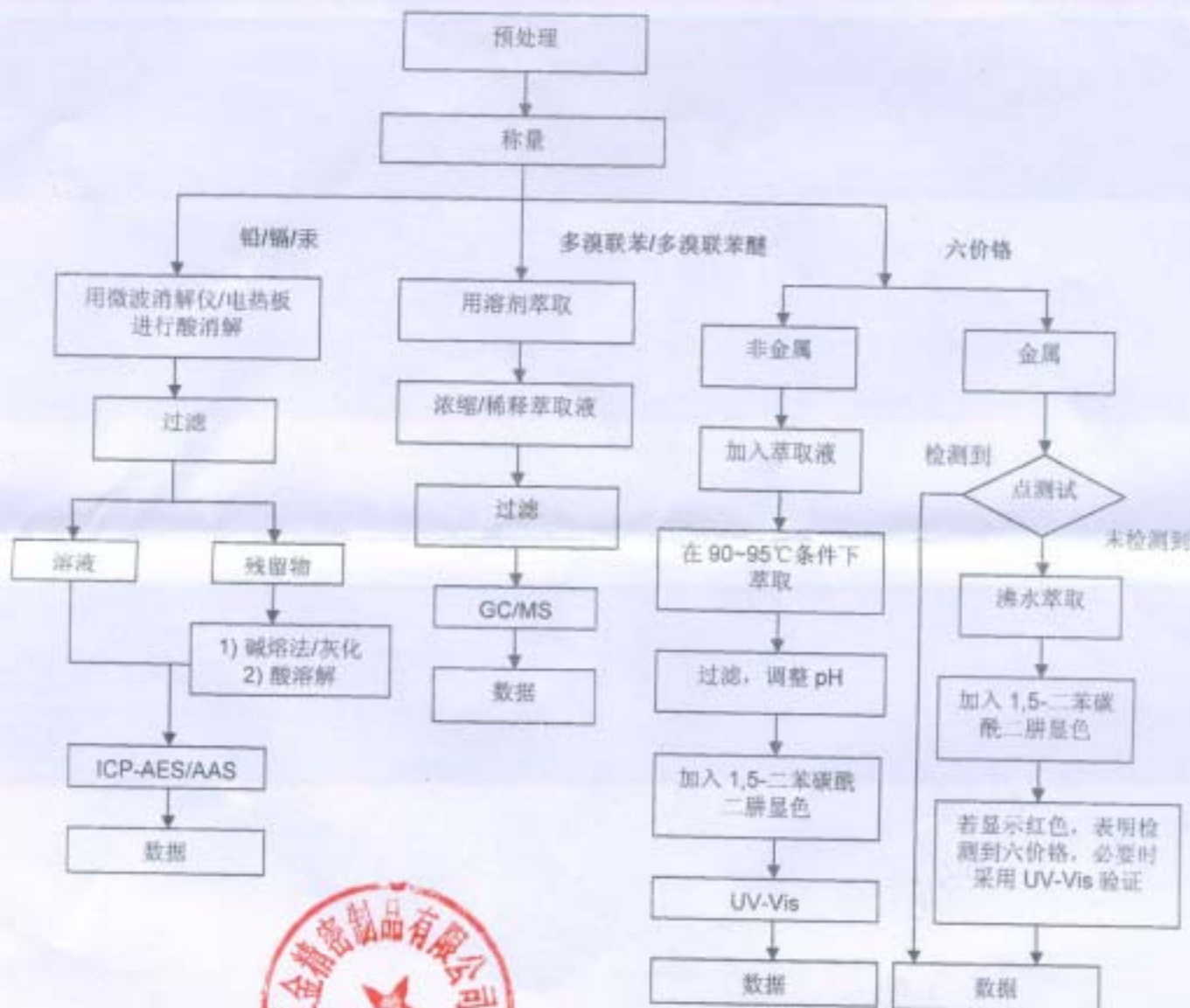


This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and the Company does not bear any liability for any loss or damage suffered by any party to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



附件

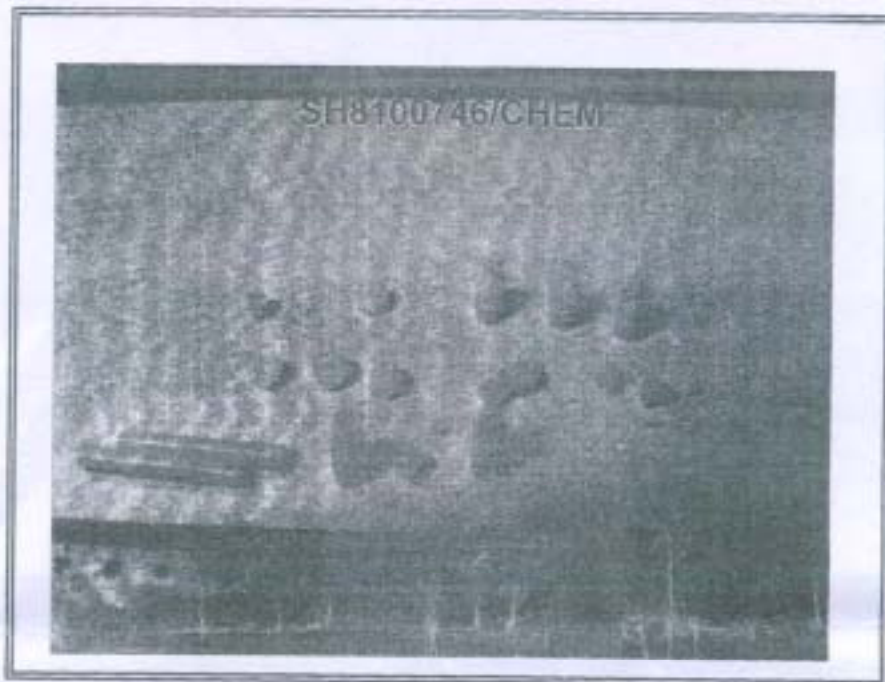
- 1) 分析人员: 蔡晓丹/徐亮/王慧
- 2) 项目负责人: 王卫/岳林禾



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute an offer of insurance or any other financial product. The appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



样品照片:



SGS 仅对原报告照片中的样品负责

报告结束



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not separate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



SHCHEM 2031834

SGS Standards Technical Services Co. Ltd.
Shanghai Branch - Chemical Laboratory

3rd Building, No. 889, Yishan Road, Shanghai, China 200233
中国 - 上海 - 宜山路889号3号楼 邮编: 200233

TEL: (86-21) 64402553 FAX: (86-21) 64953679 www.cn.sgs.com
HL: (86-21) 61488894 HL: (86-21) 54500353 sgs.china@sgs.com

Member of the SGS Group (SGS SA)