APPROVAL SHEET

Customer: ALL

Customer P/N:

Connfly P/N: DS1096

Description: USB A TYPE FEMALE SMT TYPE

File Number: CXAS-1406003

Customer Signature:

Quality Department	Engineer Department	Approved By
Date:	Date:	Date:

CONNFLY

Made By	Checked By	Approved By
YCH	~	LJC
Date: 2014-6-10	Date:	Date: 2014-6-10

CONNFLY ELECTRONIC CO., LTD

ADD: East Industry Zone KuangYan Town Cixi Ningbo China P.C:315333

Tel:+86-574-63508787 +86-574-63509600 Fax: +86-574-63510817

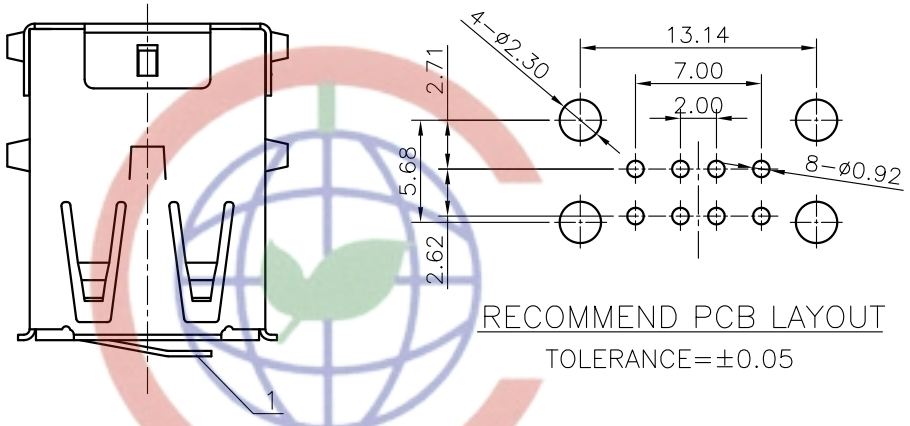
E-mail:sale@zhenqin.com.cn http://www.connfly.com

Content

Materials Information

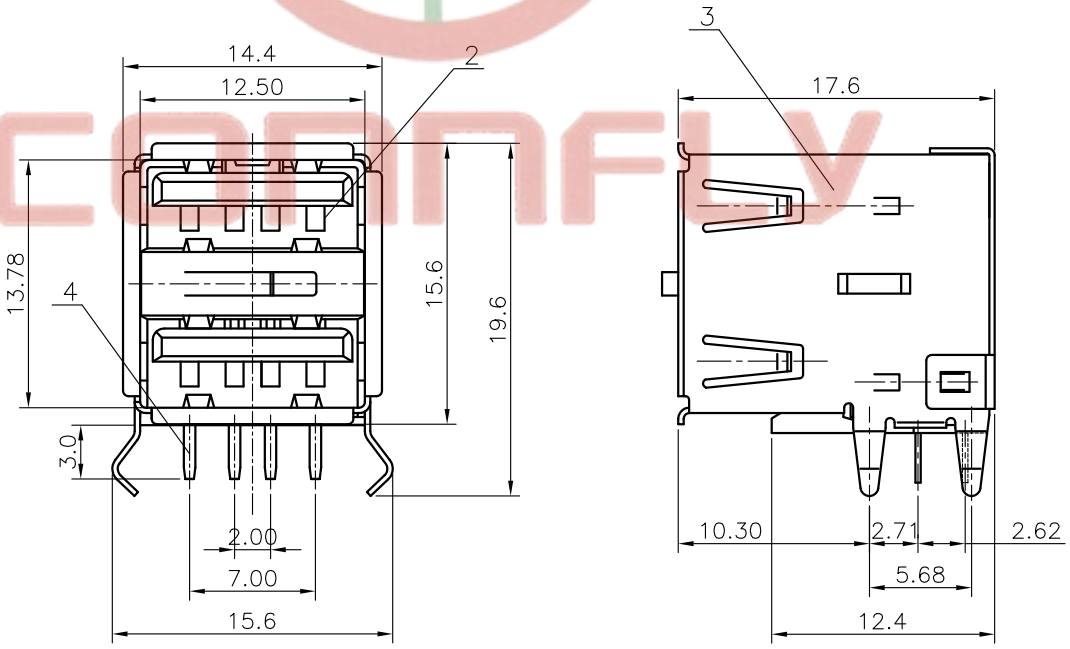
Item	Part Name	Materials	Finished
1	Contact	Phosphor bronze	Selective gold flash
2	Housing	PBT	UL94 V-0
3	Shell	Brass	Nickel or Tin

REV.	DESCRIPTION	DRAWN	CHECKED	APPROVED
A	NEW RELEASE	LJH 05/10/05'		



RECOMMEND PCB LAYOUT

TOLERANCE=±0.05



NOTES:

1. SPECIFICATIONS:
   - 1.0 CONTACT RESISTANCE:30mΩ max.
   - 1.1 INSULATOR RESISTANCE:1000MΩ min.AT DC 500V.
   - 1.2 CURRENT RATING:1.5A.
   - 1.3 VOLTAGE RATING:30VDC.
   - 1.4 DIELECTRIC STRENGTH:AC 500V FOR 1 Minute.
2. MATERIALS:
   - 2.0 HOUSING:PBT+30% GLASS FIBER(UL 94-0).
   - 2.1 CONTACT:COPPER ALLOY
   - 2.2 SHELL:COPPER ALLOY.
3. PRODUCT NUMBER CODE:
4. PRODUCT NUMBER CODE:

DS1096 – X X X X

- SHELL TYPE
  - S: W/ shrapnel
  - X: W/O shrapnel
- CONTACT Plating
  - 0: Selective Gold flash
  - 03: Selective Gold 3u"
  - 30: Selective Gold 30u"
- SHELL Plating
  - N: Nickel
  - 6: Tin
- COLOR OF HOUSING:
  - W: WHITE
  - B: BLACK
- PRODUCTS SERIES:
  - DS1096 series

Tel: 86-574-63508787
Fax: 86-574-63510817
E-mail: sales@zhenqin.com
Http://www.zhenqin.com.cn
Add: West Gaolin Town Cixi Ningbo China
P.C.:315321

ITEM	PART NAME	PART NO.	MATERILAS	FINISHED
4	CONTACT		COPPER ALLOY	SEE NOTES
3	SHELL		COPPER ALLOY	SEE NOTES
2	HOUSING		PBT	UL 94 V-0
1	SHRAPNEL		COPPER ALLOY	Nickel Plated

GENERAL TOLERANCE	ANGLE TOLERANCE
X. ±0.60	X. ±5°
.X ±0.38	.X ±3°
.XX ±0.25	.XX ±2°

DRAWING TYPE	CUSTOMER		
SCALE	1:1	SHEET	1 OF 1
DRAWING NO.	C-DS1096-XXXX		

PROJECTION		TITLE	USB DUAL 8 PIN RECEPTALCE RIGHT ANGLE TYPE
UNITS	mm		
SHEET SIZE	A4	SERIES	DS1096 SERIES

晨翔电子有限公司

CONNFLY ELECTRONIC CO. LTD

Product Specification

Rev.	Description	Written/Date	Checked/Date	Approved/Date
A	New Release			

1.0 Scope : This specification covers the requirements for product performance and test methods of Connfly's USB (Universal Series Bus) Series Connectors of the part numbers specified as bellow. Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

2.0 Rating :

2.1 Voltage Rating : 30 Vac (rms)

2.2 Temperature Range: storage : -20℃ to +60℃ ;

operating : -20℃ to +80℃ :

3.0 Test Condition:

All tests shall be performed as bellow conditions unless otherwise specified.

3.1 Temperature range : +15℃ to +35℃

3.2 Humidity range: 25% to 85%

3.3 Atmospheric Pressure : 86KPa to 106KPa

4.0 Test Methods and Requirements:

4.1 Examination of product:

Item	Test Description	Test Methods	Requirement
4.1.1	Examination of product (Outward Appearance Structure)	**EIA 364-18** Shall be confirmed with eyes in accordance with each drawing. Shall be confirmed by using proper measuring instruments.	1).Outward appearance shall be good without such injurious problem 2).Structure shall be meet the design and dimensional requirements of drawing.

4.2 Electrical Performance:

Item	Test Description	Test Methods	Requirement
4.2.1	Low Level Contact Resistance	**EIA 364-23** (or MIL-STD-1344A, Method 3002.1, Test Condition B) Subject mated contacts assembled in housing to 20mV maximum open circuit at 100 mA maximum The object of this test is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present will not be broken or asperity melting will not occur.	1).Initial: 30 mΩ Maximum 2).After test: 30 mΩ Maximum
4.2.2	Insulation Resistance	**EIA 364-21** (or MIL-STD-202F, Method 302, Test Condition B) Test between adjacent contacts of mated and unmated connector assemblies. The object of this test procedure is to detail a standard method to assess the insulation resistance of USB connectors. This test procedure is used to determine the resistance offered by insulation connector to a DC potential current through or on the surface of the members.	1).Initial: 1000 MΩ Minimum 2).After test: 1000 MΩ Minimum

4.2 Electrical Performance: (Continued)

Item	Test Description	Test Methods	Requirement
4.2.3	Dielectric Withstanding Voltage	**EIA 364-20** (or MIL-STD-202F, Method 301, Test Condition B) Test between adjacent contacts of mated and unmated connector assemblies. The object of this test procedure is to detail a test method to prove that a USB connector can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and/or other similar phenomena.	500 V AC for one minute at sea level 1).No flashover or insulation breakdown
4.2.4	Contact Current Rating	**EIA 364-70 Method B** When measured at an ambient temperature of 25℃. With Power applied to the contacts, the △T shall not exceed + applied to the contacts, the 30℃ at any point in the USB connector under test The object of this test procedure is to detail a standard method to assess the current carrying capacity of mated USB connector contacts.	1.5A at 250Vac minimum

4.3 Mechanical Performance:

Item	Test Description	Test Methods	Requirement
4.3.1	Durability	**EIA 364-09** Mate and unmate Connector assemblies for 1500 cycles at maximum rated of 200 cycles per hour. The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a USB connector to the conditioning action of inserting and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress.	1).Shall meet visual requirement, show no physical damage.
4.3.2	Connector Mating Force	**EIA 364-13** Shall be measured with TENSION GAUGE or TENSION TESTER. Measure force necessary to mate assemblies at maximum rate of 12.5mm (or 0.492”) per minute. The object of this test is to detail a standard method for determining the mechanical forces required for inserting a USB connector.	1).Initial test: 3.57Kgf Maximum 2).After test: 3.57Kgf Maximum

4.3 Mechanical Performance: (Continued)

Item	Test Description	Test Methods	Requirement
4.3.3	Connector Unmating Force	**EIA 364-13** Shall be measured with TENSION GAUGE or TENSION TESTER. Measure force necessary to mate assemblies at maximum rate of 12.5mm (or 0.492") per minute. The object of this test is to detail a standard method for determining the mechanical forces required for extracting a USB connector.	1).Initial test : 1.02Kgf Minimum 2).After test: 1.02Kgf Minimum
4.3.4	Contact Retention Force	**EIA 364-35** Shall be measured with TENSION GAUGE or TENSION TESTER in same direction.	1).Initial : 1 Kgf minimum 2).After test: 1 Kgf minimum

4.4 Environmental Performance:

Item	Test Description	Test Methods	Requirement
4.4.1	Salt Spray	**MIL-STD-202F, Method 101D, Test Condition B** Subject mated connectors to 8 hours at 35℃ with 5%-Salt-solution concentration.	1).Shall meet visual requirement, show no physical damage.
4.4.2	Solderability	**EIA 364-52** After one hour steam aging. The object of test procedure is to detail a unfirm test methods for determining USB connector solderability. The test procedure contained here utilizes the solder dip technique. It is not intended to test or evaluate solder cup, solder eyelet, other hand-soldered type or SMT type terminations.	The surface of the portion to be soldered shall at least 95% covered with new solder coating,as specified in Category 2.
4.4.3	Resistance to Soldering Heat	1) for WAVE SOLDERING : MIL-STD-202F, Method 210A, Test Condition B. Pre-heat : 80℃, 60 Seconds Temperature : 235 ± 5 ℃ Immersion duration : 5 ± 1 sec.	1). No mechanical defect on housing or other parts.
		2) for MANUAL SOLDERING : MIL-STD-202F, Method 210A, Test Condition A. Pre-heat : No Temperature : 330 ± 10 ℃ Immersion duration : 3.5 ± 0.5 sec.	

5.0 Test Sequence:

Test Group (a)		Sample Groups											
Test Item	Test Description	A	B	C	D	E	F	G	H	I	J	K	L
4.1.1	Examination of product	1,8	1,9	1,3	1,3	1,3							
4.2.1	Low Level Contact Resistance	2	8										
4.2.2	Insulation Resistance	3	7										
4.2.3	Dielectric Withstanding Voltage	4	6										
4.2.4	Contact Current Rating	5	5										
4.3.1	Durability		2										
4.3.2	Connector Mating Force	6	3										
4.3.3	Contact Unmating Force	7	4										
4.4.1	Salt Spray			2									
4.4.2	Solderability				2								
4.4.3	Resistance to Soldering Heat					2							
Number of Test Samples (Minimum)		5	5	5	5	5							

Notes:

a. Samples shall be prepare in accordance with applicable manufacture's instructions and shall be selected at random from current production.

b. The numbers in the table indicate sequence in which tests are performed.

c. Precondition samples with 5 cycles durability.

d. All the tests shall be performed in the sequence, indicated by the number in the columns.

e. Each test groups shall consist of minimum of eight connectors. A minimum of 30 contacts shall be selected and identified. Unless otherwise specified, these contacts shall be used for all measurements.

f. this specification application to all series of USB A & B type .

D2009

SHINITE™ PBT

性質	METHOD	UNIT	D201	D201G15	D201G30	D202
比重	D792	---	1.31	1.39	1.52	1.40
含水率	D570	%	0.09	0.07	0.07	0.08
模收縮 流動方向 垂直方向	D955	%	 0,8 - 2,0 0,8 - 2,0	 0,3 - 0,5 0,5 - 0,9	 0,2 - 0,4 0,5 - 0,9	 0,6 - 1,9 0,6 - 1,9
抗張強度	D638	kg/cm²	550	1000	1250	600
伸長率	D638	%	40	4	4	6
彎曲強度	D790	kg/cm²	850	1600	2100	900
彎曲模數	D790	kg/cm²	25000	52000	90000	26000
衝擊強度缺口 1/8" (23°C)	D256	kg x cm/cm	4	8	10	4
洛式硬度	D785	R	118	120	120	118
熱變形溫度	D648	°C	65	205	210	70
耐燃性	UL-94	---	HB	HB	HB	V0
介電強度	D149	KV/MM	15	15	20	15
介電常數	D150	---	3	3	4	3
體積電阻	D257	Ω-CM	1.00E+16	1.00E+16	1.00E+16	1.00E+16

性質	METHOD	UNIT	D202G15	D202G20	D202G30	E202G15	E202G30
比重	D792	---	1.49	1.53	1.62	1.50	1.61
含水率	D570	%	0.07	0.07	0.07	0.07	0.07
模收縮 流動方向 垂直方向	D955	%	 0,3 - 0,5 0,5 - 0,9	 0,3 - 0,5 0,5 - 0,9	 0,2 - 0,4 0,5 - 0,9	 0,3 - 0,5 0,5 - 0,9	 0,2 - 0,4 0,5 - 0,9
抗張強度	D638	kg/cm²	950	1100	1300	920	1300
伸長率	D638	%	4	4	4	4	3
彎曲強度	D790	kg/cm²	1600	1750	1950	1470	2000
彎曲模數	D790	kg/cm²	60000	70000	95000	56000	93000
衝擊強度缺口 1/8" (23°C)	D256	kg x cm/cm	6	7.5	9	5.5	8.5
洛式硬度	D785	R	120	120	120	120	120
熱變形溫度	D648	°C	200	205	210	205	210
耐燃性	UL-94	---	V0	V0	V0	V0	V0
介電強度	D149	KV/MM	20	20	20	20	20
介電常數	D150	---	3	4	4	3	4
體積電阻	D257	Ω-CM	1.00E+16	1.00E+16	1.00E+16	1.00E+16	1.00E+16

一般級	D201	
玻璃纖維強化級	D201G15	D201G30
防火級	D202	
玻纖強化防火級	D202G15-G30	
玻璃纖維強化級E系列	E202G15-G30	

D201, D201G15, D201G30, D202, D202G5-30 UL File No. E107536 (M)

1. 以上數據僅供參考，實際數據以產品檢驗報告為準。
2. 如有任何特別需求，請洽營業人員，謝謝。

三 环

宁波兴业电子铜带有限公司产品品质保证书

本保证书希妥善保管，如对我公司的产品品质有异议，持保证书在壹个月内与我公司联系，本公司将竭诚为您服务，本保证书盖章有效（复印件无效）

No 0803001707

客户名称：宁波力洲铜业有限公司

结算单号：0004377

发货日期：2008-3-3

产品批号：0710/1-125

产品名称：锡磷青铜

产品牌号：QSn6.5-0.1

产品规格：0.15X38mm

产品状态：Y

产品数量：37件

产品重量：2401.8KG

质保部长：郑国辉

检 验 员：05

执行标准：GB/T2059-2000

化学成分（%）：

铜Cu	余量	锌Zn	0.004-0.01	铁Fe	0.001-0.002
锡Sn	6.99	磷P	0.120-0.145	铅Pb	0.001-0.002
锑Sb	——	硅Si	——	铋Bi	——
镍Ni	0.023-0.034	锰Mn	——	铝Al	<0.0005
银Ag	——	砷As	——	杂质总和	≤0.1

力学性能及工艺性能：

抗拉强度N/mm2	630.4	延伸率%	30
杯突值mm	——	维氏硬度HV	——

表面质量与公差（mm）

厚度公差：-0.005　宽度公差：——　表面质量：合格

制单人：陈浙蒙　填单日期：2008-3-3

单位地址：浙江省慈溪市杭州湾新区金溪路　联系电话：8008574311　邮编：315336　FAX：0574-63073218

EMAIL：shine@cn-shine.com　网址：http://www.cn-shine.com

宁波兴业电子铜带有限公司 质保专用章

83.88.89

FS-QC-16.R3

新泰伸科技股份有限公司
S&T TECHNOLOGY CO., LTD.

INSPECTION CERTIFICATE

台灣省桃園縣楊梅鎮民隆路 8 號
No.8, Ming Lung Road., Yang Mei Chen,
Tao Yuan Hsien, Taiwan
TEL: 886-3-472-5833 FAX: 886-3-472-7711

Customer:

Your P/O No:

Date: 12 September

Specification: C2680R-SH JIS H3100(1998)

Our Order No:

Your Part No:

Weight: 0.0 Kg

Lot No.	Standard / Dimension	Property Test: Yield strength (kgf/mm²)	Tensile strength (kgf/mm²)	Young's modulus (kg/mm²)	Elongation (%)	Hardness (Hv)	Conductivity (%IACS)	Bend Test (180°)	Grain Size (mm)
	Dimension	-	58.0 ~68.0	-	-	180 ~ 200	-	-	≦ 0.015
STC-9108530	0.300*26	55.8	58.8	17061	1	189 ~ 191	29.00	Good	0.010
STC-9108557	0.300*26	58.7	60.1	15616	1	189 ~ 191	29.00	Good	0.010
STC-9108438	0.300*26	56.3	59.1	14643	4	186 ~ 188	29.00	Good	0.010

Lot No.	Standard	Composition (wt%): Cu	Sn	P	Zn	Fe	Pb	Surface Roughness Ra(μm)	Dimension: Thickness (mm)	Width (mm)
		64.000~68.000	~	~	REM.	≦ 0.0500	≦ 0.0500	≦0.1500	0.290 ~ 0.310	25.90 ~ 26.00
STC-9108530	67.700				Remainder	0.0180	0.0090	0.080	0.3000	25.940
STC-9108557	67.600				Remainder	0.0170	0.0020	0.085	0.2960	25.990
STC-9108438	67.700				Remainder	0.0160	0.0050	0.083	0.3000	25.970

Remark: 1. Mechanical properties shall be determined in accordance with ASTM E8、 ISO 6892。
2. Conducivity shall be determined in accordance with ISO 1337。

Approved by:

Checked by:

Material Safety Data Sheet

Product Name: SHINITE ® PBT E202G# (#: 5~40% glass content)
Revision Number: 3
Version Date: 2007/7/24

1. Chemical, Product and Company Identification

PRODUCT	SHINITE ® PBT E202G# (#: 5~40% glass content)
COMPANY	Shinkong Synthetic Fibers Corporation, Engineering Plastic Division, 8F, 123, Sec. 2, Nanking East Road, Taipei, Taiwan
PHONE	886-2-2507-1251, 886-3-493-2131
FAX	886-2-2506-5047, 886-3-491-5763

2. Composition/ Information on Ingredients

Chemical Characterization :
Polybutylene Terephthalate (PBT) (CAS# 30965-26-5)
ISO 1043-4 Code number for Flame retardants: FR(17)
Glass Fiber (CAS# 65997-17-3).

3. Hazards Identification

Hazardous Decomposition Products :
Processing fumes evolved at recommended processing conditions contain trace levels of THF (tetrahydrofuran) and may also contain trace levels of hydrogen bromide.

4. First Aid Measures

If molten polymer contacts the skin or eyes, cool rapidly with cold water. DO NOT use solvent for removal.
DO NOT attempt to remove the polymer from the skin!
Obtain IMMEDIATE medical attention.

5. Fire Fighting Measures

Suitable - water spray and foam. Water is the best.
Approved pressure demand breathing apparatus and protective clothing should be used for all fires.

6. Accidental release measures

Sweep up and dispose in proper containers to prevent slipping hazards.

Material Safety Data Sheet

Product Name: SHINITE ® PBT E202G# (#: 5~40% glass content)
Revision Number: 3
Version Date: 2007/7/24

7. Handling and storage

Handling :
Follow recommendations in processing guide. Prevent contact with skin and eyes.
Provide adequate ventilation in molding work.

Storage :
Store in a cool and dry place. Keep containers tightly closed to prevent moisture absorption and contamination

8. Exposure Controls/ Personal Protection

Industrial Hygiene :
A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust systems is recommended.

Personal Protective Equipment :
Respiratory protection - dust mask
Eye protection - safety glasses
Hand protection - thermal protective gloves should be worn around molten plastic

9. Exposure Controls/ Personal Protection

Melting Point (℃) : 225℃
Density @ 25℃ : 1.35 – 1.75 g/cm^3 ASTM D 1505
Form : Granules
Vapor Pressure : Not applicable
Solubility in Water : Insoluble
Ignition Temperature (℃) : 450℃, estimated

10. Stability and Reactivity

Stability : Stable under recommended conditions of storage and handling.
Reactivity : Not reactive under recommended conditions of storage, handling, processing and use.
Thermal Decomposition : None under 400℃
Explosion : Not sensitive to impact and static discharge.

Material Safety Data Sheet

Product Name: SHINITE ® PBT E202G# (#: 5~40% glass content)
Revision Number: 3
Version Date: 2007/7/24

11. Toxicological information

Product not considered primary eye and skin irritant.
TOXIC : N/A

12. Ecological information

We recommend this material be disposed of by properly scrubbed incineration or recycling
Not expected to present any significant ecological problems.

13. Disposal considerations

Product is not a RCRA hazardous waste. Recycling is encouraged. Dispose of using good manufacturing practices under local regulations for your area.

14. Transport information

GGVSEE/IMDG Code :	UN No. : None
ICAO/IATA-DGR : Not Regulated	GGVE/GGVS :
RID/ADR :	ADNR :

DOT Hazard Class : Not Regulated
Proper Shipping Name : Not Regulated
Identification Number : Not Listed
TDGA : Not Listed

15. Regulatory Information

TSCA Status : This product complies with Chemical Substance Inventory requirements of the US EPA Toxic Substances Control Act (TSCA).
WHMIS Classification : Not a controlled product.

16. Other information

SHINITE is a registered trademark of the SHINKONG SYNTHETIC FIBERS CO.

物质安全资料表

版本 1　　发行时间：2005.09.27　　打印时间：2008.11.11　　页数 1 / 4

物品名称：

制造商名称：

一、物品与厂商资料

物品名称：磷青铜带
制造商及供应商名称、地址及电话： 公司：宁波兴业电子铜带有限公司 地址：浙江省慈溪市杭州湾经济开发区金溪路 2-9 号/315336 电话：（0574）63073314
部门：质量服务部
紧急情况处理机构：　市场服务科　马亚萍（小姐）

二、成分辨识资料

化学性质：

锡磷青铜带的化学成分，%

合　金	Sn	Al	Zn	Ni	Fe	Pb	P	As	Si	Cu	杂质总和
QSn4-0.3 [C51100]	3.5~4.9	—	0.30	0.2	0.10	0.05	0.03~0.35	—	—	余量	—
QSn6.5-0.1 [C5191]	6.0~7.0	0.002	0.3	0.2	0.05	0.02	0.10~0.25	—	—	余量	0.1
QSn6.5-0.4	6.0~7.0	0.002	0.3	0.2	0.02	0.02	0.26~0.40	—	—	余量	0.1
QSn8-0.3 [C52100]	7.0~9.0	—	0.20	0.2	0.10	0.05	0.03~0.35	—	—	余量	—

三、危害辨识资料

辨识符和危害描述：金属性固体，易碰伤身体
对人体和环境的特殊危害：易碰伤身体
有害影响和表现：易碰伤身体

四、急救措施

不同暴露途径之急救方法： 吸入(因深加工而形成的粉尘和气体)：呼吸新鲜空气，若有不适找医生就诊 皮肤接触：不会产生健康危害 眼睛接触：睁大眼睛，并用水冲洗数分钟 食入：　若有持续不适找医生就诊
对医师之提示：　无

物质安全资料表

物品名称：

制造商名称：

五、灭火措施

适用灭火剂：　不易燃烧
灭火时可能遭遇之特殊危害：　无
消防人员之特殊防护　备：防护衣、防护手套等
其它提示：　无

六、　漏处理方法

个人应注意事项：　无
环境注意事项：　无
清理方法：　无
其它提示：　无

七、安全处置与储存方法

处置： 安全处置有关信息：注意安全 火灾及泄漏保护的有关信息：　无泄漏
储存： 单独贮存；禁止与强氧化剂、酸、碱等物质混合储存； 不要在潮湿和有水蒸气的环境下储存； 远离热源和引火源；检查所有新进制带，清楚标示及无受损； 须具备随时可用于火灾的紧急处理装备

八、暴露预防及个人防护措施

工程控制：　-
呼吸系统防护：供气式呼吸防护具
手部防护：耐磨防护手套防护衣

九、物理及化学性质

化学性能：化学稳定性强，对稀硫酸有较强的抗蚀性； 易于在流速较大的潮湿水蒸气中腐蚀； 高温下，易与 Cl、Br、F及其氢化物、干燥 CO2 发生反应，形成挥发性化合物。

物质安全资料表

物品名称：

制造商名称：

物理特性：具有较高的弹性、耐磨性和抗磁性， 在热态和冷态均可压力加工，易于焊接和钎焊， 可削性、可塑性、延展性、铸造性较好， 有较强的热导率、电导率，

物质状况：固体	形状：带状
分解温度：996℃	气味：无味
密度：8.8 g/cm3	溶解性：不溶于水

十、安定性及反应性

应避免之状　：避免加　，与流速大的水蒸气混合
应避免之物质：强氧化剂、水蒸气
危害分解物：　无

十一、毒性资料

急毒性：无
其它：

十二、生态资料

对水的危害等级：　无
概述：

十三、废弃处置方法

1. 参考相关法规处理，符合相关环保法规
2. 作为产业废弃物可再回收利用

十四、运输资料

概述：搬运时注意安全防护，严禁摔落、互相碰撞、损伤； 不要用油污的手接触铜带； 其他根据消防法、道路安全运输等法令实施。

物质安全资料表

物品名称：

制造商名称：

十五、法规资料

EC 指令有关法规辨识：ROSH 指令

其它：GB/T5231-2001 加工铜及铜合金化学成分和产品形状

《部件和材料中环境管理物质 管理规定》（索尼 SS-00259-0-2005）

本地法规：环境保护法'固体废弃污染环境防治法'消防法

道路交通安全规则：

作业环境空气中有害物质含量的有关技术指令：大气污染防治法

对水的污染等级：无

对水没有危害性/污染无

十六、其他资料

本资料表阐述了就环保和劳工安全方面我们对处于出货时状态下的产品的现有知识。

然而，本资料表不就某些产品性能做出任何担保，不具有任何法律约束性质。

制品安全资料表(MSDS)

公司名称：宁波兴业电子铜带有限公司

地　　址：浙江慈溪市经济开发区杭州湾新区金溪路

服务部门：质量技术服务部　　负责人：丁昂炜

电　　话：0574-63073293　　传　　真：0574-63073218

1、制品名：普通黄铜

2、物质特性

单一物质.混合物区别：混合物

化学名：铜锌合金

牌号：H65

成分及含量：

合金成分	含有量（%）
铜（Cu）	63.5~68.5
锌（Zn）	余量

牌号：H70

成分及含量：

合金成分	含有量（%）
铜（Cu）	68.5~71.5
锌（Zn）	余量

3、危险有害性种类

种类名称：急性毒性

危险性：无

有害性：铜、锌吸入会导致呼吸有刺激、灼热症状

4、救急措施

进入眼睛时	进入眼睛不要用手擦，不要闭着眼睛，用清水清洗，最少15分钟，如有其它异状时，请马上去看医生。
接触皮肤时	碰到皮肤要用石灰水清洗，用清水清洗时间长一点，加热变成粉末碰到皮肤，有轻微的灼伤感，用大量的水清洗，冷却被灼伤的部分。
吸入鼻子时	切割时的粉尘或粉末吸入，要保持空气新鲜，流通，恒温，安静，有必要时找医生诊断。
嘴巴食入时	用清水漱口，清洗干净，可能会有呕吐的感觉，严重的情

况，马上去看医生。

5、火灾时的措施

消火方法： 不燃性物质，不适用。

消火剂： 不燃性物质，不适用。

6、泄漏时措施 燃性物质，不适用。

7、取放及保管上注意：

取放： 1、较重物，落下时要请注意。

2、取放时要轻拿轻放，不要随便乱放。

3、有弹性，易切伤皮肤，特别是要保护好眼睛。

4、切断面较锋利，尽量不要直接用手拿，带手套。

8、暴露防止措施

管理浓度：作为混合物的规定没有。

但是长期暴露，有可能会有隐患。

设备对策：通常情况下不需要，当有粉末产生场合，一定要有排气装置。

劳保用品：

呼吸用保护具：尘埃、细小粉末存在的场合，要有防护口罩。

保护手袋：因为有可能损伤双手，所以要带手袋或手套。

保护衣：按操作流程，有需要的情况下要穿保护衣、安全鞋。

NIINGBO CONNFLY ELECTRONIC CO.,LTD

EAST INDUSTRY ZONE KUANGYAN TOWN CIXI NONGBO CHINA

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

SGS Job No. :	SP14-000120 - SH
Composition :	Resin
Date of Sample Received :	10 Jan 2014
Testing Period :	10 Jan 2014 - 20 Jan 2014
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 samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.

JJ Fan
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA14-006133.015	Black plastic pellet

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
(5) With reference to IEC 62321:2008, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	*015*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	9
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	2	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	118
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Item(s)	Limit	Unit	MDL	015
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	5
Decabromodiphenyl ether	-	mg/kg	5	113

Notes :

(1) The maximum permissible limit is quoted from the directive 2011/65/EU, Annex II

Phthalates

Test Method : Determination of phthalates by GC-MS based on EN 14372:2004.

Test Item(s)	CAS NO.	Unit	MDL	015
Dibutyl Phthalate (DBP)	84-74-2	%	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%	0.003	ND

Notes :

(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.

Hexabromocyclododecane (HBCDD)

Test Method : Determination of HBCDD by GC-MS based on IEC 62321:2008.

Test Item(s)	Unit	MDL	015
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

Notes :

(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Hexabromocyclododecane (HBCDD) is considered as a priority for risk evaluation and substance

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restriction.

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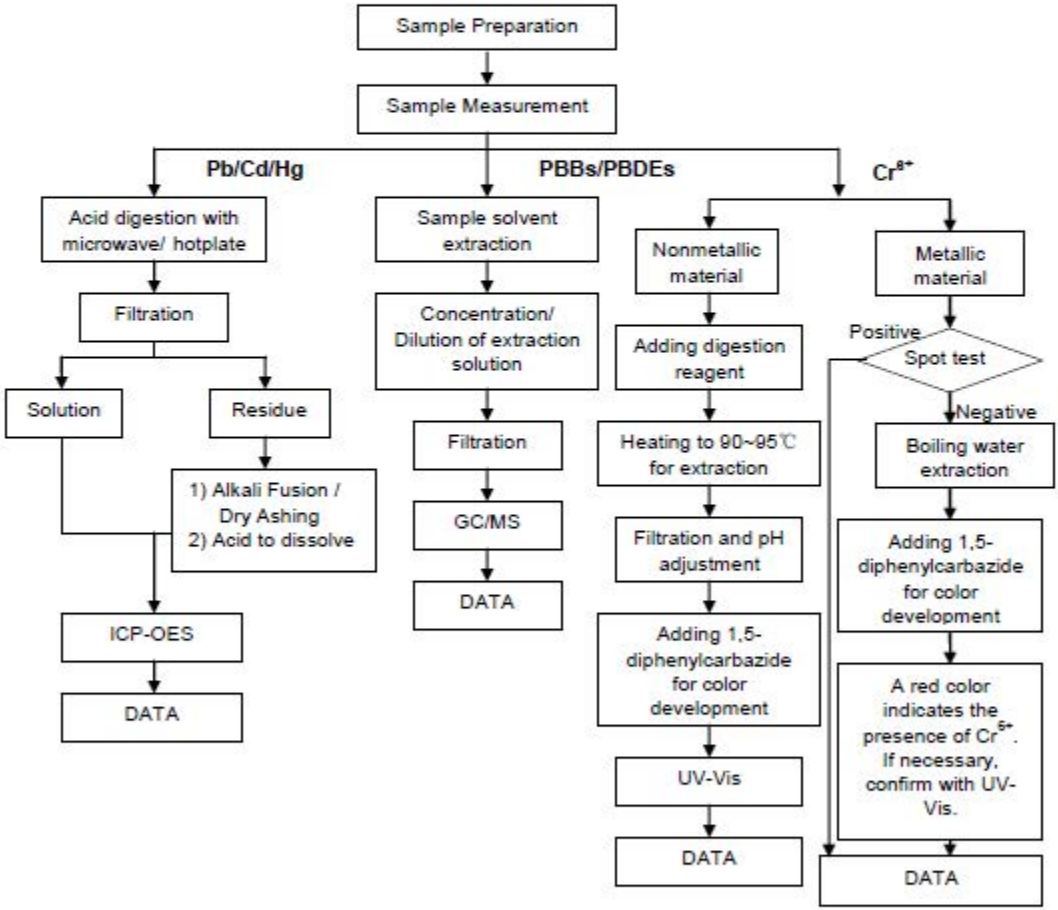
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Jan Shi/Star Wang/Shara Wang/Gary Xu
2) Name of the person in charge of testing: Jeff Zhang/George Xu/ Jessy Huang
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} and PBBs/PBDEs test method excluded)



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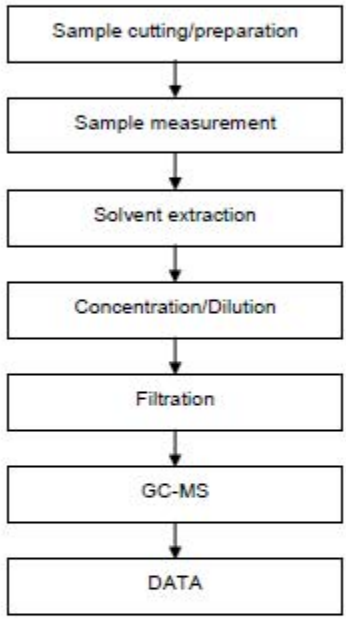
Phthalates Testing Flow Chart

1) Name of the person who made testing: Elyn Yao

2) Name of the person in charge of testing: Myra Ma



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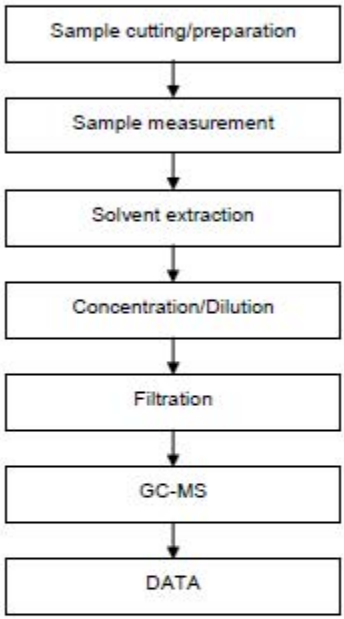
HBCDD Testing Flow Chart

1) Name of the person who made testing: Gary Xu

2) Name of the person in charge of testing: Jessy Huang



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Sample photo:

SHA14-006133.015

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Test Report

No. SHAEC1400613309 Date: 20 Jan 2014

NIINGBO CONNFLY ELECTRONIC CO.,LTD

EAST INDUSTRY ZONE KUANGYAN TOWN CIXI NONGBO CHINA

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

SGS Job No. :	SP14-000120 - SH
Composition :	Cu
Date of Sample Received :	10 Jan 2014
Testing Period :	10 Jan 2014 - 20 Jan 2014
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 samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.

JJ Fan
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA14-006133.009	Silvery metal

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by spot test / Colorimetric Method using UV-Vis.

Test Item(s)	Limit	Unit	MDL	*009*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	85
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative

Notes :

(1) The maximum permissible limit is quoted from directive 2011/65/EU, Annex II

(2) ◇Spot-test:
Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) 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 Cr(VI) coating
Positive = Presence of Cr(VI) coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm^2 sample surface area.
Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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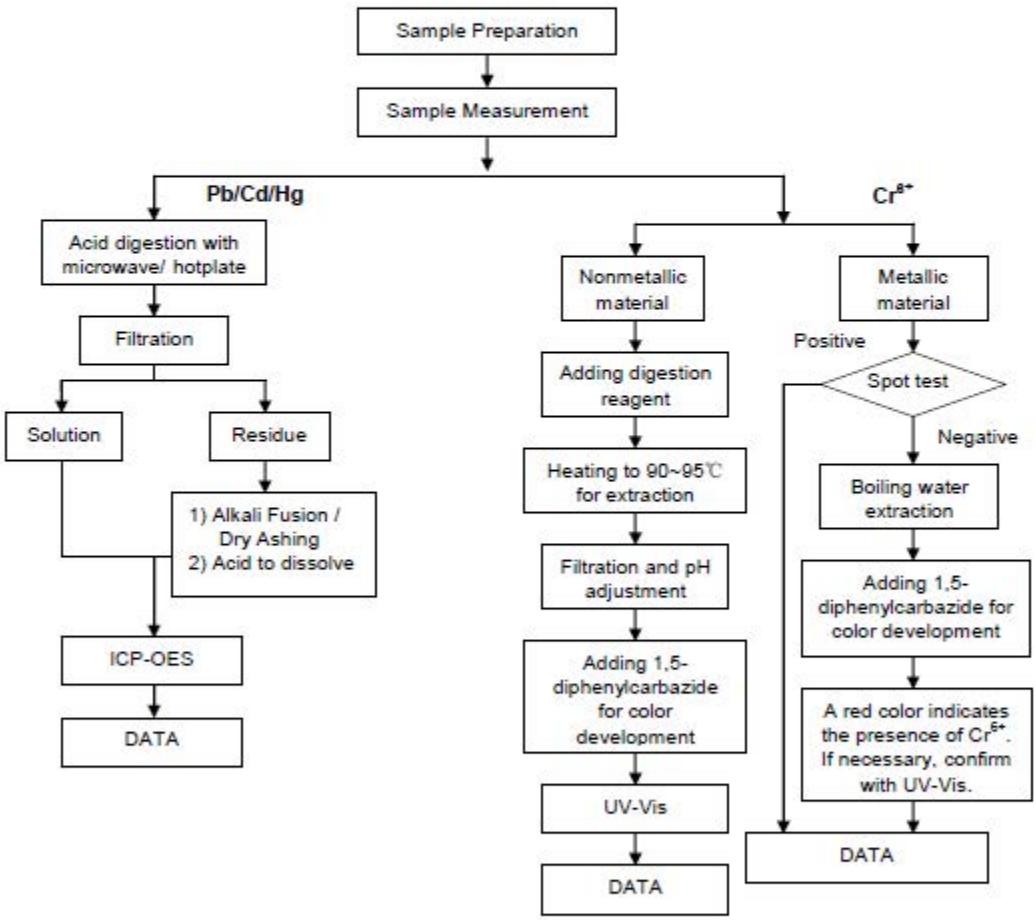
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Jan Shi/Star Wang / Shara Wang
2) Name of the person in charge of testing: Jeff Zhang/George Xu
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)



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Sample photo:

SHA14-006133.009

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NIINGBO CONNFLY ELECTRONIC CO.,LTD
EAST INDUSTRY ZONE KUANGYAN TOWN CIXI NONGBO CHINA

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

SGS Job No. :	SP14-000120 - SH
Composition :	Cu
Date of Sample Received :	10 Jan 2014
Testing Period :	10 Jan 2014 - 20 Jan 2014
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 samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.

JJ Fan
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA14-006133.010	Yellow metal

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by spot test / Colorimetric Method using UV-Vis.

Test Item(s)	Limit	Unit	MDL	*010*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	37
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative

Notes :

(1) The maximum permissible limit is quoted from directive 2011/65/EU, Annex II

(2) ◇Spot-test:
Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) 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 Cr(VI) coating
Positive = Presence of Cr(VI) coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm^2 sample surface area.
Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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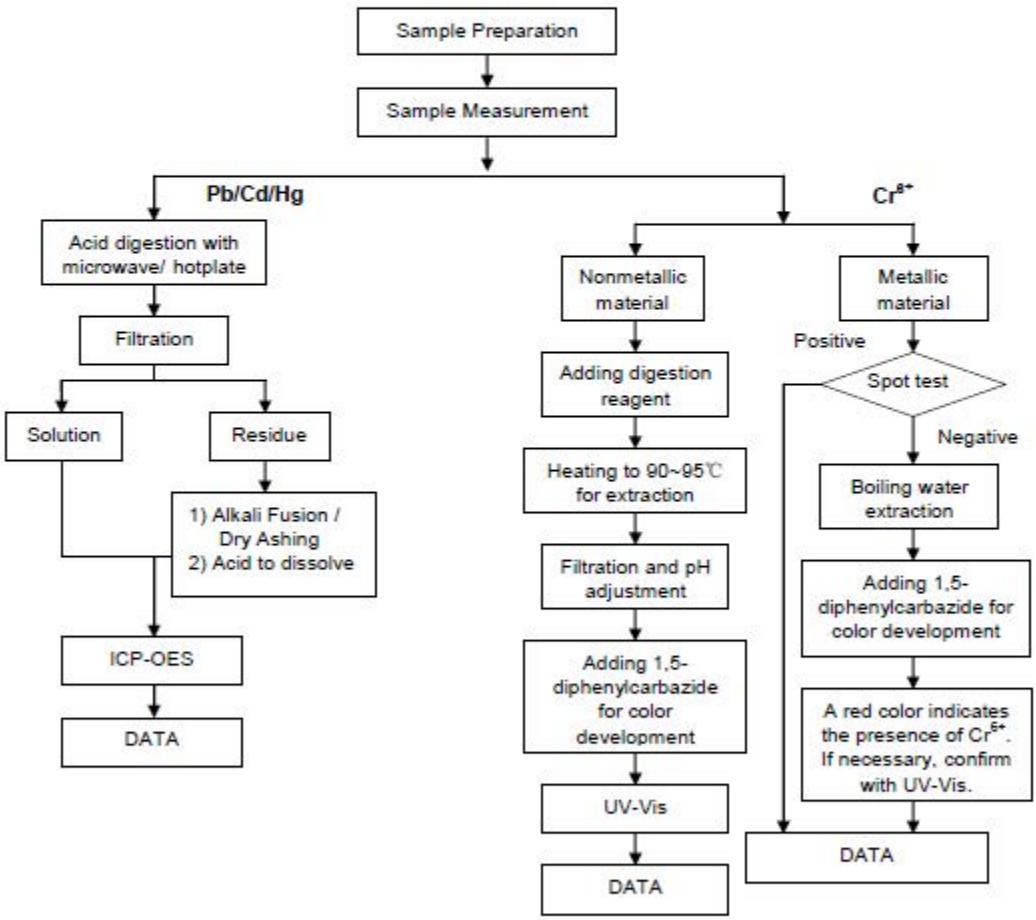
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Jan Shi/Star Wang / Shara Wang
2) Name of the person in charge of testing: Jeff Zhang/George Xu
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)



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Sample photo:

SHA14-006133.010

SGS authenticate the photo on original report only

*** End of Report ***

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2008/9/8

SHINKONG SYNTHETIC FIBERS CORPORATION
CHUNGLI TECHNICAL CENTER
TAIWAN

Subject：Certification of Product Safety

Dear Sir：

This is to certify that our products:
SHINITE ® PBT (Polybutylene Terephthalate) , PET, NYLON, PP and SHINBLEND® ALLOY comply with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC, and none of the following substances are intentionally used in these products.

- Cadmium (Cd) and its compounds
- Lead (Pb) and its compounds
- Chromium VI($Cr^{+}6$) and its compounds
- Mercury (Hg) and its compounds
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ethers (PBDE)
- Polychlorinated biphenyls (PCB)
- Polychlorinated naphthalenes (PCN)
- Polychlorinated terphenyls(PCT)
- Chlorinated paraffins (CP)
- Organic tin compounds
- Asbestos
- Azo compounds
- Formaldehyde
- Polyvinyl chloride(PVC) and PVC blends
- Ozone depleting chemicals(CFC's & HCFC's)
- Tetrabromobisphenol-A-bis-(2,3-dibromopropylether) (TBBP-A-bis)
- Tetrabromobisphenol-A (TBBP-A)
- Phthalates
- PFOS, PFOA
- Polyaromatic Hydrocarbons(PAHs)
- Beryllium oxide; Beryllium copper
- Substances depleting the ozone layer (Hydrofluorocarbon[HFC], Perfluorocarbon[PFC])
- 2-(2H-benzotnazol-2-yl)-4,6-bis(1,1-dlmehylthyl)-phenol(UV320，Cas No.3848-71-7)

2008/9/8

None of the 16 SVHC substances listed below are intentionally used in our products.

Substance identification			Authority	Reason for proposing	Date of publication	Deadline for commenting
Substance name	CAS number	EC number				
Anthracene	120-12-7	204-371-1	Germany	PBT	1930/6/8	2014/8/8
4,4'- Diaminodiphenylmethane	101-77-9	202-974-4	Germany	CMR	1930/6/8	2014/8/8
Dibutyl phthalate	84-74-2	201-557-4	Austria	CMR	1930/6/8	2014/8/8
Cyclododecane	294-62-2	206-33-9	France	PBT	1930/6/8	2014/8/8
Cobalt dichloride	7546-79-9	231-589-4	France	CMR	1930/6/8	2014/8/8
Diarsenic pentaoxide	1303-28-2	215-116-9	France	CMR	1930/6/8	2014/8/8
Diarsenic trioxide	1327-53-3	215-481-4	France	CMR	1930/6/8	2014/8/8
Sodium dichromate, dihydrate	7789-12-0	-	France	CMR	1930/6/8	2014/8/8
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	Netherlands	vPvB	1930/6/8	2014/8/8
Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	Sweden	CMR	1930/6/8	2014/8/8
Hexabromocyclododecane (HBCDD)	25637-99-4	247-148-4	Sweden	PBT	1930/6/8	2014/8/8
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	United Kingdom	PBT	1930/6/8	2014/8/8
Bis(tributyltin)oxide	56-35-9	200-268-0	Norway	PBT	1930/6/8	2014/8/8
Lead hydrogen arsenate	7784-40-9	232-064-2	Norway	CMR	1930/6/8	2014/8/8
Triethyl arsenate	15606-95-8	427-700-2	Norway	CMR	1930/6/8	2014/8/8
Benzyl butyl phthalate	85-68-7	201-622-7	Austria	CMR	1930/6/8	2014/8/8

ABBREVIATIONS

- Cat. 1 & 2 CMR: Category 1 & 2 Carcinogen, Mutagen, & toxic for Reproduction
- ECHA: European Chemical Agency
- PBT: Persistent Bioaccumulative Toxic
- REACH: Registration, Evaluation, Authorization and restriction of Chemicals
- SVHC: Substances of Very High Concern (include CMR, PBT, vPvB or substances of equivalent concern – E.g. endocrine disruptor)
- vPvB: very Persistent very Bioaccumulative

Should you have any questions, please feel free to contact me. Thanks.

Yours truly,
J. K. Liew
ENPLA division, QA Section Chief

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