

Product Data Sheets

Customer : _____

Part No. : _____

Cooler Master Model No. : ECC-00589-02-GP

Edition: A1

Issued Date: 2008.07.02

Revision History :			
Date of Release	Revision No.	Description	
Customer		Cooler Master	
Approved by	DCC	Checked by	Drafted by
	陳如玉	徐宗瑞	陳秀惠
Date:	Date:2008.07.02	Date:2008.07.02	Date:2008.07.02



Cooler Master Co., Ltd.

TEL: +886 (2) 32340050 FAX : +886 (2) 32340051

www.cooler-master.com



Whole Photo





Specification & Dimension

Heat Sink

Material : Aluminum Alloy 6063 T5

Finished: Anti-Oxidant

AL- BASE Global Calibration of Al Base 6063

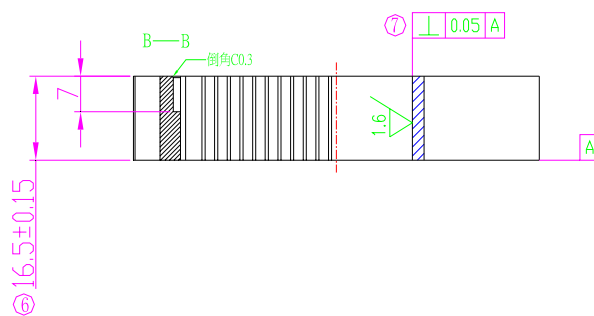
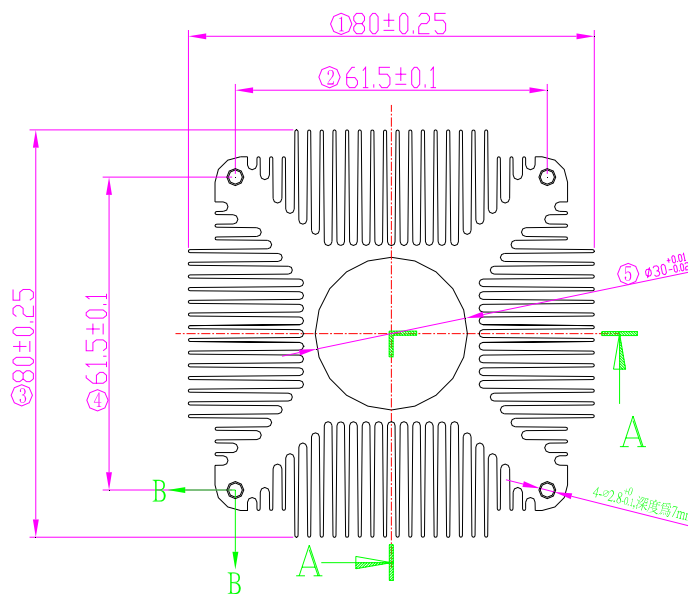
Note : Chemistry Ingredient Criterion CNS 2068 H3021

Mechanical Characteristics :

Alloy No.	Designation	Cutting Area Surface	Extension Rate
6063	T5	Over 15 kgf/mm ²	7 %

Chemistry Ingredient & Temper Designation :

Value	Si	Fe	Cu	Mn	Cr	Mg	Zn	Ti	Flatness
SPECIFIED VALUES	0.4258	0.2037	0.0032	0.0059	0.0028	0.5147	0.0000	0.00263	0.1mm ↓



General Dimension Tolerances (Unit : mm)

0	—	30	± 0.2
31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			± 2°



Material : Copper Alloy C1100

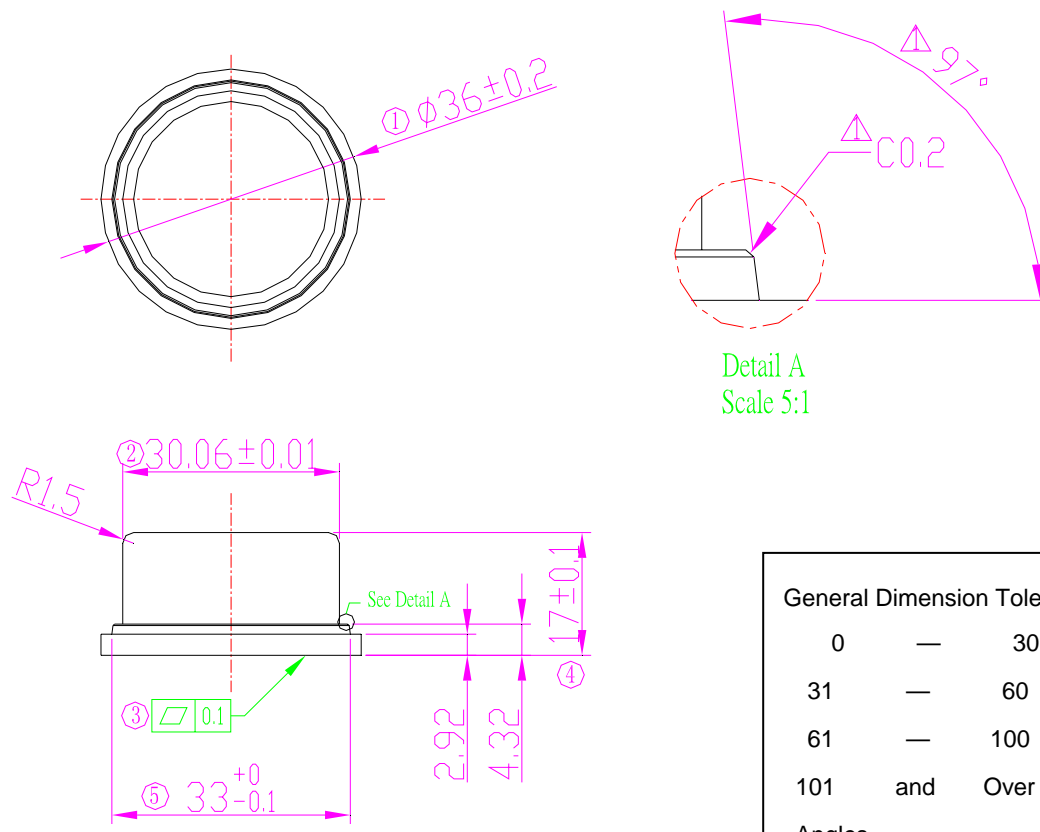
Finish : Anti-Oxidation

Mechanical Characteristics :

Alloy No.	Tensile Strength (26~32kgf/mm ²)	Hardness Test (80~100HV)	Elongation (%)
C1100	26.29	88	98

Chemistry Ingredient Characteristics :

Value	Cu	Pd	Fe	Sn	Zn	P
SPECIFIED VALUES	99.90	0	0	0	REN	0



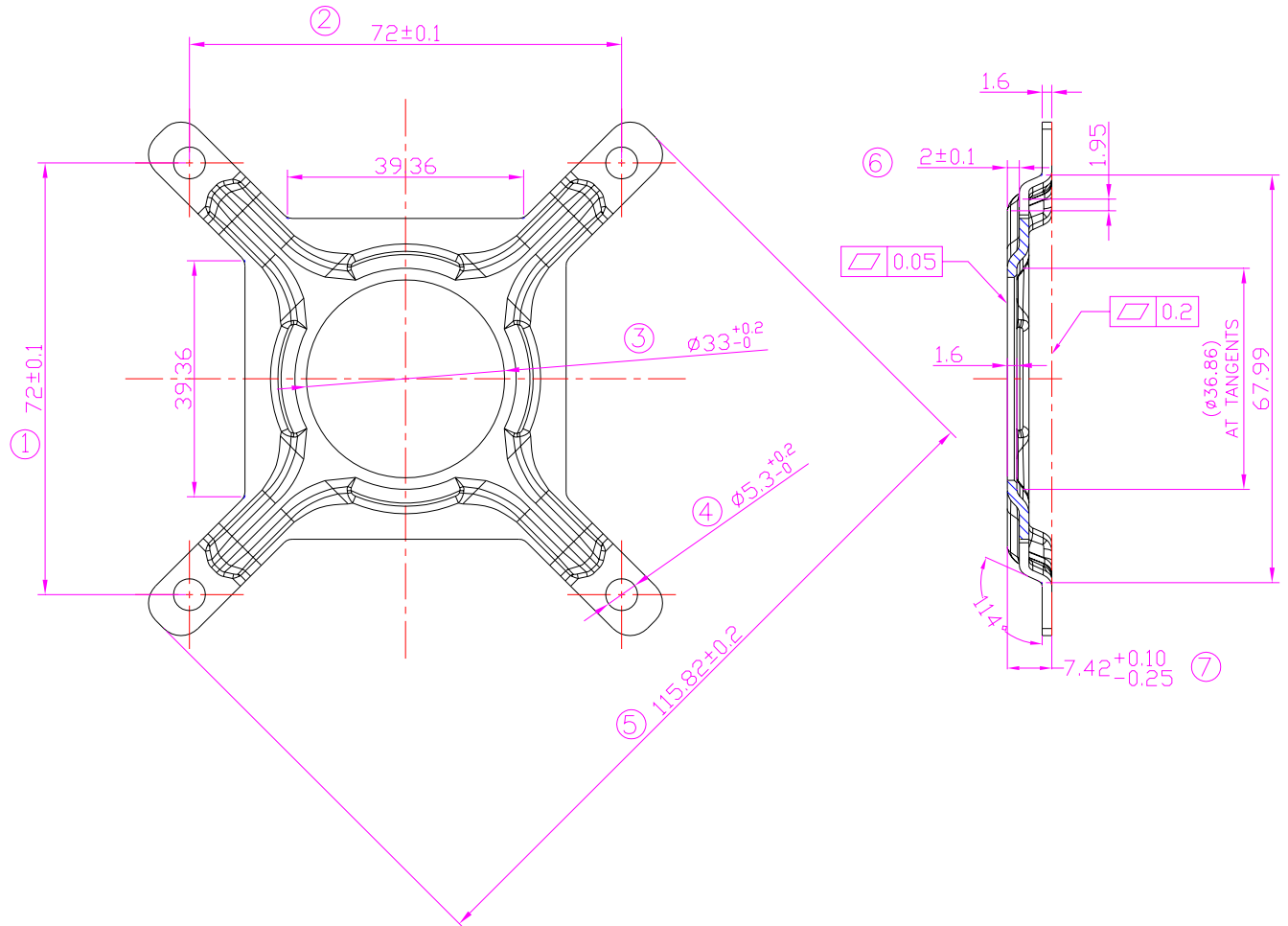
General Dimension Tolerances (Unit : mm)			
0	—	30	± 0.2
31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			$\pm 2^\circ$



Material : S50C

Finished: Nickel-Plating

Thickness : 1.6mm



General Dimension Tolerances (Unit : mm)			
0	—	30	± 0.2
31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			$\pm 2^\circ$



Screw

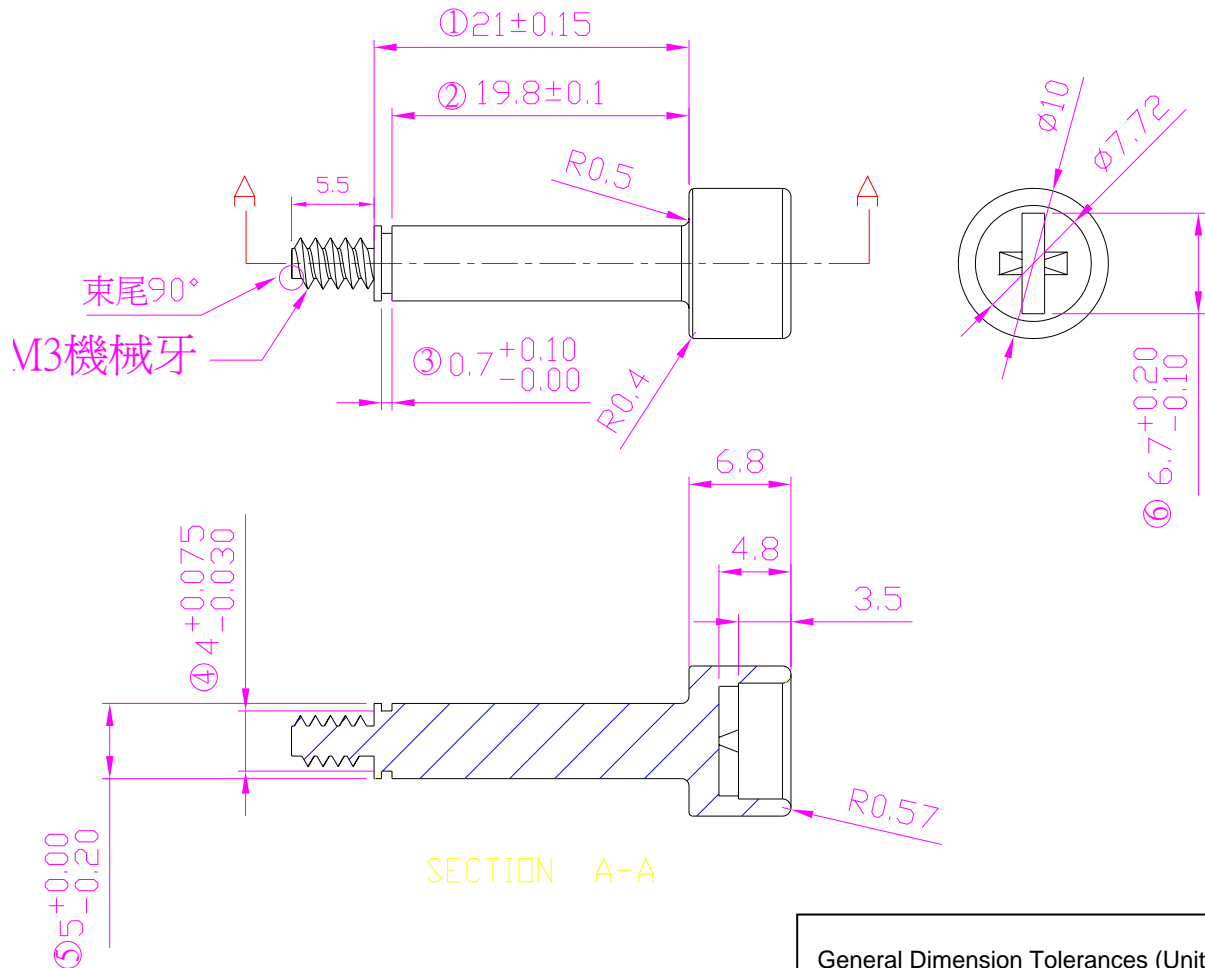
Material : AISI 1018

Physical Characteristics :

product : ROD CARBON STEEL

Chemistry Ingredient Characteristics : (%)

Value	C	KN	P	S	SI
SPECIFIED VALUES	0.16	0.78	0.24	0.8	0.2



General Dimension Tolerances (Unit : mm)

0	—	30	± 0.2
31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			$\pm 2^\circ$



Spring

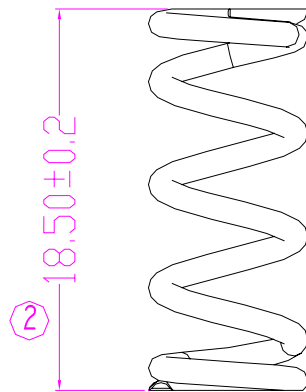
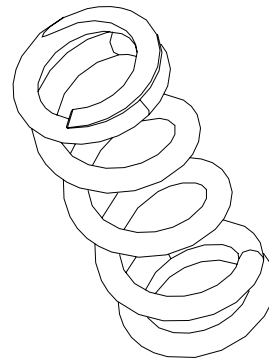
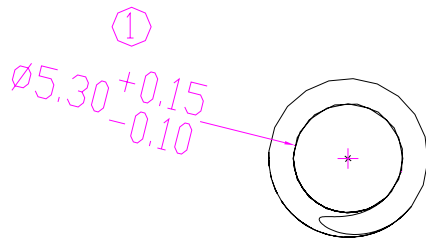
Mechanical Characteristics :

Commodity	Size	Compress
SWP-B	1.2mm	15 mm

Finished: Nickel Plating

Chemistry Ingredient Characteristics : (%)

Value	C	Si	Mn	P	S	Cu
SPECIFIED VALUES	0.81	0.18	0.50	0.011	0.004	0.01



General Dimension Tolerances (Unit : mm)

0	—	30	± 0.2
31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			$\pm 2^\circ$



Washer

CONFIDENTIAL

REV	DESCRIPTION	Section	Engineer	Checked	Date
△	?10±0.2變更成?10±0.15	B-3	張小勇	藍梓倫	2005.01.21
△	1±0.05變更成產品總高為1 ^{+0.10} _{-0.05}	C-3	鄧紹兵	周景華	2007.06.11

技術要求:
 1.材質:SPCC,料厚:1±0.05
 2.后處理:鍍藍鋅
 3.去除所有毛刺及鋒利毛邊.
 4.標有①-③ 為重點檢測尺寸

General tolerances:
At least --- Less than

0 ~ 10	±0.1
10 ~ 50	±0.15
50 ~ 100	±0.2
100 ~	±0.25

Unit: mm Size: A4

Sheet of: 1/1 Scale: 1/1

DRAWN: 鄧紹兵 DATE: 2007.06.11
 ENGINEER: 鄧紹兵 DATE: 2007.06.11
 CHECKED: 周建根
 APPROVAL: 周景華 DATE: 2007.06.11

Cooler Master Co., Ltd
正式圖面
DATE: 2007.06.11

COOLER MASTER
CO., LTD.
Part Name: 500001371-GP
File Name: 950GR007-WASHER-01-A3

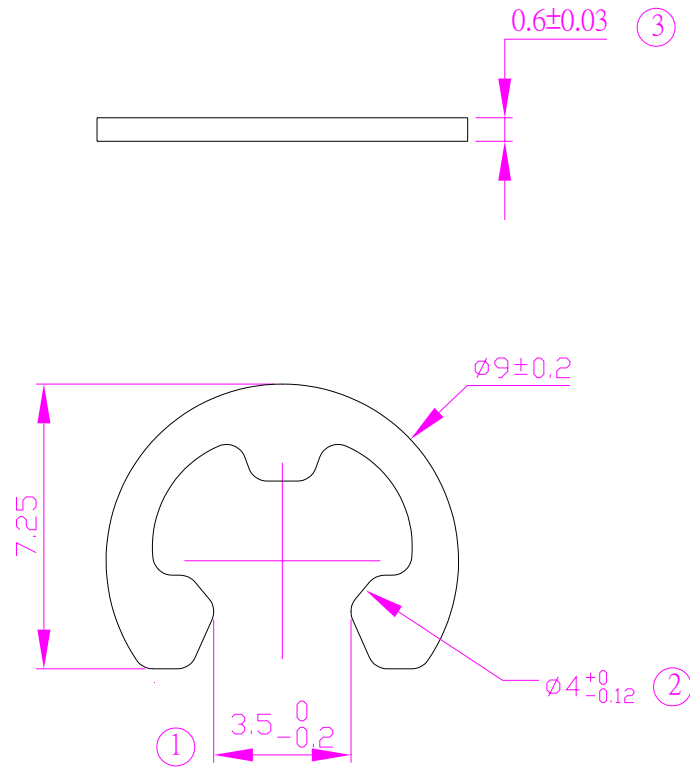


E-Ring

Material : SK5

Hardness:45~50HRC

Finished: Nickel-Plating



General Dimension Tolerances (Unit : mm)

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31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			$\pm 2^\circ$

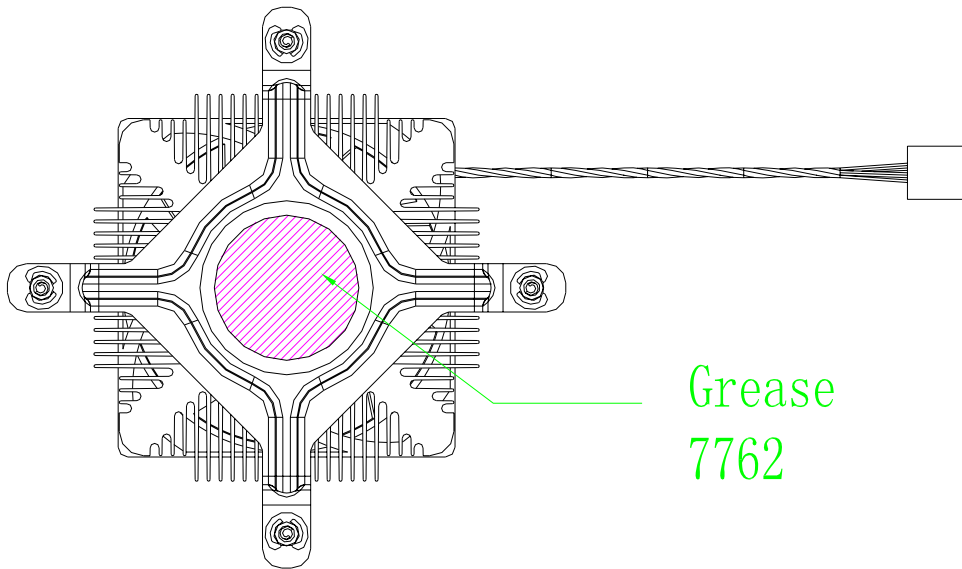


Grease -7762

SIZE mm: ϕ 30mm

Thickness : 0.1 ~ 0.2 mm

Specification	Brand
7762	ShinEtsu





X-23-7762

Thermal Interface Material

Description of Use

Thermal grease (X-23-7762) is a thermal interface material developed by Shin-Etsu Chemical Co., Ltd. to meet the current and future thermal management requirements of high performance microprocessors. It is used to increase heat sink effectiveness by closing the air gap existing between the top of the processor and the fan heat sink. Air is a thermal insulator with a thermal conductivity of 0.027W/mK. The grease is applied to the raised area on top of the processor after the processor is in the socket. The fan heat sink is centered on the processor top, with the raised areas on the bottom of the heat sink and the processor top aligned. The fan heat sink is firmly pressed to evenly distribute the thermal grease until the metal of the heat sink is felt against the metal of the processor top. The excess grease can be removed by wiping with a soft cloth.

Typical Physical Properties

Appearance	Gray
Viscosity (25C)	1700 Poise
Bulk Thermal Conductivity	More than 4 W/mK (with solvent) More than 6 W/mK (w/o solvent, as X-23-7732)
Volatile Content (150C x 24hrs)	2.5%

Handling instruction

1. Suggest to store the material under 10 deg C. Once open the lid, please use it up as soon as possible.
2. Require stirring the material up before using.
3. X-23-7762 contains 2wt% of solvent as a diluted component for application of screen-printing. Therefore, require removing solvent after putting 7762 on substrate. Recommendable curing condition: 60 deg C x 30min



Fan

规格承认书

SPECIFICATION FOR APPROVAL

普通规格 (General Specification)

项目 (Item)		规格/条件 (Specification/Condition)	
1.1	编号 (Products NO.)	DF0701512B2HN-GP	
1.2	外形尺寸 (Outline)	70*70*15mm	
1.3	额定电压 (Rated Voltage)	DC 12V	
1.4	操作电压 (Operating Voltage Range)	10.8~13.2V	
1.5	起动电压 (Starting Voltage)	DC 7V MAX (占空比10%)	
1.6	额定电流 (Rated Current)	0.24A+10%MAX	
	制动电流 (Locked Current)	0.42A+10%MAX	
	安全电流 (Safety Current)	0.34A+10%MAX	
1.7	消耗功率 (Power Consumption)	2.88W	
1.8	转速 (Speed)	占空比100%时 3800±10%R.P.M	
1.9	PWM频率	25±2KHZ	
1.10	最大风量 (Max. Airflow)	27.8CFM (ft ³ /min)	
1.11	最大静压 (Max. Static Pressure)	3.06mm-H ₂ O	
1.12	噪音水准 (Noise Level)	35.8dB(A)	
1.13	寿命 (Life)	70,000/hrs 25° C	
1.14	扇叶数 (No. of Blade)	11叶 (Blades)	
1.15	磁极数 (No. of Pole)	4极 (Poles)	
1.16	运转方向 (Rotating Direction)	逆时针	

电气规格 (Electrical Specification)

项目 (Item)		规格/条件 (Specification/Condition)	
2.1	风扇旋转锁定 (Fan leaf spins to lock)	在额定电压下锁住扇叶24小时, 当锁定解除后风扇仍能正常运转. (After specified voltage locks fan leaf for 24 hours, will lock to relieve, fan can still operate normally.)	
2.2	极性保护 (Polarity Protection)	Vcc与GND反接时, 回路不烧毁. (Circuit is protected when Vcc & GND are exchanged)	
2.3	绝缘阻抗 (Insulation Resistance)	10MΩ / 裸线 与 外框间测量, 500VDC/min. (10MΩ / b/w unshielded wire and frame at 500VDC/min)	
2.4	绝缘耐压 (Dielectric Strength)	0.05mA MAX / 导线 与 外框间测量, 500VAC/min. (0.05 mA MAX / Measured b/w lead wire (+) and frame at 500VAC/MIN)	



主要材料/零件规格 (Main Materials/parts Specification)

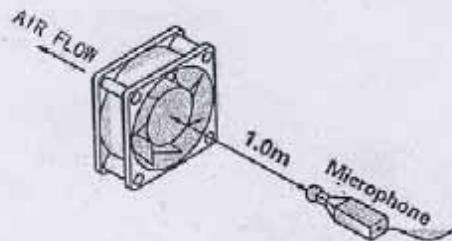
材料/零件 (Materials/Parts)	材质规格 (Specification)	安规编号 (File No)	供应商 (Provider)
3.1 外框 (Plastic Material)	a. 94-V0 黑色TwoBall方框 b. P. B. T+30%GF Black		宏宝
3.2 扇叶 (Blade housing)	a. 94-V0 黑色TwoBall 11叶 b. P. B. T+15%GF Black		宏宝
3.3 绝缘架 (Bobbin)	a. 94-V0 b. P. B. T+30%GF Black		宏宝
3.4 轴芯 (stator core)	不锈钢 Stainless steel (SUS420J2)		腾寅
3.5 轴承 (Bearing)	双滚珠轴承 TwoBall Bearing		华亿
3.6 橡胶磁铁 (Rubber magnet)	铁氧粉末化合物 Strontium ferrite (BQB14W)		保磁
3.7 矽钢片 (Silicon steel strip)	H23		欣锋
3.8 漆包线 (Enamelled copper wires)	MW-2UEW		华荣
3.9 印刷电路板 (Printed Circuit Board)	半玻纤单层印刷电路板 94V0 Wiring printed single layer board		鑫华
3.10 电源线 (Lead Wire)	UL1007/30AWG, (-)红色, (+)蓝色, (P)黄色, (N)白色 总长度 (Total length): 240±10mm, 外圈长度 (Outside dia length): 200±10mm.		金格
3.11 连接器 (Connector housing)	2.54-4P 白色端子		金格
3.12 贴纸 (Label)	多元酯 Polyester		卷泉

4. 环境测试 (Environmental Specification)

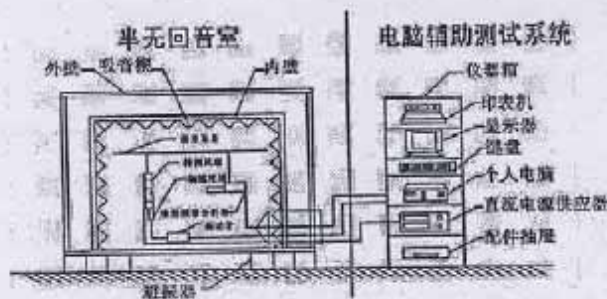
项目 (Item)	规格/条件 (Specification/Condition)
4.1 工作温度/湿度范围 (Operation Temp Range)	温度/Temperature: -10° C ~ +65° C 湿度/Humidity: 35% ~ 85%RH
4.2 保存温度/湿度范围 (Storage Temperature)	温度/Temperature: -30° C ~ +75° C 湿度/Humidity: 35% ~ 85%RH
4.3 耐湿性 (Humidity)	试验后, 电气规格依据MIL-STD 202F Method 103b, 寿命: 96小时; 湿度: 95%; 温度: 40±2° C (Per MIL-STD 202F Method 103b; Life: 96hours; Humidity: 95%RH; Temperature: 40±2° C)
4.4 热冲击 (Thermal Shock)	试验后, 电气规格依据MIL-STD 202F Method 107D (Per MIL-STD 202F Method 107D; Condition D)
4.5 绝缘等级 (Insulation Class)	ULA级 (UL Class A)
4.6 包装耐振动实验 (Packing Vibration Test)	包装后, XYZ三方向施1.1G加速振动30分钟后, 无异状。 (Packing Condition: X, Y, Z directions, 1.1G load vibration test for 30 min)
4.7 包装耐冲击实验 (Packing is impulse withstand to Test)	捆包状态下, 高60cm, 1棱角3边6面自然落下, 无异状。 (Bundle bale is 60cm high under state, in 1 edge and 3 sides, 6 surfaces fall naturally, is the same as frequently phenomenon occur.)



音测试说明 Acoustic sound level test descriptions
 规定电压在噪音实验室中测试背景噪音为17dB(A). At rated voltage in sound proof room Background proof
 om background noise:17dB(A).

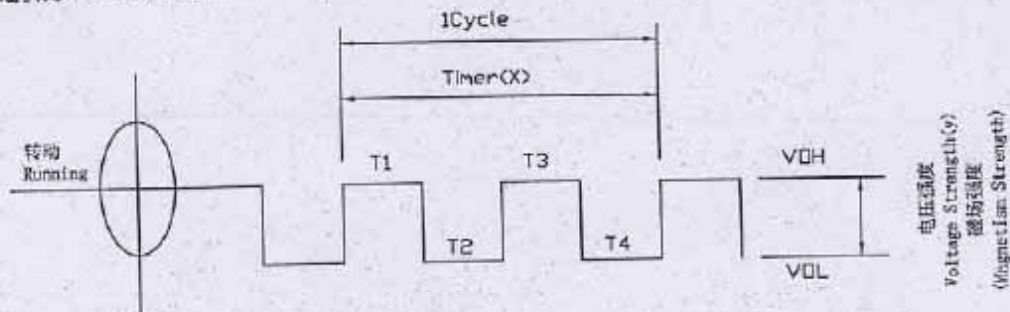


噪音测试方法图示



噪音测试系统图示

6. 转速侦测 RPM detection



$$T = T1 + T2 = T3 + T4$$

[说明]

1. 输出波形: 方波. Output waveform: square wave.
2. 当电压值越高(值), 则输出波形越高. When the voltage is higher (voltage) then output waveform is higher.
3. 当风扇不转动, 则输出波形为一水平线. When the fan is shutdown then output.
4. 循环距离越长(值), 则转速越慢. The cyclic distance is longer then the RPM is slower.
5. 转速计算公式如下: RPM formula as follows:
 $RPM = 60000 / X (ms)$



7. 标签 (label)

安规认证:

CE file No.: HTS 20050403 001

UL file No.: E255988-CF

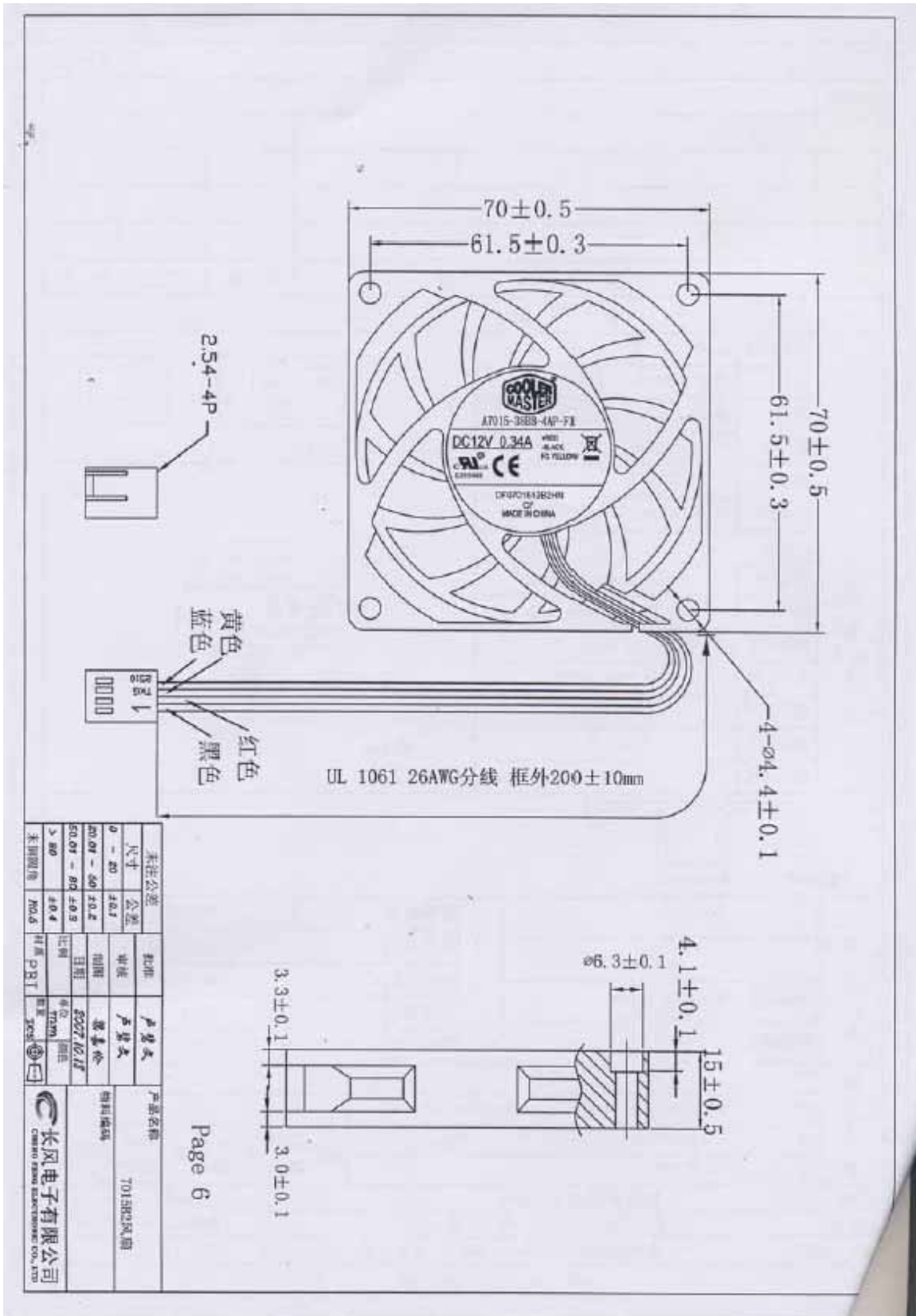


Ø29mm 多元酯(Polyester)

8. 包材 (Packing)



此标签贴在外箱侧棱右上角
标签为绿底黑字



规格公差		标准		产品规格	
尺寸	公差	单位	日期	产品规格	物料代码
0 - 20	± 0.2				7015BDC风扇
20.01 - 50	± 0.2				
50.01 - 80	± 0.3				
> 80	± 0.4				
未圆角	R0.5	材料	PBT	颜色	白色

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长风电子有限公司
CHANG FENG ELECTRONIC CO., LTD



CERTIFICATE

HTS

of Conformity

Low Voltage Directive 73/23/EEC

as last amended by EEC Directive 93/68/EEC

Registration No.: HTS 200504001 001

Report No.: 200504001 001

Holder: Changfang Electronics Co., Ltd.
West Longqiao Road, Jingshi Town, Boluo Hsien, Huizhou City,
Guangdong, China

Product: DC FAN

Identification: Type Designation: DFD01512XZyN Series ; DFD02512XZyN Series
DF0701512XZyN Series ; DFD003212XZyN Series
DF0602512XZyN Series ; DFD0801512XZyN Series
DF1202512XZyN Series ; DFD022512XZyN Series

Remark: XZ is bearing code.
y can be L, H, M, L or D (speed)
refer to test report 200504001 001

Tested acc. to: EN60950:2000

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with all revision of Annex I of Council Directive 73/23/EEC in its latest amended version referred to as the Low Voltage Directive. This certificate does not imply assessment of the series-production of the product. The holder of the certificate is authorized to use this certificate in connection with the EC Declaration of conformity according to Annex III of the directive.

Dongguan, 04.01.2005



Certification Body

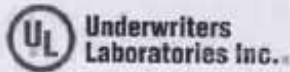
Jack Li

Honesty Technology Service Ltd



The CE marking may be used if all relevant and effective EC Directives are complied with.





Northbrook Division
333 Pluritan Road
Northbrook, IL 60062-2096 USA
www.ul.com
Tel: 1 847 272 8800
Fax: 1 847 272 8129
Customer service: 1 877 854 3577

File: E254834

Vol: 1

Issued: 2005-06-10

Revised:

**FOLLOW-UP SERVICE PROCEDURE
(TYPE R)**

**COMPONENT - FANS, ELECTRIC
(GEWV2, GEWV8)**

Manufacturer: SEE ADDENDUM FOR MANUFACTURING LOCATIONS

**Applicant: CHANG FENG ELECTRONICS CO LTD
(133458-001)
5TH FL
14 LANE 609 CHUNG HSIN RD, SEC 5
SAN CHUNG
TAIWAN**

**Recognized Company: CHANG FENG ELECTRONICS CO LTD (E255988)
(133523-001)
WEST LONGQIAO RD
LONGXI TOWN
BOLUO HEIEN
HUIZHOU,
GUANGDONG CHINA**


This Procedure authorizes the above Manufacturer to use the marking specified by Underwriters Laboratories Inc. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

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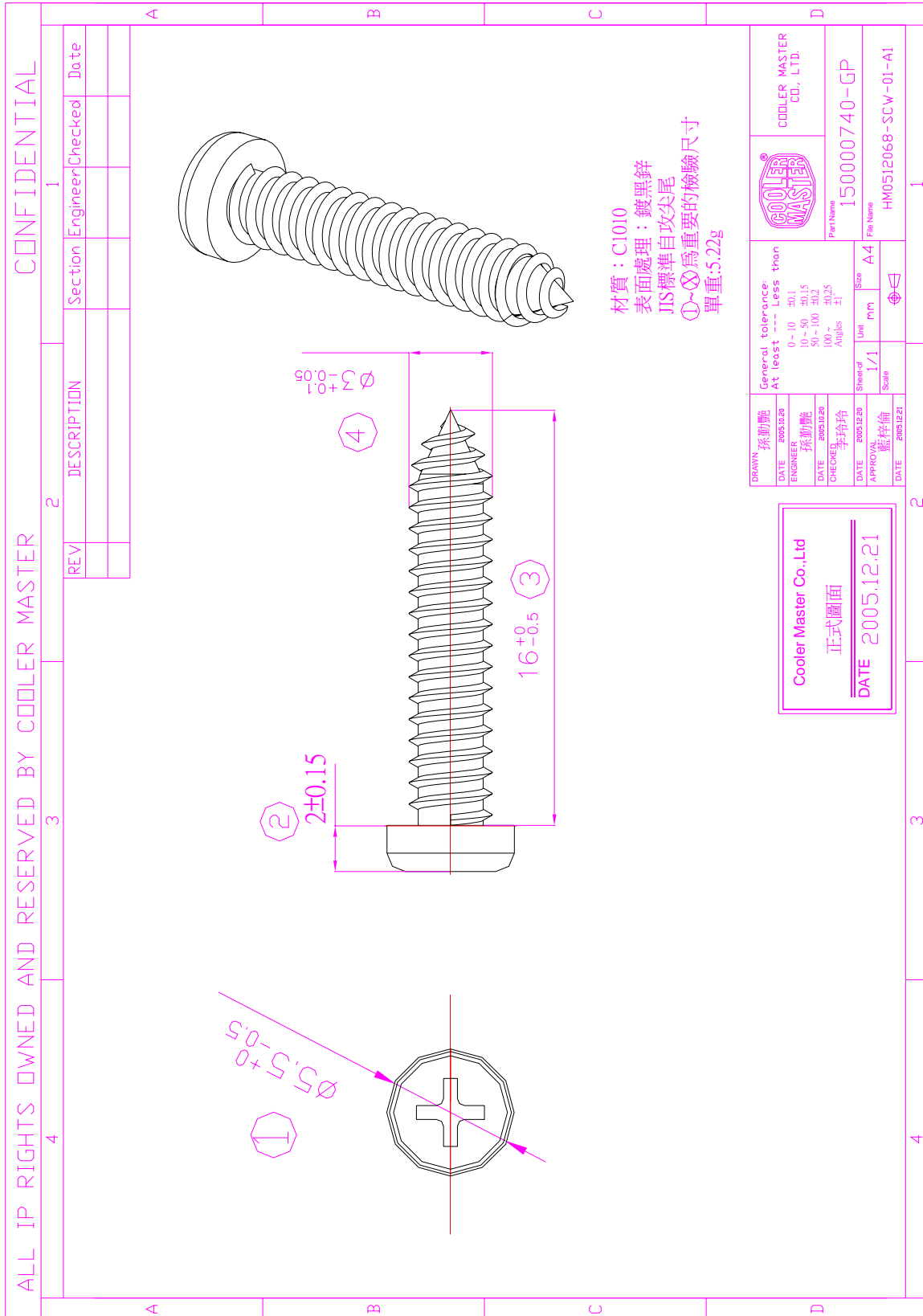

Rajeev Jesudas
Chief Operating Officer

An independent organization working for a safer world with integrity, precision and knowledge.





Screw



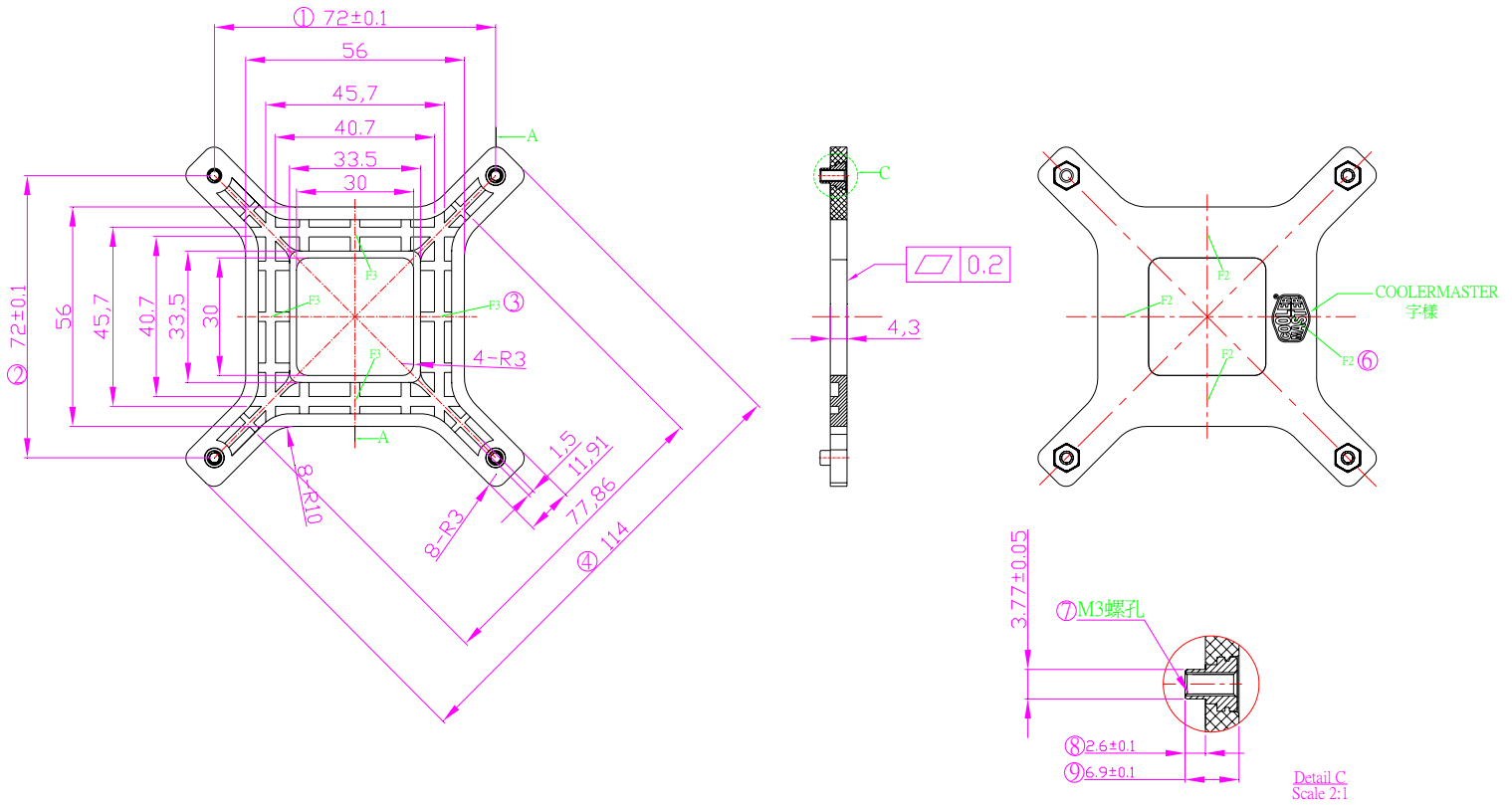


Back Plate

Material : PPS , 94V-0

Color : Black

Thickness : 4.3mm



General Dimension Tolerances (Unit : mm)			
0	—	30	± 0.2
31	—	60	± 0.3
61	—	100	± 0.4
101	and	Over	± 0.5
Angles			± 2°



Test Report

No.: GZ0701016635/CHEM

Date: FEB 06, 2007

Page 3 of 4

Note: 1. mg/kg = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

4. Sum of Mono to NonabDE & according to 2005/717/EC DecabDE is exempt.

5. **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 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

6. # = Positive indicates the presence of CrVI on the tested areas and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.

7. *-1 = Not regulated

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Test Report

No. Q70703032829/CHEM

Date MAR 19, 2007

Page 1 of 3

DONGGUAN YINFENG METAL CLEANING CO.,LTD
A17 BUILDING, NANSHAN INDUSTRIAL CITY, YAN TIAN, FENGGANG, DONGGUAN

The following sample(s) was/were submitted and identified on behalf of the applicant as MSD-505 清洗剂

SGS Ref No. : SZ10288145 62
Sample Receiving Date : MAR 13, 2007
Testing Period : MAR 13, 2007 TO MAR 19, 2007

Test Requested : To determine the Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs (Polybrominated Biphenyls) & PBDEs (Polybrominated Diphenylethers) content in the submitted sample.

Test Method : With reference to IEC 62321 Ed. 1 111/54/CDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP
(2) Determination of Lead by ICP
(3) Determination of Mercury by ICP
(4) Determination of Hexavalent Chromium by Colorimetric Method
(5) Determination of PBBs and PBDEs by GC-MS

Test Results : Please refer to next page

Signed for and on behalf of
IGS-CSTC Ltd.

Uang Fang, Sunny
: Engineer

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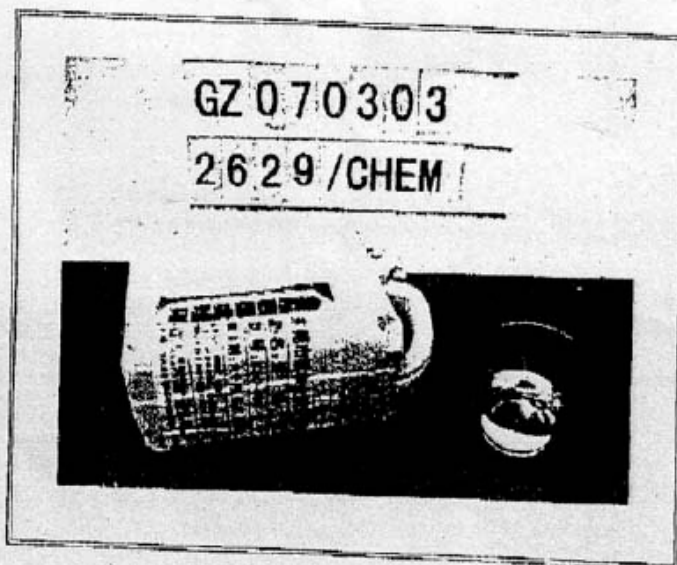
Test Report

No.: GZ0703032629/CHEM

Date: MAR 19, 2007

Page 3 of 3

Sample photo :



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Tel: 86 20 82155575
 Fax: 86 20 82155571

Tel: 86 20 82155575
 Fax: 86 20 82155571

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 e: sgs@china.sgs.com



Test Report

No. D20700002631/CHEM

Date: MAR 19, 2007

Page 1 of 3

DONGGUAN YINFENG METAL CLEANING CO., LTD
A17 BUILDING, NANSHAN INDUSTRIAL CITY, YAN TIAN, FENGGANG, DONGGUAN

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

SGS Ref No. : SZ10288145-6 4
Sample Receiving Date : MAR 13, 2007
Testing Period : MAR 13, 2007 TO MAR 19, 2007

Test Requested : To determine the Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs (Polybrominated Biphenyls) & PBDEs (Polybrominated Diphenylethers) content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP
(2) Determination of Lead by ICP.
(3) Determination of Mercury by ICP.
(4) Determination of Hexavalent Chromium by Colorimetric Method.
(5) Determination of PBBs and PBDEs by GC-MS.

Test Results : Please refer to next page.

Signed for and on behalf of
SGS-CSTC Ltd.

Huang Fang, Sunny
Sr. Engineer

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TEL: 86 20 8155645
TEL: 86 20 8155555

TEL: 201 8767525
TEL: 201 820 75125

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sgschina@sgs.com

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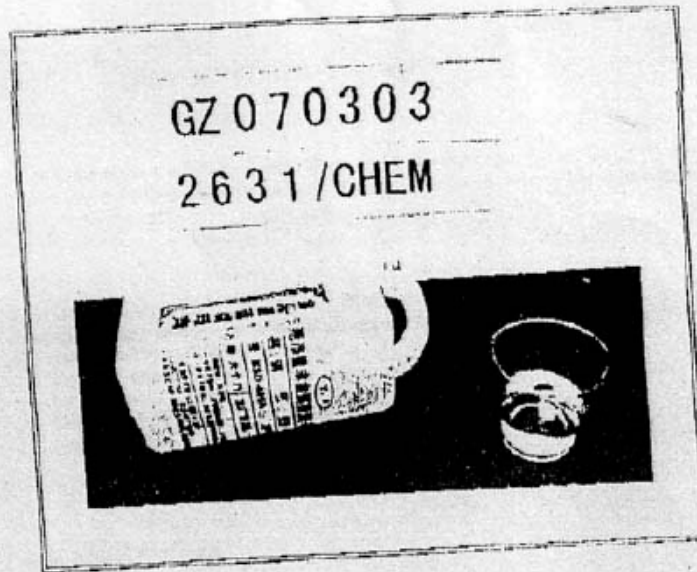
Test Report

No.: GZ0703032831/CHEM

Date: MAR 19, 2007

Page 3 of 3

Sample photo



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Test Report No.: GZ0610158903/CHEM Date: OCT 30, 2008 Page 1 of 3

HUIZHOU GUANGHUI PRECISION ALUMINUM CO., LTD
JIULONG ROAD SIDE, XIAOJINKOU, HUIZHOU CITY, GUANGDONG, CHINA

Report on the submitted sample said to be: 6063 ALUMINIUM ALLOY

SGS Ref No.: GZ10126758EC-2.2
Sample Receiving Date: OCT 24, 2008
Testing Period: OCT 24, 2008 TO OCT 30, 2008



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

Test Method: With reference to IEC 62321 Ed 1 11/54/CDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP
(2) Determination of Lead by ICP
(3) Determination of Mercury by ICP
(4) Determination of Hexavalent Chromium by Colorimetric Method

Test Results: Please refer to next page.

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.

Wang HongLei, Leo
Sr. Engineer

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Test Report

No.: GZ0510158903/GHEM

Date: OCT 30, 2006

Page 2 of 3

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

Test Item(s)	Method (refer to)	No.1	MDL	RoHS Limit
Cadmium (Cd)	(1)	N.D.	2	100
Lead (Pb)	(2)	10	2	1000
Mercury (Hg)	(3)	N.D.	2	1000
Hexavalent Chromium (CrVI) by Spot test	(4)	Negative	See Note (4)	#

Test Part Description:
No.1 Silvery metal

- Notes: (1) mg/kg = ppm
 (2) N.D. = 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 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 and result be regarded as conflict with RoHS requirement.
 Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.



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GZCM1127347

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Test Report

No. 2001563/EC

Date : Jun 06 2006

Page 1 of 2

XIANGLONG METAL PRODUCTS CO., LTD.
SHABU INDUSTRIAL AREA OF DALANG TOWN
DONGGUAN CITY, GUANGDONG PROVINCE, CHINA

Report on the submitted sample said to be NICKEL CLIP (S50C).

SGS Job No. : 1016921
SGS Ref No. : SZE0060525099RS
Sample Receiving Date : MAY 26 2006
Testing Period : MAY 26 - JUN 05 2006

Test Requested : As per client request, the test was conducted with reference to RoHS Directive 2002/95/EC.

- 1) To determine the Cadmium content in the submitted sample.
- 2) To determine the Lead content in the submitted sample.
- 3) To determine the Mercury content in the submitted sample.
- 4) Determination of the presence of Hexavalent Chromium Cr(VI) in the submitted metallic samples.

Test Method : 1-3) With reference to SGS in-house Method. The sample was digested by acid. Analysis was performed by Inductively Coupled Argon Plasma - Atomic Emission Spectrometry (ICP-AES) or Atomic Absorption Spectrometry.
4) With reference to the Committee Draft of IEC 62321, Ed.1 (Sec. 9.7.2 - Boiling-water-extraction method).

Test Result

Test Item	Silvery Metal	Detection Limit	Limit
1) Cadmium (Cd) Content	ND	2 ppm	100 ppm
2) Lead (Pb) Content	ND	2 ppm	1000 ppm
3) Mercury (Hg) Content	ND	2 ppm	1000 ppm

(Results shown are of the total weight of samples)

Notes : ppm = mg/kg
ND = Not Detected
Not detected is reported when the reading is less than detection limit value

4) Hexavalent Chromium [Cr(VI)]
Silvery Metal
Negative

Note : - Negative means the concentration of Hexavalent Chromium extracted from 50 cm² sample surface area is less than the detection limit
- Detection limit of Cr(VI) in solution = 0.02 mg/kg Cr(VI) extracted from 50 cm² sample surface area by boiling-water-extraction method

Signed for and on behalf of
SGS Hong Kong Ltd

Wan Chi Wai, Leo
Technical Manager

113409



SGS

Test Report

No. 2061563/EC

Date : Jun 05 2006

Page 2 of 2

PHOTO APPENDIX



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*** End of Report ***



SGS Report – Screw -1

SGS

Test Report No.: GZSCR050310300/LP Date: MAR 08, 2005 Page 1 of 2

DONGGUAN POINT SCREW ENTERPRISE CO.,LTD.
YONG SHENG DISTRICT, SHEBEI COUNTRY
HUANG JIANG TOWN, DONGGUAN CITY,
GUANGDONG PROVINCE, CHINA

Report on the submitted sample said to be SCREW (螺丝, 螺钉)(批)


SGS Ref No. : GZ050301934EC-4.3
Buyer :
Supplier : DONGGUAN POINT SCREW ENTERPRISE CO.,LTD.
麻记电镀厂 (金威)
Sample Receiving Date : MAR 02, 2005
Testing Period : MAR 02, 2005 TO MAR 05, 2005

Test Requested : (1) As specified by client, to determine the Lead, Cadmium, Mercury & Hexavalent Chromium content in the submitted sample.
(2) Determination of PBBs (polybrominated biphenyls), PBDEs (Polybrominated diphenylethers) of the submitted sample.

Test Method : (1) Lead content - In house method, with reference to EPA method 3050B: 1996.
Cadmium content - In house method, with reference to BS EN1122: 2001 method B.
Mercury content - In house method, with reference to EPA 3052: 1996.
Hexavalent Chromium content - with reference to EPA 3060A & EPA 7196A.
Analysis was performed by Atomic Absorption Spectrometer and Inductively Coupled Plasma Atomic Emission Spectrometer (ICP-AES) / UV-VIS Spectrophotometer.
(2) With reference to SGS in-house method. Analysis was performed by GC/MS.

RESULTS : Please refer to next page.

Signed for and on behalf of
SGS-CSTC Ltd.


He Xiaoyan, Jane
Tech. Manager

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Guangzhou Branch-Chemical Laboratory 中国·广州·天河区东圃珠村灵山路裕美工业园八楼四梯 邮编:510660 t:86-20(021)69304 f:(86-20)82149356 x:sgschina@sgs.com

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SGS Report – Spring

SGS

Test Report No. CANEC0700738101 Date: 19 Nov 2007 Page 1 of 3

HUIZHOU SHENGTAI METAL&PLASTIC MANUFACTURING CO.,LTD
PINGNAN INDUSTRIAL ZONE HUIZHOU GUANGDONG
CHINA

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

PIANO WIRE PLATING Ni

SGS Job No. : 10690326 - SZ
 SGS Internal Reference No. : 2.2
 Date of Sample Received : 14 Nov 2007
 Date of final job information received : 15 Nov 2007
 Testing Period : 14 Nov 2007 - 19 Nov 2007

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

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.
 (1) Determination of Cadmium by ICP.
 Determination of Lead by ICP.
 Determination of Mercury by ICP.
 (2) Determination of Hexavalent Chromium by Colorimetric Method.

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.

Jiang Yongping


Jiang Yongping, Terry
Sr. Engineer

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Test Report

No. CANEC0700738101 Date: 19 Nov 2007 Page 2 of 3

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


Test Item(s)	Method (Refer to)	No.1	MDL	RoHS Limit
Cadmium(Cd)	(1)	N.D.	2	100
Lead (Pb)	(1)	N.D.	2	1000
Mercury (Hg)	(1)	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	(2)	Negative	See Note 4	#

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 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 and result be regarded as conflict with RoHS requirement.
 Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.

Test Part Description

No. 1 Silver-gray plated metal



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Tel: +86 21 5108 6100 Fax: +86 21 5108 6101

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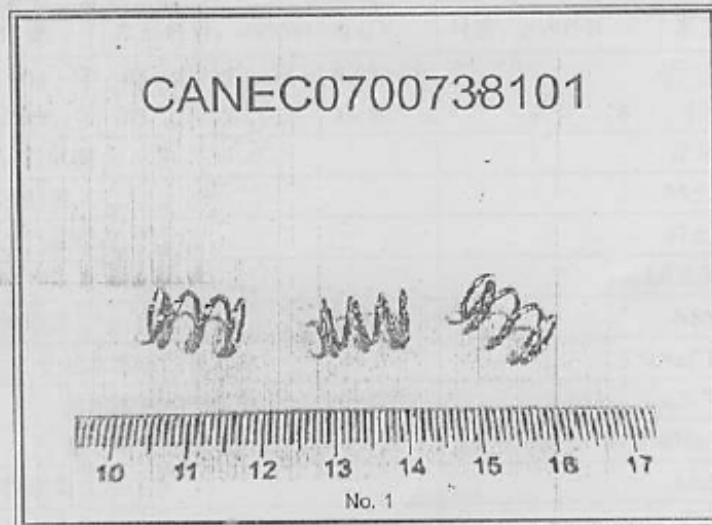
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No. CANEC0700738101

Date: 19 Nov 2007

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Sample photo:



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18th Floor, SCIENCE Park Guangzhou Economic & Technology Development Zone, Guangzhou, China 510663

T (86-20) 82155505

F (86-20) 82075425

www.cn.sgs.com

中国·广州·经济技术开发区科学城科珠路190号 邮编: 510663

T (86-20) 82155505

F (86-20) 82075425

e sgs.china@sgs.com

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SGS Report – E-Ring

SGS

Test Report No.: SZTYR060411508/LP Date: APR 28, 2006 Page 1 of 1

DONG GUAN QUAN CHENG METAL CO., LTD.
 YANG WU VILLAGE, DA LANG TOWN,
 DONG GUAN CITY, GUANG DONG

Report on the submitted samples said to be 三价铬

SGS Ref No. : 060418023RS-10.1
 Sample Receiving Date : APR 19, 2006
 Testing Period : APR 19, 2006 TO APR 27, 2006

Test Requested : 1) Determination of Lead content in the submitted samples.
 2) Determination of Cadmium content in the submitted samples.
 3) Determination of Mercury content in the submitted samples.
 4) Determination of Hexavalent Chromium content in the submitted samples.

Test Method : 1) With reference to EPA 3050B: 1996 / Other acid digestion. Analysis was performed by Atomic Absorption Spectrometer (AAS).
 2) With reference to EN 1122:2001 / Other acid digestion. Analysis was performed by Atomic Absorption Spectrometer (AAS).
 3) With reference to EPA Method 3052: 1996 / other acid digestion. Analysis was performed by Inductively Coupled Plasma Atomic Emission Spectrometer (ICP-AES).
 4) Requested by applicant, with reference to IEC 111-9.7.2.

Test Results

Element	Silvery color metal screw	Detection Limit
1) Lead (Pb)	37	2 ppm
2) Cadmium (Cd)	N.D.	2 ppm
3) Mercury (Hg)	N.D.	2 ppm
4) Hexavalent Chromium (Cr ⁶⁺)	Negative	0.02mg/kg with 50cm ²

Note : - N.D. = Not detected (lower than detection limit)
 - ppm = mg/kg
 - Negative means the concentration of Hexavalent Chromium extracted from 50cm² sample is less than the detection limit.
 When using method of IEC 111-9.7.2, the detection limit of Cr(VI) in solution is 0.02 mg/kg with 50cm² sample surface area used.
 - Photo Appendix is included.

*** End of Report ***

Signed for and on behalf of
 SGS-CSTC Ltd.

Zhang Yanzheng, Helen
 Sr. Section Manager

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SZL 473334



Test Report

No.: SZTYR060411512/LP

Date: APR 29, 2006

Page 1 of 1

DONG GUAN QUAN CHENG METAL CO., LTD.
YANG WU VILLAGE, DA LANG TOWN,
DONG GUAN CITY, GUANG DONG

Report on the submitted samples said to be 三价铬 1018 线

SGS Ref No. : 060418023RS-10.5
Sample Receiving Date : APR 19, 2006
Testing Period : APR 19, 2006 TO APR 28, 2006

Test Requested : 1) Determination of Lead content in the submitted samples.
2) Determination of Cadmium content in the submitted samples.
3) Determination of Mercury content in the submitted samples.
4) Determination of Hexavalent Chromium content in the submitted samples.

Test Method : 1) With reference to EPA 3050B:1996 / Other acid digestion. Analysis was performed by Atomic Absorption Spectrometer (AAS).
2) With reference to EN 1122:2001 / Other acid digestion. Analysis was performed by Atomic Absorption Spectrometer (AAS).
3) With reference to EPA Method 3052: 1996 / other acid digestion. Analysis was performed by Inductively Coupled Plasma Atomic Emission Spectrometer (ICP-AES).
4) Requested by applicant, with reference to IEC 111-9.7.2.

Test Results

Element	Gray colored metal wire	Detection Limit
1) Lead (Pb)	44	2 ppm
2) Cadmium (Cd)	N.D.	2 ppm
3) Mercury (Hg)	N.D.	2 ppm
4) Hexavalent Chromium (Cr ⁶⁺)	Negative	0.02mg/kg with 50cm ²

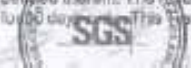
Note : - N.D. = Not detected (lower than detection limit)
- ppm = mg/kg
- Negative means the concentration of Hexavalent Chromium extracted from 50cm² sample is less than the detection limit.
When using method of IEC 111-9.7.2, the detection limit of Cr(VI) in solution is 0.02 mg/kg with 50cm² sample surface area used.
- Photo Appendix is included.

*** End of Report ***

Signed for and on behalf of
SGS-CSTC Ltd.

Zhang Yanzheng, Helen
Sr. Section Manager

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SZL 472906



SGS Report – Grease

SGS

Test Report

JET MOTOR INDUSTRIAL CORP.

Report No. : CE/2004/B0515

Date : 2004/11/10

Page : 1 of 2

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

Type of Product	:	SHIN ETSU THERMAL GREASE
Style/Item No	:	7762/G751/7783D
Sample Received	:	2004/11/03
Testing Date	:	2004/11/03 TO 2004/11/10

Test Result : - Please see the next page -


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

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Test Report

JET MOTOR INDUSTRIAL CORP.

Report No. : CE/2004/B0515

Date : 2004/11/10

Page : 2 of 2

Test Result

PART NAME NO.1 : GRAY PASTE

Test Item (s):	Unit	Method	MDL	Result			
				No.1			
Chromium VI (Cr+6)	ppm	As per US EPA 7195A and US EPA 3060A.	2	N.D.			
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.			
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.			
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.			

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

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

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SGS Report – Screw -2

SGS

Test Report No: GZ0708087666/CHEM Date: JUN 25, 2007 Page 1 of 3

DALIANG (DONG GUAN) METAL PRODUCTS CO., LTD.
YANGWU DALANG DONGGLIAN CHINA

The following sample(s) was/were submitted and identified on behalf of the applicant as STEEL WIRE SWRCH10A

SGS Ref No : GZ10432577EC
Buyer : DALIANG (DONG GUAN) METAL PRODUCTS CO., LTD.
Supplier : CHINA STEEL CORPORATION
Sample Receiving Date : JUN 22, 2007
Testing Period : JUN 22, 2007 TO JUN 25, 2007


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

Test Method : With reference to IEC 62321 Ed.1 11.1/54/CDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP
(2) Determination of Lead by ICP
(3) Determination of Mercury by ICP
(4) Determination of Hexavalent Chromium by Colorimetric Method.


Test Results : Please refer to next page.

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 Sun
Sr. Engineer

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GZCM 1468657

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SGS (Shanghai) Inspection Co., Ltd. | WISEN (Beijing) Technology Co., Ltd. | SGS (Guangzhou) Inspection Co., Ltd. | 中国·广州·经济技术开发区科学城礼岗路166号 | 3542-112883 | 180-2032152222 | 186-203207912 | 400-818-8811



Test Report

No. GZDT06087655.CHEM

Date: JUN 25, 2007

Page 2 of 3

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

Test Item(s):	Method (refer to)	No. 1	MDL	RoHS Limit
Cadmium (Cd)	(1)	N.D.	2	100
Lead (Pb)	(2)	N.D.	2	1000
Mercury (Hg)	(3)	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	(4)	Negative	See Note 4	#

Test Part Description:

No. 1 Silvery metal

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 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 and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.

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GZCM 1468668

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Test Report

No: GZCM11170227/CHEM

Date: NOV 21, 2006

Page 1 of 13

SONG GUAN GUAN CHENG METAL CO., LTD.
YANG WU VILLAGE DALANG TOWN DONG GUAN CITY GUANG DONG

Report on the submitted sample said to be: 平邊螺絲

SGS Ref No: S210151504-3.3
Sample Receiving Date: NOV 15, 2006
Testing Period: NOV 15, 2006 TO NOV 21, 2006

Test Requested: To determine the Cadmium, Lead, Mercury & Hexavalent Chromium content in the submitted sample.

Test Method: With reference to IEC 62321 Ed.1 111/5420V
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP
(2) Determination of Lead by ICP
(3) Determination of Mercury by ICP
(4) Determination of Hexavalent Chromium by Colorimetric Method

Test Results: Please refer to next page.

Signed for and on behalf of
SGS-CSTC, Ltd.

Wang HongLai, Leo
Sr. Engineer

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Address: 300000 Tianjin, China

SGS-CSTC (Wuhan) Co., Ltd.
Address: 430000 Wuhan, China

GZCM 000770

March 2006



Test Report

No.: GZ06111T0227/CHEM

Date: NOV 21, 2006

Page 2 of 3

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

Test Item(s)	Method (refer to)	No.1	MDL
Cadmium (Cd)	(1)	N.D.	2
Lead (Pb)	(2)	N.D.	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by boiling water extraction	(4)	Negative	See Note 4

Test Part Description:

No.1 Black plated metal screw

Note: 1. mg/kg = ppm

2. N.D. = 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 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.

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GZCM 993772

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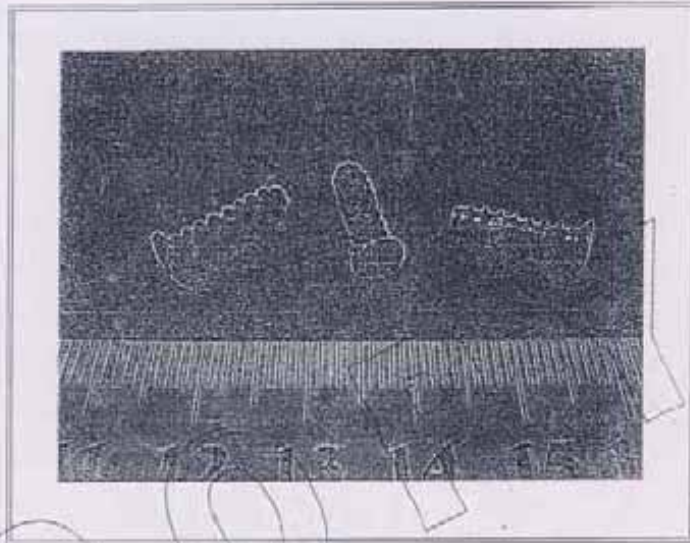
Test Report

No. GZ0511170227/CHEM

Date: NOV 21, 2006

Page 3 of 3

Sample photo



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SGS
12110, Chemin de Bellerive, CH-1211, CH
Suisse

SGS (China) Co., Ltd. (Shanghai Branch)
地址 - 上海 - 浦东新区世纪大道100号 邮编 - 200120

1 (86-21) 51085888 1 (86-21) 51085889

GZCM 99377.1

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SGS –Bracket



Test Report

No.: GZ0801016233/CHEM

Date: JAN 30, 2008

Page 1 of 3

BO LUO XIAN HENG FENG PLASTICS PRODUCTS INDUSTRY CO., LTD
NO.6 ROAD 3 MEI YUAN ZHOU JI INDUSTRY AREA LUO YUAN TOWN BOLUO COUNTRY GUANGDONG

The following sample(s) was/were submitted and identified on behalf of the applicant as 019 BACK LID (PPS ROHS ECOLOGICAL RAW MATERIAL)

Client Reference: HENG FENG MATERIAL NO.: RYX080116-D

SGS Ref No. : SZ10825655-7.1
Supplier : YONG XIANG
Sample Receiving Date : JAN 25, 2008
Testing Period : JAN 25, 2008 TO JAN 30, 2008

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

Test Method : With reference to IEC 62321/2nd CDV (11/95/CDV)
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP-OES (Section 8/9/10).
(2) Determination of Lead by ICP-OES (Section 8/9/10).
(3) Determination of Mercury by ICP-OES (Section 7).
(4) Determination of Hexavalent Chromium by Colorimetric Method (Annex B).
(5) Determination of PBBs and PBDEs by GC-MS (Annex A).

Test Results : Please refer to next page.

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



Test Report

No.: GZ0801016233/CHEM

Date: JAN 30, 2008

Page 2 of 3

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

Test Item(s):	Method (refer to)	No.1	MDL	RoHS Limit
Cadmium (Cd)	(1)	N.D.	2	100
Lead (Pb)	(2)	16	2	1000
Mercury (Hg)	(3)	N.D.	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	N.D.	2	1000
Sum of PBBs		N.D.	-	1000
Monobromobiphenyl		N.D.	5	
Dibromobiphenyl		N.D.	5	
Tribromobiphenyl		N.D.	5	
Tetrabromobiphenyl		N.D.	5	
Pentabromobiphenyl		N.D.	5	
Hexabromobiphenyl		N.D.	5	
Heptabromobiphenyl		N.D.	5	
Octabromobiphenyl		N.D.	5	
Nonabromobiphenyl		N.D.	5	
Decabromobiphenyl		N.D.	5	
Sum of PBDEs (Mono to Nona)(Note 4)	(5)	N.D.	-	1000
Monobromodiphenyl ether		N.D.	5	
Dibromodiphenyl ether		N.D.	5	
Tribromodiphenyl ether		N.D.	5	
Tetrabromodiphenyl ether		N.D.	5	
Pentabromodiphenyl ether		N.D.	5	
Hexabromodiphenyl ether		N.D.	5	
Heptabromodiphenyl ether		N.D.	5	
Octabromodiphenyl ether		N.D.	5	
Nonabromodiphenyl ether		N.D.	5	
Decabromodiphenyl ether		N.D.	5	
Sum of PBDEs (Mono to Deca)		N.D.	-	-

Test Part Description:

No.1 Black plastic

Note : 1. mg/kg = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

4. Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.

5. "-" = Not regulated



Test Report

No.: GZ0801016233/CHEM

Date: JAN 30, 2003

Page 3 of 3

Sample photo :



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*** End of Report ***



SGS – Fan Label

SGS

測試報告 號碼: CE/2006/C7458A 日期: 2007/01/05 頁數: 1 of 5

高冠企業股份有限公司
 KE ENTERPRISE CO., LTD.
 南投市南崗工業區自強三路1號
 1 TEO CHIANG 3RD ROAD, NANTON, TAIWAN, R. O. C.

以下測試樣品係由客戶送樣, 且由客戶簽署歷經客戶確認如下(The following sample(s) was/were submitted and identified by/on behalf of the client as:

樣品名稱 Sample Description	1 電鍍真鍍鋼前標紙 METALIZED POLYESTER LABEL
樣品型號(Style/Item No.)	1 T1SM75(T1SM50 + T1SM + T1SM100 + HTLSM + HTLSM50 + HTLSM75 + HTLSM100 + T1SM1 + T1SM11 + T1SM150 + HTLSM1 + HTLSM150 + T1SM1150 + T1SM150 + E-HTLSM (DL) + E-HTLSM50 (DL) + E-HTLSM75 (DL) + E-T1SM100+100 + E-T1SM50+100 + E-T1SM150+50 + E-T1SM50+50 + E-HTLSM100 + E-HTLSM + E-HTLSM1 + E-HTLSM50 (DL) + E-T1SM1)
收件日期(Sample Receiving Date)	1 2006/12/18
測試期間(Testing Period)	1 2006/12/13 TO 2006/12/19

測試需求 / Test Requested	1 參照 RoHS 2002/95/EC 及其修訂指令要求。 / In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
測試方法 / Test Method	1 參考 IEC 62301, Ed. 1 111/54/CDV 方法檢測。 / With reference to IEC 62301, Ed. 1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products. (1) 用感應耦合電漿原子發射光譜儀(ICP-AES)檢測鎘含量。 / Determination of Cadmium by ICP-AES. (2) 用感應耦合電漿原子發射光譜儀(ICP-AES)檢測鉛含量。 / Determination of Lead by ICP-AES. (3) 用感應耦合電漿原子發射光譜儀(ICP-AES)檢測汞含量。 / Determination of Mercury by ICP-AES. (4) 對非金屬材質之樣品, 用UV-VIS 檢測六價鉻含量。 / Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry. (5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.
測試結果 / Test Result(s)	1 請見下一頁。

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

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測試報告

號碼: CE/2006/CJ456A 日期: 2007/01/05 頁數: 1 of 5

高冠企業股份有限公司

EK ENTERPRISE CO., LTD.

南投市南崗工業區自強三路1號

1 TZE CHIANG 3RD ROAD, NANTOU, TAIWAN, R. O. C.

以下測試樣品係由客戶送樣,且由客戶簽署及經客戶確認如下(The following sample(s) was/were submitted and identified by/on behalf of the client as:

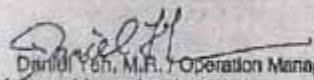
樣品名稱 / Sample Description	: 電鍍聚酯前標紙 / METALLIZED POLYESTER LABEL
樣品型號 (Style/Item No.)	: TLSM75(TLSM50 + TLSM + TLSM100 + HTLSM + HTLSM50 + HTLSM75 + HTLSM100 + TLSM1 + TLSM11 + TLSM150 + HTLSM1 + HTLSM150 + TLSM1+100 + TLSM+150 + E-HTLSM (DL) + E-HTLSM50 (DL) + E-HTLSM75 (DL) + E-TLSM150+100 + E-TLSM50+100 + E-TLSM150+50 + E-TLSM50+50 + E-HTLSM100 + E-HTLSM + E-HTLSM1 + E-HTLSM150 (DL) + E-TPM1)
收件日期 (Sample Receiving Date)	: 2006/12/12
測試期間 (Testing Period)	: 2006/12/12 TO 2006/12/19

測試需求 / Test Requested : 參照 RoHS 2002/95/EC 及其修正指令要求。 / In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

測試方法 / Test Method : 參考 IEC 62321, Ed.1 111/54/CDV 方法檢測。 / With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.

- (1) 用感應耦合電漿原子發射光譜儀 (ICP-AES) 檢測鎘含量。 / Determination of Cadmium by ICP-AES.
- (2) 用感應耦合電漿原子發射光譜儀 (ICP-AES) 檢測鉛含量。 / Determination of Lead by ICP-AES.
- (3) 用感應耦合電漿原子發射光譜儀 (ICP-AES) 檢測汞含量。 / Determination of Mercury by ICP-AES.
- (4) 針對非金屬材質之樣品, 用 UV-VIS 檢測六價鉻含量。 / Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
- (5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.

測試結果 / Test Result(s) : 請見下一頁。


 David Yen, M.B.A. / Operation Manager
 Signed for and on behalf of
 SGS TAIWAN LTD.

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 855 XINYUAN ROAD | NO. 1151, 3rd Kung Road, Wanh Industrial Park, Tainan, Taiwan
 06-2218 8375 (06-2218-3377) www.sgs.com.tw



22

測試報告

號碼: CE/2004/C2455A 日期: 2007/01/05 頁數: 2 of 5

高冠企業股份有限公司

KK ENTERPRISE CO., LTD.

南投市南崗工業區自強三路1號

1 TZE CHANG 3RD ROAD, NANTOU, TAINAN, R. O. C.

測試結果 (單位: mg/kg) / Test Result(s)

測試項目 / Test Item (s)	測試方法 Method (Ref. to)	結果 / Result	
		單位	方法偵測 極限值 (MDL)
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	n.d.	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium (CrVI) by alkaline extraction	(4)	n.d.	2
多溴聯苯醚和 / Sum of PBBs	(5)	n.d.	-
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 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-
一溴聯苯醚 / Monobromobiphenyl ether		n.d.	5
二溴聯苯醚 / Dibromobiphenyl ether		n.d.	5
三溴聯苯醚 / Tribromobiphenyl ether		n.d.	5
四溴聯苯醚 / Tetrabromobiphenyl ether		n.d.	5
五溴聯苯醚 / Pentabromobiphenyl ether		n.d.	5
六溴聯苯醚 / Hexabromobiphenyl ether		n.d.	5
七溴聯苯醚 / Heptabromobiphenyl ether		n.d.	5
八溴聯苯醚 / Octabromobiphenyl ether		n.d.	5
九溴聯苯醚 / Nonabromobiphenyl ether	n.d.	5	
十溴聯苯醚 / Decabromobiphenyl ether	n.d.	5	
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)	n.d.	-	

測試部位描述 / TEST PART DESCRIPTION

NO.1 藍色標籤 (不含黏膠紙) / SILVER COLORIB LABEL (EXCLUDING THE RELEASE PAPER)

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SGS Taiwan (TPE) Ltd. NO. 126, Wu Song Road, Wu Song Industrial Zone, Tainan County, Taiwan
Tel: (886-6) 22192222 (R) 2219-2221 www.sgs.com.tw



SGS

測試報告

號碼: CRM/2004/K22455A 日期: 2007/01/05 頁數: 3 of 5

高冠企業股份有限公司
KAI ENTERPRISE CO., LTD.
南投市山崗工業區自強三路1號
1 TZI CHANG 3RD ROAD, NANTOU, TAIWAN, R. O. C.

XXXXXXXXXXXXXXXXXXXX

- Note: 1. mg/kg = ppm
 2. n.d. = Not Detected / 未檢出
 3. MDL = Method Detection Limit / 方法偵測值限
 4. Sum of Mono to NonaBDEs according to 2005/717/EC DecaBDE is exempt.
 根據2005年10月13日歐盟會議公佈2005/717/EC，修正2002/95/EC內容，透過解除
 高分子材質中十溴聯苯醚之使用限制。
 5. "-" = Not Regulated / 無規範值

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SGS TAIWAN LIMITED, NO. 1351, WU KONG ROAD, VIOLATION ZONE, TAINAN COUNTY, TAIWAN
TEL: 82-6-2218030 FAX: 82-6-2219-3337 www.sgs.com.tw



測試報告

號碼: CE/2006/C2455A 日期: 2007/01/05 頁數: 4 of 5

高冠企業股份有限公司

XX ENTERPRISE CO., LTD.

南投市南崗工業區自強三路1號

1 TZU CHANG 3RD ROAD, NANTOU, TAIWAN, R. O. C.

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

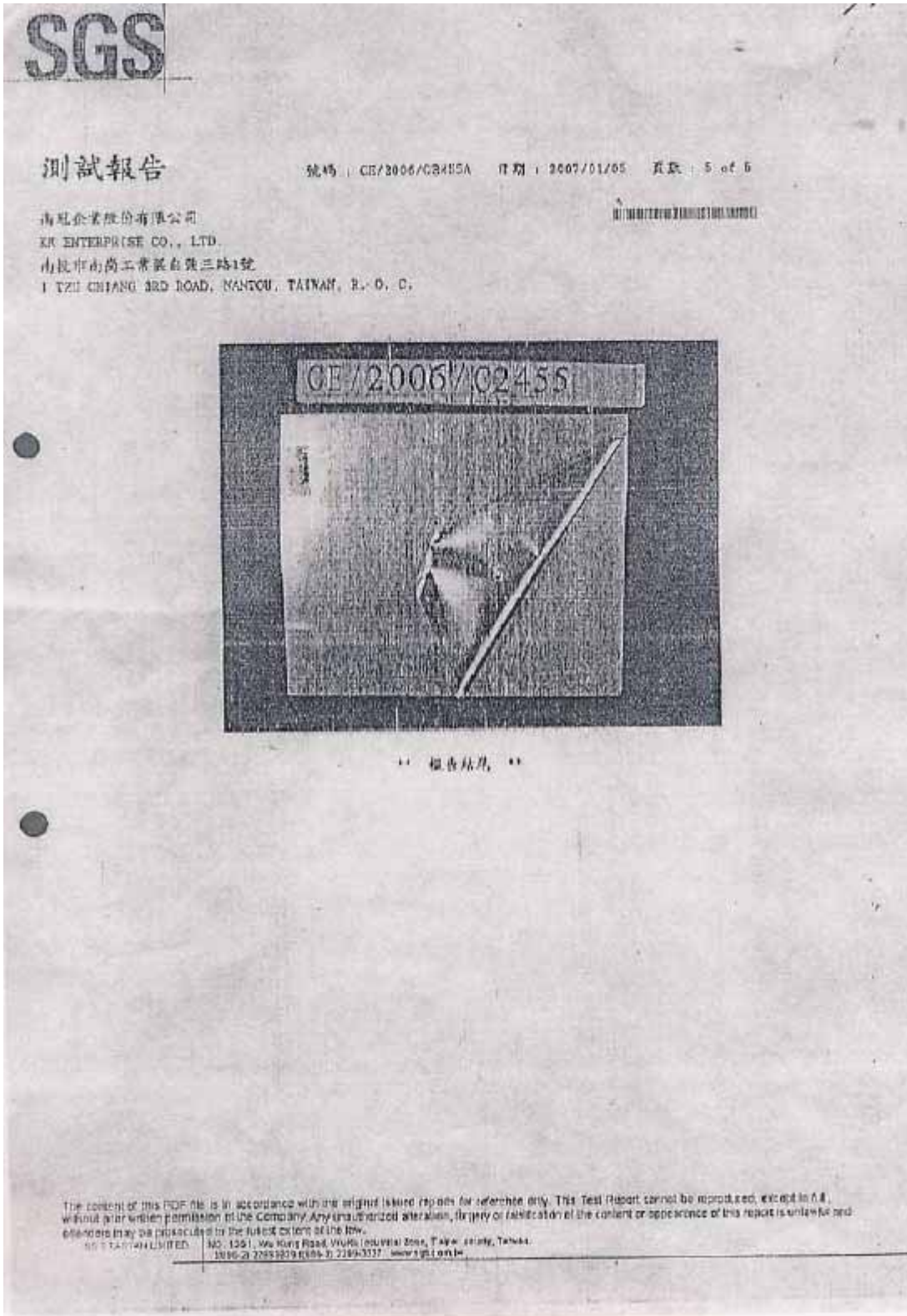
鎘、鉛的消化流程圖 / Method 1: Flow Chart of Digestion for Cd, Pb analysis



鋼, 銅, 鋁, 焊料 / Steel, copper, aluminum, solder	王水, 硝酸, 鹽酸, 氫氟酸, 雙氧水 / Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
玻璃 / Glass	硝酸, 氫氟酸 / HNO ₃ /HF
金, 鈷, 鉑, 鉀 / Gold, platinum, palladium, cerium	王水 / Aqua regia
銀 / Silver	硝酸 / HNO ₃
藍寶石 / Sapphire	硝酸, 雙氧水, 硝酸, 鹽酸 / HNO ₃ , H ₂ O ₂ , HNO ₃ , HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

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SGS Taiwan Limited | No. 154, Wu Kong Road, Wuzhong Industrial Zone, Tainan, Tainan, Taiwan
Tel: 82-2-2209-8899 | Fax: 82-2-2209-2207 | www.sgs.com





Test Report

No.: GZ0703026081/CHEM

Date: MAR 08, 2007

Page 1 of 3

ZHONGSHAN FUZHOU ADHESIVE-PRODUCT CO., LTD
TORCH HIGH-TECH DEVELOPMENT ZONE, ZHONGSHAN CITY, GUANGDONG PROVINCE, CHINA

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

SGS Ref No. : SZ10277080-18.17
Sample Receiving Date : MAR 02, 2007
Testing Period : MAR 02, 2007 TO MAR 08, 2007

Test Requested : To determine the Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs (Polybrominated Biphenyls) & PBDEs (Polybrominated Diphenylethers) content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP.
(2) Determination of Lead by ICP.
(3) Determination of Mercury by ICP.
(4) Determination of Hexavalent Chromium by Colorimetric Method.
(5) Determination of PBBs and PBDEs by GC-MS.

Test Results : Please refer to next page.

Signed for and on behalf of
SGS-CSTC Ltd.

Jiang YongPing, Terry
Sr. Engineer

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SGS-CSTC Systems (China) Co., Ltd. | 中国·广州·经济技术开发区科学城科韵路1号 | 邮编: 510663 | 电话: 86-20-82153335 | 传真: 86-20-82153332 | 电子邮箱: sgshcn@sgs.com

GZCM1175198

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SGS

1.5.2

Test Report

No.: GZ0703028081/CHEM

Date: MAR 08, 2007

Page 2 of 3

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

Test Item(s):	Method (refer to)	No.1	MDL
Cadmium(Cd)	(1)	N.D.	2
Lead (Pb)	(2)	N.D.	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	N.D.	2
Sum of PBBs		N.D.	-
Monobromobiphenyl		N.D.	5
Dibromobiphenyl		N.D.	5
Tribromobiphenyl		N.D.	5
Tetrabromobiphenyl		N.D.	5
Pentabromobiphenyl		N.D.	5
Hexabromobiphenyl		N.D.	5
Heptabromobiphenyl		N.D.	5
Octabromobiphenyl		N.D.	5
Nonabromobiphenyl		N.D.	5
Decabromobiphenyl		N.D.	5
Sum of PBDEs		N.D.	-
Monobromodiphenyl ether		N.D.	5
Dibromodiphenyl ether		N.D.	5
Tribromodiphenyl ether		N.D.	5
Tetrabromodiphenyl ether		N.D.	5
Pentabromodiphenyl ether		N.D.	5
Hexabromodiphenyl ether		N.D.	5
Heptabromodiphenyl ether		N.D.	5
Octabromodiphenyl ether		N.D.	5
Nonabromodiphenyl ether		N.D.	5
Decabromodiphenyl ether		N.D.	5

Test Part Description:

No.1 Transparent adhesive film

- Note: 1. mg/kg = ppm
 2. N.D. = Not Detected (< MDL)
 3. MDL = Method Detection Limit
 4. "-" = Not regulated

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 中国·广州·经济技术开发区科学城科韵路199号 邮编: 510643 | 1 (86-20) 82156665 | 1 (86-20) 82075125 | e.scschina@sgs.com

GZCM175197

Member of the SGS Group (SIS SA)



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上机膜3

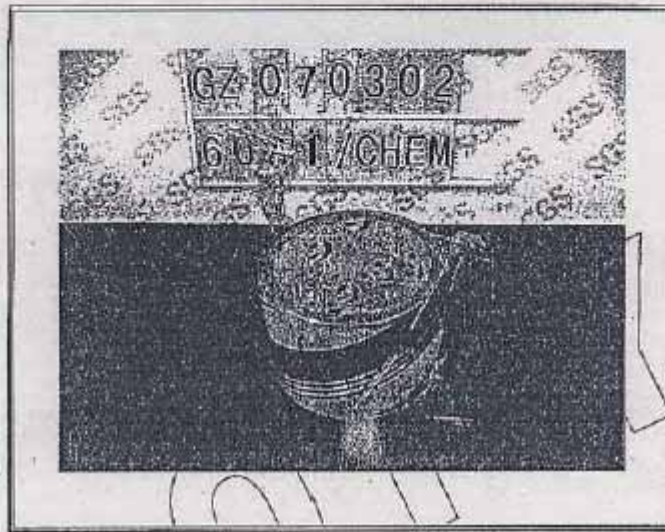
Test Report

No.: GZ0703028081/CHEM

Date: MAR 08, 2007

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Sample photo:



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SGS
Cooler Master Technology Co., Ltd.
Company

中国·广州·高新技术开发区科学城科韵路108号 邮编: 510663
GZCM1175196
Tel: (86-20) 82192055 Fax: (86-20) 82079225
Tel: (86-20) 82192055 Fax: (86-20) 82079225
www.cn.sgs.com
sgs@china.sgs.com

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Test Report

No.: GZ0641189575/CHEM

Date: NOV 20, 2006

Page 1 of 3

SHENZHEN-DIC CO., LTD.
1035 NANSHAN ROAD, SHENZHEN CITY, CHINA

Report on the submitted sample said to be: DRAGON-FG-BLACK (新宝龙黑)

SGS Ref No. : SZ10151140-9.1
Sample Receiving Date : NOV 14, 2006
Testing Period : NOV 14, 2006 TO NOV 20, 2006

Test Requested : To determine the Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs (Polybrominated Biphenyls) & PBDEs (Polybrominated Diphenylethers) content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/GDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP.
(2) Determination of Lead by ICP.
(3) Determination of Mercury by ICP.
(4) Determination of PBBs and PBDEs by GC-MS.
With reference to EPA 3060A: 1996 & EPA 7196A: 1992.
(5) Determination of Hexavalent Chromium by Colorimetric Method.

Test Results : Please refer to next page.

Signed for and on behalf of
SGS-CSTC Ltd.

Wang HongLei, Leo
Sr. Engineer

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Test Report

No.: GZ0611168575/GHEM

Date: NOV 20, 2006

Page 2 of 3

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

Test Item(s):	Method (refer to)	No.1	MDL
Cadmium(Cd)	(1)	N.D.	2
Lead (Pb)	(2)	N.D.	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	(5)	N.D.	2
Sum of PBBs	(4)	N.D.	-
Monobromobiphenyl		N.D.	5
Dibromobiphenyl		N.D.	5
Tribromobiphenyl		N.D.	5
Tetrabromobiphenyl		N.D.	5
Pentabromobiphenyl		N.D.	5
Hexabromobiphenyl		N.D.	5
Heptabromobiphenyl		N.D.	5
Octabromobiphenyl		N.D.	5
Nonabromobiphenyl		N.D.	5
Decabromobiphenyl		N.D.	5
Sum of PBDEs		N.D.	-
Monobromodiphenyl ether		N.D.	5
Dibromodiphenyl ether		N.D.	5
Tribromodiphenyl ether	N.D.	5	
Tetrabromodiphenyl ether	N.D.	5	
Pentabromodiphenyl ether	N.D.	5	
Hexabromodiphenyl ether	N.D.	5	
Heptabromodiphenyl ether	N.D.	5	
Octabromodiphenyl ether	N.D.	5	
Nonabromodiphenyl ether	N.D.	5	
Decabromodiphenyl ether	N.D.	5	

Test Part Description:

No.1 Black paste

- Notes : 1. mg/kg = ppm
 2. N.D. = Not Detected
 3. MDL = Method Detection Limit
 4. ** = Not regulated

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Test Report

No.: GZ0811168575/CHEM

Date: NOV 20, 2006

Page 3 of 3

Sample photo :



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Test Report

No.: GZ0511169576/CHEM

Date: NOV 20, 2006

Page 1 of 3

SHENZHEN DIC CO., LTD.
1035 NANSHAN ROAD, SHENZHEN CITY, CHINA

Report on the submitted sample said to be: DRAGON-FC CYAN (新宝龙蓝)

SGS Ref No. : SZ10151140-S.2
Sample Receiving Date : NOV 14, 2006
Testing Period : NOV 14, 2006 TO NOV 20, 2006

Test Requested : To determine the Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs (Polybrominated Biphenyls) & PBDEs (Polybrominated Diphenylethers) content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
(1) Determination of Cadmium by ICP.
(2) Determination of Lead by ICP.
(3) Determination of Mercury by ICP.
(4) Determination of PBBs and PBDEs by GC-MS.

With reference to EPA 3080A: 1996 & IEPA 7196A: 1992.
(5) Determination of Hexavalent Chromium by Colorimetric Method.

Test Results : Please refer to next page.

Signed for and on behalf of
SGS-CSTC Ltd.

Wang HongLai, Leo
Sr. Engineer

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Test Report

No.: GZ0811169576/CHEM

Date: NOV 20, 2006

Page 2 of 3

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

Test Item(s):	Method (refer to)	No. 1	MDL
Calcium (Ca)	(1)	N.D.	2
Lead (Pb)	(2)	7	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	(5)	N.D.	2
Sum of PBBs		N.D.	-
Monobromobiphenyl		N.D.	5
Dibromobiphenyl		N.D.	5
Tribromobiphenyl		N.D.	5
Tetrabromobiphenyl		N.D.	5
Pentabromobiphenyl		N.D.	5
Hexabromobiphenyl		N.D.	5
Heptabromobiphenyl		N.D.	5
Octabromobiphenyl		N.D.	5
Nonabromobiphenyl		N.D.	5
Decabromobiphenyl		N.D.	5
Sum of PBDEs	(4)	N.D.	-
Monobromodiphenyl ether		N.D.	5
Dibromodiphenyl ether		N.D.	5
Tribromodiphenyl ether		N.D.	5
Tetrabromodiphenyl ether		N.D.	5
Pentabromodiphenyl ether		N.D.	5
Hexabromodiphenyl ether		N.D.	5
Heptabromodiphenyl ether		N.D.	5
Octabromodiphenyl ether		N.D.	5
Nonabromodiphenyl ether		N.D.	5
Decabromodiphenyl ether		N.D.	5

Test Part Description:
No.1 Blue paste

- Note:
1. mg/kg = ppm
 2. N.D. = Not Detected
 3. MDL = Method Detection Limit
 4. "-" = Not regulated

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Test Report

No.: GZ0611189576/CHEM

Date: NOV 20, 2006

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Sample photo :



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Test Report No. 2068574/EO Date: Jul 12 2006 Page 1 of 3

HUI ZHOU XIN SAI DA INDUSTRIAL CO.,LTD
NO.24 SECTION,ZHONGKAI HIGH-TECHNICAL
DEVELOPMENT DISTRICT,HUIZHOU,
GUANGDONG,P.R.CHINA

Report on the submitted sample said to be WHITE EMULSION GLUE.

SGS Job No. : 1022323
SGS Ref. No. : SZECO060733445RS
Medal No. : 800A
Sample Receiving Date : JUL 06 2006
Testing Period : JUL 06 - 12 2006

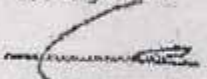
Test Requested : With reference to RoHS Directive 2002/95/EC
1) To determine the Cadmium Content in the submitted sample.
2) To determine the Lead Content in the submitted sample.
3) To determine the Mercury Content in the submitted sample.
4) To determine the Hexavalent Chromium Content on the submitted sample.
5) Determination of PBBs (polybrominated biphenyls), PBDEs (Polybrominated diphenylethers) of the submitted sample.

Test Method : 1) With reference to BS-EN-1122:2001, Method B, analysis was performed by Inductively Coupled Argon Plasma-Atomic Emission Spectrometry (ICP-AES).
2) With reference to EPA Method 3050B/3051/3052. Analysis was performed by Inductively Coupled Argon Plasma-Atomic Emission Spectrometry (ICP-AES).
3) With reference to EPA Method 3051/3052. Analysis was performed by Inductively Coupled Argon Plasma-Atomic Emission Spectrometry (ICP-AES).
4) With reference to EPA Method 3060A & 7196A. The sample was alkaline digested by using EPA Method 3060A, and then analyzed by using Colorimetric method 7196A (by UV-Vis Spectrophotometer).
5) With reference to EPA Method 3540C/3550C. Analysis was performed by GC/MS or LC/MS.

Test Results : 1-5) Please refer to next page.

Conclusion : When tested as specified, the submitted sample complies with the requirements of Commission Decision of 18 Aug 2005 amending Directive 2002/95/EC notified under document 2005/618/EO.

Signed for and on behalf of
SGS Hong Kong Ltd


Wan Chi Wai, Loo
Technical Manager

809AHS/HS
H13461372

SGS Hong Kong Ltd | SF - 67 & 67F - 25/F, Accessible Square, 2 Da Yu Street, Sheung Wan, HONG KONG, P.R. CHINA | TEL: (852) 2331 4181 | FAX: (852) 2384 3188 | www.sgs.com

TOTAL P.01



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Test Report

No. 2086571/EC

Date: Jul 12 2006

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Test Results

1-4)

Test Item	1	Detection Limit	Limit
Cadmium (Cd)	ND	2 ppm	100 ppm
Lead (Pb)	ND	2 ppm	1000 ppm
Mercury (Hg)	ND	2 ppm	1000 ppm
Hexavalent Chromium (Cr ⁶⁺)	ND	2 ppm	1000 ppm

(Results shown are of the total weight of samples)

Note: ppm = mg/kg

ND = Not Detected

Not detected is reported when the reading is less than detection limit value

5)

Flame Retardants	1	Detection Limit	Limit
Polybrominated Biphenyls (Mono - Deca)	ND	50 ppm	1000 ppm
Mono-bromobiphenyl	ND	5 ppm	--
Dibromobiphenyl	ND	5 ppm	--
Tribromobiphenyl	ND	5 ppm	--
Tetra-bromobiphenyl	ND	5 ppm	--
Penta-bromobiphenyl	ND	5 ppm	--
Hexa-bromobiphenyl	ND	5 ppm	--
Hepta-bromobiphenyl	ND	5 ppm	--
Octa-bromobiphenyl	ND	5 ppm	--
Nona-bromobiphenyl	ND	5 ppm	--
Deca-bromobiphenyl	ND	5 ppm	--
Polybrominated Diphenylethers (Mono - Nona)	ND	45 ppm	1000 ppm
Mono-bromodiphenyl ether	ND	5 ppm	--
Di-bromodiphenyl ether	ND	5 ppm	--
Tri-bromodiphenyl ether	ND	5 ppm	--
Tetra-bromodiphenyl ether	ND	5 ppm	--
Penta-bromodiphenyl ether	ND	5 ppm	--
Hexa-bromodiphenyl ether	ND	5 ppm	--
Hepta-bromodiphenyl ether	ND	5 ppm	--
Octa-bromodiphenyl ether	ND	5 ppm	--
Nona-bromodiphenyl ether	ND	5 ppm	--
Deca-bromodiphenyl ether*	ND	5 ppm	See remark

Note: ppm = mg/kg

ND = Not Detected

Not detected is reported when the reading is less than detection limit value.

Remark: * Deca-bromodiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified under document 2005/717/EC.

Sample Description:

1. White Emulsion Glue (809A)

H15461373

161 King Kong Rd | 6F - 6F & 26F - 26F, Metropolis Square, 2 On You Street, Sio Lin Yuen, Shaan, H.K., Hong Kong. 81527 2384 4681 - 81527 2386 3115 www.sgsgroup.com

TOTAL P. 02



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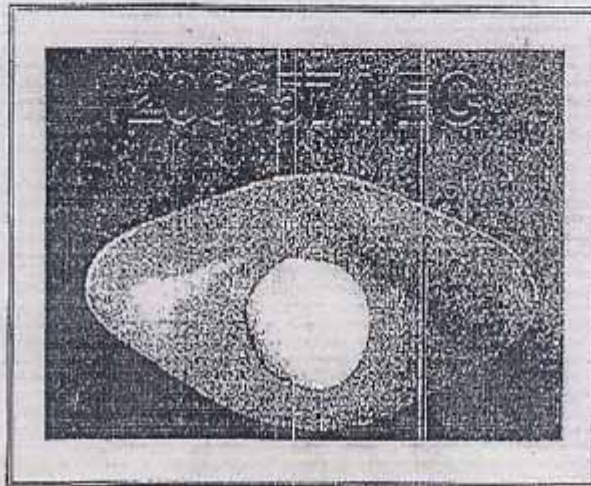
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PHOTO APPENDIX



SGS authenticate the photo on original report only

*** End of Report ***



Package



Inside of Carton :
12 pcs in One Layer
24 pcs / Ctn

