Customer Drawing

RoHS Compliant

3170 SERIES D-SUB CONNECTORS RIGHT ANGLE (FEMALE) (8.08mm FOOT PRINT)

REV	DATE	DESCRIPTION	ECN NO.	NAME
A	97.12.15	NEW RELEASE		DEAN
D	04.06.07	3 ADD INSTRUCTION	AK0406007	DEAN
E	04.07.03	4 MODIFICATION	AK0405025	XZ
F	04.08.12	5 ADD GREEN OPTION	AK0408013	XZ
G	04.12.25	6 MODIFICATION	AK0412021	LIUFAN
H	06.05.20	7 CHANGE SHOW	CECR06001319	Richard

MATERIAL
HOUSING: SEE ORDERING INFORMATION (UL94V-0)
HOUSING COLOR: BLACK
TERMINAL: COPPER ALLOY
TERMINAL PLATING: SEE ORDERING INFORMATION
SHELL: STEEL
SHELL PLATING: SEE ORDERING INFORMATION
HARPOON: BRASS, 50~100u" min. Sn OVER 50u" min.
Ni UNDERPLATE OVERALL

ORDERING INFORMATION

* 3170 – ** F * * ** * *

" ":NORMAL PRODUCT
2"G":GREEN PRODUCT

09,15,25,37

A:WITH HARPOON GROUND BRACKET & #4-40 UNC THREAD RIVETED INSERT
B:WITH HARPOON GROUND BRACKET & JACK SCREW

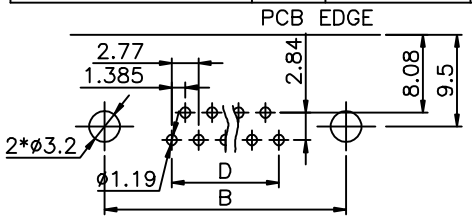
SHELL PLATED&HOUSING MATERIAL
T: Sn THERMOPLASTIC
N: Ni THERMOPLASTIC
A: Ni HIGH THERMOPLASTIC
B: Sn HIGH THERMOPLASTIC

TERMINAL PLATED
S1:1u" Au
S2:5u" Au
S3:10u" Au
S4:15u" Au
S5:30u" Au
S6:3u" Au
(SELECTIVE Au)
F1:1u" Au
F2:5u" Au
F3:10u" Au
F4:15u" Au
F5:30u" Au
F6:3u" Au
(FULL Au)

W:WIESON LOGO
N:NO LOGO

X:WITHOUT JACK SCREW (ONLY FOR "A" TYPE) 3
S:LOCK GSS6-A47511848 LONG: 11.8mm
2:LOCK GSS6-A47513058 LONG: 13.0mm
D:ATTACH GSS6-A47511848 LONG: 11.8mm (ONLY FOR "A" TYPE) 3
E:ATTACH GSS6-A47513058 LONG: 13.0mm (ONLY FOR "A" TYPE) 3

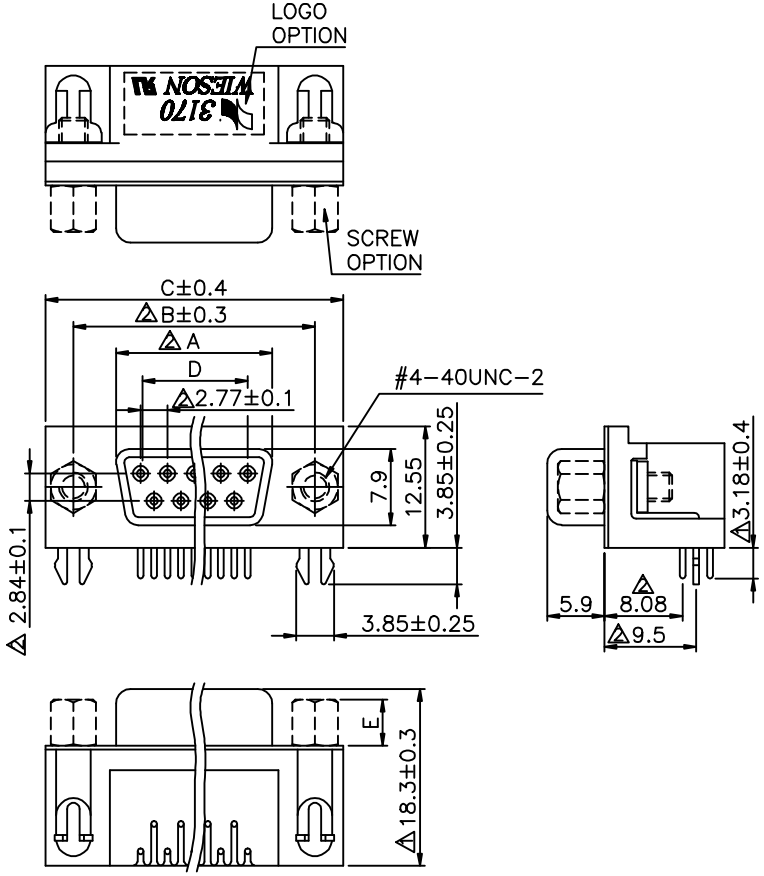
	E	INNER SCREW THREAD	OUTER SCREW THREAD
S:GSS6-A47511848	4.8	#4-40 UNC	#4-40 UNC
2:GSS6-A47513058	5.8		



RECOMMENDED P.C.BOARD HOLE LAYOUT

NO. OF CONTACTS	A	B	C	D
09	16.33	24.99	30.80	11.08
15	24.66	33.32	39.10	19.39
25	38.38	47.04	53.00	33.24
37	54.84	63.50	69.32	49.86

1



NOTE: 1. P.C.B LAYOUT TOLERANCE:±0.05MM.
2. TERMINAL OR SHEELL PLATED IS L/D FOR GREEN PRODUCT.

GENERAL TOLERANCE ±0.25MM GENERAL ANGLE TOLERANCE ±3°	WIESON TECHNOLOGIES CO, LTD	PART NO.: 2*3170-**F*****	
	DRAWN BY: DEAN(WST)	DRAWING NO.	3170-001
	CHECKED BY: KEVIN	DRAWING SIZE	A4
	APPROVED BY: JERRY	UNIT	mm
	SORTING NO. 4 P11990/CA0054 5 2	PAGE	1 OF 1

ISSUED

[ARTICLE:044033 V4]

TABLE OF CONTENT

Rev	Date	Description	Edited by	Approvals
A	2005/3/24	Modify	Cloud	Prepared : ***Cloud***
				Checked :
				Approved : ***Kevin***

1. Scope :

This specification covers the requirements for product performance, test methods and quality assurance provisions of **D-SUB Connector.**

2. Reference Documents :

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

A. EIA-364 : The Test Sequence and Test Procedures for Electrical Connectors and Sockets.

B. JEDEC : Test for Lead-free Solder.

C. UL Std-94 : Test for Flammability of Plastic material for Parts in Devices and Appliances.

3. Material of Components :

A. Housing : Thermoplastic, UL94V-0 Rated

B. Contact : Copper Alloy

C. Shell : SPCC

D. Rivet : Copper Alloy

E. Screw : Copper Alloy

F. Hook : Copper Alloy

4. Design and Construction :

Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

5. Ratings :

A. Voltage : 125Vrms maximum

B. Current : 1.5A

C. Temperature: -55~105°C

6. Performance and Test Descriptions :

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in paragraph 7. Unless otherwise specified, All tests are performed at ambient environmental conditions.

7. Test Requirements and Procedures Summary :

Electrical Performance		
Test Description	Test Procedures & Condition	Requirements
Temperature Rise vs Current Rating	EIA 364-70 Method B Measure temperature rise vs current at 1.0A when measured at an ambient temperature of 23±3°C.	The ΔT shall not exceed +30°C at any point in the connector under test.
Low Level Contact Resistance	EIA 364-23 Subject mated contacts assembled in housing to closed circuit current of 100 mA maximum at open circuit at 20 mV maximum.	1. 20 mΩ maximum initial per mated pair. 2. 30 mΩ maximum final per mated contact.
Insulation Resistance	EIA 364-21 Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Voltage : 500 Vdc.	1,000 MΩ minimum
Dielectric Withstanding Voltage	EIA 364-20 Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Potential : 1000 Vac at sea level Test Duration : 60 seconds	1. No flashover, No sparkover, No excess leakage, No breakdown. 2. Current leakage : < 0.5 mA

Mechanical Performance		
Test Description	Test Procedures & Condition	Requirements
Mating and Unmating force (Per Pin)	EIA 364-13 Subject connector to mate and unmate to measure the mechanical forces required to engage and disengage at a rate of 12.5mm per minute. Record by using autograph.	1. Mating force：Maximum 300 gf 2. Unmating force：Minimum 40 gf Test steel gage: Standard type：∅1.0 ㎜ H/D type：∅0.76 ㎜
Durability	EIA 364-09 100 insertion / extraction cycles at a maximum rate of 200 cycles per hour.	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.
Vibration (Random)	EIA 364-28 Condition V Test letter A Test condition : Random Frequency : 50 ~ 2000 Hz PSD value : 5.35 G_{rms} minimum Duration : 15 minutes/axis Times : Each of three mutually perpendicular planes.	1. No discontinuities of 1μs or longer duration. 2. No evidence of damage. 3. The electrical performances should meet the spec. specified.

Environmental Performance		
Test Description	Test Procedures & Condition	Requirements
Humidity (Temperature Cycling)	EIA 364-31 Method III Test Condition A Temperature : 25 ~ 65°C Humidity : 90 ~ 95% (R.H) Duration : 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.
Thermal Shock	EIA 364-32 Temperature : -55 ~ 105°C Cycles : 5 cycles Exposure time at temp. extremes : 30 minutes	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.
Salt Spray	EIA 364-26 Test Condition A Temperature : 35±1.1°C Humidity : 95 ~ 98% (R.H.) PH Value : 6.5 ~ 7.2 Duration : 48 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.
Heat Resistance	Temperature : 105±2°C Duration : 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.
Cold Resistance	Temperature : -55±2°C Duration : 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.

Test Description	Test Procedures & Condition	Requirements
Solderability	JESD 22-B102 Condition-C Method 1 Subject unmated connectors should be tested according to the condition listed below : Steam Aging Temperature : 93℃/+3-5°C Steam Aging Duration : 8 hours±15 min. Soldering Temperature : 245±5°C Soldering Time : 4 ~ 5 seconds Flux Type : ROL 1	Continuous solder coating with a minimum 95% coverage.
Resistance to Soldering Heat	Subject connectors should be tested according to the condition listed below : Heat: 250°C Duration: 5seconds	1. No evidence of damage. 2. The electrical performances should meet the spec. specified. 3. The mechanical performances should meet the spec. specified.

Note : Shall meet visual requirements, show no physical damage, and shall meet requirements of additional tests as specified in Test Sequence in paragraph 8.

8. Product Qualification and Requalification Test Sequence :

A. Sample Selection :

Test samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production.

B. Test Sequence :

The following is an example of how the test sequence works : In Test Group 8, the first test is (1), examination of product, followed by test (2), temperature rise vs current, followed by test (3), examination of product. Six samples are tested in this test group.

Test Description Sequence	Test Group								
	1	2	3	4	5	6	7	8	9
Examination of product	1,7	1,3	1,5	1,5	1,8	1,9	1,3	1,3	1,3
Low Level Contact Resistance	2,6		2,4	2,4		2,6			
Insulation Resistance					2,6	3,7			
Dielectric Withstanding Voltage					3,7	4,8			
Mating/Unmating Force	3,5								
Durability	4								
Solderability							2		
Vibration		2							
Humidity					5				
Thermal Shock					4				
Salt Spray						5			
Heat Resistance			3						
Cold Resistance				3					
Temperature Rise vs Current								2	
Resistance to Soldering Heat									2
Sample Size per Test Group	6	6	6	6	6	6	6	6	6

9. Quality Assurance Provisions :

Unless otherwise specified, in the contract or purchase order, we will be responsible for the quality of the part as it is delivered to client. We will be responsible for having controlled processes to ensure product is in total compliance with this specification. Failing lots shall be subject to return or other corrective action.

Further, WIESON will not substitute components of the assembly (connector, cable, etc.) without prior written approval from client. Any such substitutions shall be submitted to client for approval prior to implementation. Substitution shall be deemed as any change in WIESON different than those previously submitted to and approved by client.

A. Re-qualification Testing :

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

B. Re-testing :

Connectors stored for a period of more than 12 months after the release of the lot shall be tested prior to delivery.

C. Acceptance :

Acceptance is based on verification that the product meets the requirements of paragraph 7. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Test to confirm corrective action is required before resubmittal.

D. Inspection Data :

Inspection and test data shall be recorded, evaluated, and maintained as evidence of performance to these provisions.

E. Quality Conformance Inspection :

Applicable WIESON quality inspection plan will specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

F. Preparation for Delivery :

Overall packaging shall be sufficient to protect against damage or loss during shipment from WIESON to destination specified in the purchase order.

Underwriters Laboratories Inc.

ECBT2.E144137
Connectors for Use in Data, Signal, Control and Power Applications

WIESON TECHNOLOGIES CO LTD E144137
7TH FL
276-1 TA TUNG RD, SEC 1
HSI CHIH
TAIEPI HSIEN, TAIWAN

Connectors, Series 206, 1100, 1110, 1120, 1130, 1140, 1150, 2100, 2105, 2110, 2120, 2130, 2140, 2150, 2170, 2180, 2190, 2200, 2210, 2220, 2230, 2240, 2250, 2260, 2290, 2300, 2310, 2320, 2330, 2350, 2360, 2370, 2380, 2510, 2520, 2560, 2570, 2580, 2600, 3100, 3110, 3111, 3130, 3140, 3150, 3160, 3161, 3162, 3163, 3166, 3170, 3172, 3180, 3190, 3200, 3202, 3210, 3220, 3230, 3240, 4100, 4101, 4110, 4111, 4120, 4121, 4130, 4131, 4132, 4140, 4141, 4150, 4151, 4152, 4153, 4154, 4155, 4160, 4170, 4172, 4173, 4180, 4190, 4200, 4210, 4220, 5700, 5710, 5720, 5730, 5740, 6100, 6110, 6120, 7110, 7120, 7130, 7700, 7710, 7720, 7730, 7740, 7750, 7760, 7770, 8270, 8290.

Cat. Nos. 3500 followed by 04, followed by B, G or W, followed by T1 or T2, followed by F1, F2, F3, F4, F5, P1, P2, P3, P4, S1, S2, S3, S4 or S5, followed by any one digit alphanumeric code; Cat. No. M3600 followed by 04, followed by B, G or W, followed by N, P or T; Cat. No. M3601 followed by B or P, followed by F or S, followed by 1, 2, 3, 4 or 5. Cat. No. 118040 followed by M or N, followed by A, B, C or D, followed by S1, S2, S5 or S6, followed by B or P, followed by B, G or U. Cat. No. M3602 followed by B, P or T, followed by A or B, followed by T1 or T2; Cat. No. 6141 followed by 188, followed by P or T, followed by D, F, P or S, followed by 1, 2, 3, 4, 5 or 6, followed by any one digit alphanumeric code; Cat. No. 6142 followed by 188, followed by P or T, followed by F or S, followed by 1, 2, 3, 4 or 5, followed by any one digit alphanumeric code; Cat. No. 6145 followed by 160, followed by F or S, followed by 1, 2, 3, 4 or 5, followed by N, P or T, followed by B or P, followed by M or P; Cat. No. 6146 followed by 160, followed by F or S, followed by 1, 2, 3, 4 or 5, followed by N, P or T, followed by B or P, followed by M or P, followed by any one digit alphanumeric code; Cat. Nos. 6150 followed by 120, 150, 160 or 184, followed by F or S, followed by 1, 2, 3, 4 or 5, followed by N, P or T, followed by B or P, followed by M or P, followed by any one digit alphanumeric code; Cat. No. 6151 followed by 112, 120, 132, 182, 194 or 240, followed by F or S, followed by 1, 2, 3, 4 or 5, followed by N, P or T, followed by B or P, followed by M or P, followed by any one digit alphanumeric code; Cat. No. 6152 followed by 112, 120, 132, 182, 194 or 240, followed by F or S, followed by 1, 2, 3, 4 or 5, followed by N, P or T, followed by B or P, followed by M or P, followed by any one digit alphanumeric code; Cat. No. 6200 followed by A or B, followed by 1, 2 or 3, followed by 1, 2 or 3, followed by L, N, P or T, followed by F, P or S, followed by 1, 2, 3, 4 or 5, followed by B or W, followed by any one digit alphanumeric code.

Low voltage connectors, Model No. 2127; Model Nos. 3112, 3113, 3114, 3115, 3116, 3117, 3118 followed by 15, followed by F, may be followed by 1 through 4 alphanumeric codes; Model Nos. 3120, 3130 followed by 15, 26, 44 or 62, followed by M, may be followed by 1 through 4 alphanumeric codes; Model No. 3150 followed by 9, 15, 19, 23 or 25, followed by F, may be followed by 1 through 4 alphanumeric codes; Model No. 3151 followed by 9, 15, 19, 23 or 25, followed by M, may be followed by 1 through 4 alphanumeric codes; Model No. 3174 followed by 9, 15 or 25, followed by M, may be followed by 1 through 4 alphanumeric codes; Model Nos. 3175, 3177, 3178 followed by 9, followed by M, may be followed by 1 through 4 alphanumeric codes; Model No. 3176 followed by 25, followed by F, may be followed by 1 through 4 alphanumeric codes; Model No. 3211 followed by 25, followed by M, may be followed by 1 through 4 alphanumeric codes; Model Nos. 3300, 3301, 3302, 3303, 3306 followed by 50 or 68, followed by F, may be followed by 1 through 4 alphanumeric codes; Model No. 3309 followed by 14, 20 or 36, followed by F, may be followed by 1 through 4 alphanumeric codes; Model Nos. 3503, 3505, 3510, 3550, 3551 may be followed by 1 through 8 alphanumeric codes; Model Nos. 3700, 3900, 3910, 3920, 3950 followed by 6, may be followed by 1 through 7 alphanumeric codes; Model No. 4116, followed by 321, may be followed by 1 through 5 alphanumeric codes; Model No. 5750 followed by 10, followed by 36, may be followed by 1 through 2 alphanumeric codes; Model No. 6310 followed by 144, followed by E, may be followed by 1 through 3 alphanumeric codes; Model No. 6170 followed by A, may be followed by 1 through 4 alphanumeric codes; Model Nos. 7260, 7261, 7265, 7267, 7277 followed by 5, may be followed by 1 through 4 alphanumeric codes; Model Nos. 7280, 7285, 7290, 7295 followed by 5A, 4B, 3C, 3D, 3E or 4F, may be followed by 1 through 3 alphanumeric codes; Model Nos. 7263, 7269, 7272, 7292 followed by 3, may be followed by 1 through 4 alphanumeric codes; Model No. 7270 followed by 4, may be followed by 1 through 4 alphanumeric codes; Model No. 7281 may be followed by 1 through 5 alphanumeric codes; Model Nos. 6200, 6201, 6204, 6205, 6300, 6301, 6302, 6303, 6304, 6305, 6306, 6307 may be followed by 1 through 8 alphanumeric codes; Model No. 6112 followed by 44, followed by P, may be followed by 2 alphanumeric codes; Model No. 6121 followed by 03 through 08, followed by S or R, may be followed by 1 through 2 alphanumeric codes; Model No. 6163 followed by 62, followed by S1, S6 or F1, followed by S, T, N or C, may be followed by 1 through 3 alphanumeric codes; Model No. 6132 followed by 03 through 26, followed by S or R, may be followed by 1 through 2 alphanumeric codes; Model Nos. A1001, A1004, A1010, A1042 followed by 3, 4, 5, 6, 7, 8 or 9, may be followed by 1 through 5 alphanumeric codes; Model Nos. A1002, A1009 followed by 3, may be followed by 1 through 5 alphanumeric codes; Model No. A1041 followed by -3E, 4E, 5E, 6E, 7E, followed by any 6 digit alphanumeric code; Model No.

A1050 followed by 6, may be followed by 1 through 5 alphanumeric codes; Model No. A111 followed by 5, may be followed by 1 through 5 alphanumeric codes; Model No. WSDC followed by 001, 004, 006 or 008, followed by A, B, C or D, may be followed by 1 through 4 alphanumeric codes.

Low Voltage Connectors, Cat. No. 2212, followed by four alphanumeric digits, followed by 6, 8, 12, 14, 16, 20, 24, 26, 30, 34, 40, 44, 50, 56, 60, 62 or 64, followed by S, R or M, followed by two alphanumeric digits; Cat. No. 2175, followed by four alphanumeric digits, followed by 2 through 18, followed by A, followed by five alphanumeric digits; Cat. No. 2211, followed by four alphanumeric digits, followed by 2 through 24, followed by T1, followed by M or N, followed by A or B, followed by one alphanumeric digit; Cat. No. 2366, followed by four alphanumeric digits, followed by 2 through 15, followed by R or S, followed by T1, followed by A; Cat. No. 2417, followed by four alphanumeric digits, followed by 2 or 3, followed by R or S, followed by T1, followed by K or X; Cat. No. 3119, followed by four alphanumeric digits, followed by 15, followed by F, followed by A, followed by six alphanumeric digits; Cat. No. 3142, followed by four alphanumeric digits, followed by 25, followed by T, followed by 2, followed by H9, followed by S1, followed by X, S, 1 or 2, followed by one alphanumeric digit; Cat. No. 3171, followed by four alphanumeric digits, followed by 9, 15 or 25, followed by A, followed by A or B, followed by J, T or D, followed by five alphanumeric digits; Cat. No. 3203, followed by four alphanumeric digits, followed by 02, 04 or 05, followed by 01 through 06, followed by 01 through 10; Cat. No. 6155, followed by four alphanumeric digits, followed by 124, 242 or 340, followed by two alphanumeric digits, followed by T, followed by three alphanumeric digits; Cat. No. 7278, followed by four alphanumeric digits, followed by three alphanumeric digits; Cat. No. A1043, followed by four alphanumeric digits, followed by 4 or 6, followed by E, followed by C, followed by L, followed by T1, followed by three alphanumeric digits; Cat. No. 7287, followed by four alphanumeric digits, followed by 02, followed by four alphanumeric digits; Cat. No. WS, followed by four alphanumeric digits, followed by RCA, followed by D, followed by 001, 002, 003, 005, 008, 010, 013, 014 or 015, followed by three alphanumeric digits. Cat. No. 6151 followed by four alphanumeric digits, maybe followed by two alphanumeric digits, followed by 001, 002, 003, 004, 006, 007, 008.

Low voltage connectors , Cat. Nos. 2255, G2255 followed by four to six alphanumeric digits or blank, followed by 01 or 02, followed by 00, followed by 01; Cat. Nos. 2593, G2593, followed by four to six alphanumeric digits or blank, followed by 12, followed by 02 thru 80, followed by 01 or 02; Cat. Nos. 2593, G2593, followed by four to six alphanumeric digits or blank, followed by 1* or 2*, followed by 01 thru 50, followed by S, followed by F1 or T1; Cat. Nos. 2800, G2800, followed by four to six alphanumeric digits or blank, followed by 2*, followed by 03 thru 50, followed by F1 or T1, followed by blank or 1; Cat. Nos. 2800, G2800, followed by four to six alphanumeric digits or blank, followed by 07, followed by 03 thru 50, followed by 01 thru 03 or 13; Cat. Nos. 2800, G2800, followed by four to six alphanumeric digits or blank, followed by 08 or 09, followed by 03 thru 50, followed by 01 or 02; Cat. Nos. 2800, G2800, followed by four to six alphanumeric digits or blank, followed by 12, followed by 03 thru 50, followed by 01 or 11; Cat. Nos. 3179, G3179, followed by four to six alphanumeric digits or blank, followed by 01, 02 or 03, followed by 01 thru 12 or 21, followed by 01 thru 08; Cat. Nos. 3179, G3179, followed by four to six alphanumeric digits or blank, followed by 04, 05 or 06, followed by 01 thru 12, followed by 01 thru 08; Cat. Nos. 3179, G3179, followed by four to six alphanumeric digits or blank, followed by 07 or 08, followed by 01 thru 04, followed by 01 thru 06; Cat. Nos. 3179, G3179, followed by four to six alphanumeric digits or blank, followed by 62, followed by 01 thru 12, 21 or 31, followed by 0 or 1, followed by 1 thru 8; Cat. Nos. 3203, G3203, followed by four to six alphanumeric digits or blank, followed by 04, followed by 01 thru 06, followed by 01 thru 07; Cat. Nos. 3203, G3203, followed by four to six alphanumeric digits or blank, followed by 03 or 06, followed by 01 thru 13, followed by 01 thru 04; Cat. Nos. 3203, G3203, followed by four to six alphanumeric digits or blank, followed by 11, followed by 00, followed by 00 or 01; Cat. Nos. 3280, G3280, followed by four to six alphanumeric digits or blank, followed by 01, followed by 01 or 02, followed by 01 thru 09; Cat. Nos. 3280, G3280, followed by four to six alphanumeric digits or blank, followed by 02, followed by 00 or 01, followed by 01 thru 09; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 01, followed by 01 thru 08 or 21 thru 28, followed by 01 thru 08 or 11 thru 20; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 02, followed by 01 thru 06 or 21 thru 28, followed by 01 thru 08 or 11 thru 20; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 03 or 04, followed by 01 thru 06 or 21 thru 26, followed by 01 thru 08; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 05, followed by 01 thru 06, followed by 01 thru 08; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 06 or 08, followed by 01 thru 09, 11, 21 thru 27 or 31, followed by 01 thru 08; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 07, followed by 01 thru 09, 11, 21 thru 27 or 31, followed by 01 thru 08; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 09, 10, 11 or 12, followed by 01 thru 03 or 21 thru 23, followed by 01 thru 08, 10 or 11; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 25, followed by 05 or 06, followed by 01 thru 08; Cat. Nos. 3281, G3281, followed by four to six alphanumeric digits or blank, followed by 31, 32, 35, 36, 37, 38 or 74, followed by 01 thru 06 or 21 thru 26, followed by 01 thru 08; Cat. Nos. 3501, G3501, 3502, G3502, 3504, G3504, followed by four to six alphanumeric digits or blank, followed by 2 or 4, followed by N, followed by B or W, followed by T1 or N1, followed by S1 thru S6, followed by W or N; Cat. Nos. 3503, G3503, followed by four to six alphanumeric digits or blank, followed by 2 or 4, followed by N, M or T, followed by T1 or N1, followed by S1 thru S6, followed by W or N; Cat. Nos. 3505, G3505, followed by four to six alphanumeric digits or blank, followed by 2 or 4, followed by N, M or T, followed by B or W, followed by T1, followed by S1 thru S6 or P1 thru P5, followed by W or N; Cat. Nos. 3505, G3505, followed by four to six alphanumeric digits or blank, followed by 08, followed by 11 or 21, followed by 01 or 02; Cat. Nos. 3507, G3507, followed by four to six alphanumeric digits or blank, followed by 01, followed by 00 or 01, followed by 01 or 02; Cat. Nos. 3515, G3515, followed by four to six alphanumeric digits or blank, followed by 01, 02, 11 or 12, followed by 01 thru 04, 11 or 12, followed by 01 thru 03 11 or 12; Cat. Nos. 3516, G3516, followed by four to six alphanumeric digits or blank, followed by 11 or 12, followed by 01 thru 04, 11 or 12, followed by 01 or 02; Cat. Nos. 3550, G3550, followed by four to six alphanumeric digits or blank, followed by 2 or 4, followed by B, W or G, followed by E, followed by M or N, followed by T1 thru T3, followed by T1, S1 thru S6 or P1 thru P5, followed by N or W; Cat. Nos. 3551, G3551, followed by four to six alphanumeric digits or blank, followed by 2 or 4, followed by B, W or A, followed by

A thru F, followed by M or N, followed by T1 or N1, followed by S1 thru S5 or P1 thru P4, followed by N or W; Cat. Nos. 3551, G3551, followed by four to six alphanumeric digits or blank, followed by 36. followed by 00, 01, 10, 11, 20 or 21, followed by 01 thru 06; Cat. Nos. 3551, G3551, followed by four to six alphanumeric digits or blank, followed by 54, followed by 00 or 01, followed by 01; Cat. Nos. 3551, G3551, followed by four to six alphanumeric digits or blank, followed by 56, followed by 0 or 1, followed by 0 or 1, followed by 01 thru 06; Cat. Nos. 3552, G3552, followed by four to six alphanumeric digits or blank, followed by 4, followed by B or W, followed by T1S1W; Cat. Nos. 3552, G3552, followed by four to six alphanumeric digits or blank, followed by 02 or 12, followed by 00, 01, 10 or 11, followed by 01 or 02; Cat. Nos. 3552, G3552, followed by four to six alphanumeric digits or blank, followed by 03, followed by 00, 01, 10 or 11, followed by 01, 02, 11 or 12; Cat. Nos. 3553, G3553, followed by four to six alphanumeric digits or blank, followed by 2 or 4, followed by B or W, followed by A thru F or G, followed by M or N, followed by T1 or N1, followed by S1 or S4, followed by W or N; Cat. Nos. 3553, G3553, followed by four to six alphanumeric digits or blank, followed by 36, followed by 00, 01, 10, 11, 20 or 21, followed by 01 thru 06; Cat. Nos. 3554, G3554, followed by four to six alphanumeric digits or blank, followed by 01 , followed by 01 or 02, followed by 1 thru 5, followed by 1 or 2; Cat. Nos. 3950, G3950, followed by four to six alphanumeric digits or blank, followed by 04 or 06, followed by B, w or G, followed by N1 or N2, followed by S1, S5 or P3; Cat. Nos. 7273, G7273, followed by four to six alphanumeric digits or blank, followed by 3, 4, followed by A, B or C, followed by B, followed by T1, followed by 1 or 2; Cat. Nos. 7273, G7273, followed by four to six alphanumeric digits or blank, followed by 02, followed by 00 or 01, followed by 01; Cat. Nos. 7273, G7273, followed by four to six alphanumeric digits or blank, followed by 03, followed by 00, 01 or 02, followed by 01 or 02; Cat. Nos. 7273, G7273, followed by four to six alphanumeric digits or blank, followed by 05, followed by 00 or 01, followed by 0 or 1, followed by 1 or 2; Cat. Nos. 7800, G7800, followed by four to six alphanumeric digits or blank, followed by 01, followed by 01, 02 or 21, followed by 01, 02 or 11; Cat. Nos. 7801, G7801, followed by four to six alphanumeric digits or blank, followed by 01, followed by 00 or 11, followed by 01 or 02; Cat. Nos. A1060, GA1060, followed by four to six alphanumeric digits or blank, followed by 01 or 02, followed by 01 thru 04, followed by 01 thru 05; Cat. Nos. N3610, GN3610, followed by four to six alphanumeric digits or blank, followed by 01, followed by 00, followed by 00 or 01; Cat. Nos. N3950, GN3950, followed by four to six alphanumeric digits or blank, followed by 06, followed by B, W or G, followed by N1, N2 or N3, followed by S1, S4, S5 or P4; Cat. Nos. N3950, GN3950, followed by four to six alphanumeric digits or blank, followed by 31, followed by 01, followed by 01 thru 03; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 007, followed by A or B, followed by N, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 010, followed by A or B, followed by N, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 011, followed by A or B, followed by N, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 012, followed by A or B, followed by N, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 017, followed A or B, followed by N or M, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 018, followed by A or B, followed by M, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 019, followed by A, followed by K, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 022, followed by A or B, followed by N, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 029, followed by A, followed by M, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by DC, followed by 101, followed by A or B, followed by S, B or C, followed by N, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by RCA, followed by 004, followed by A thru D, followed by A thru C, followed by T1; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by RCA, followed by 017, followed by A or B, followed by , followed by B, followed by T1, followed by N; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by RCA, followed by 018, followed by 2, followed by A thru D, followed by N1, followed by N, followed by 2; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by RCA, followed by 022, followed by A, followed by T1, followed by N; Cat. Nos. WS, GWS, followed by four to six alphanumeric digits or blank, followed by RCA, followed by 026, followed by A, followed by B, followed by A or B, followed by 1.

Low voltage connectors , Cat. Nos. 2410, G2410 followed by four to six alphanumeric digits or blank, followed by 02 thru 16, followed by P, followed by 1 or blank; Cat. Nos. 2420, G2420, followed by four to six alphanumeric digits or blank, followed by 02 thru 16, followed by R or S, followed by T1, followed by K or X, followed by blank or 1; Cat. Nos. 2420, G2420, followed by four to six alphanumeric digits or blank, followed by 06, followed by 02 thru 16, followed by 01; Cat. Nos. 2651, G2651, followed by four to six alphanumeric digits or blank, followed by 02 thru 15, followed by S, followed by T1; Cat. Nos. 2651, G2651, followed by four to six alphanumeric digits or blank, followed by 04, 05, 06, 07 or 59, followed by 02 thru 15, followed by 01; Cat. Nos. 2652, G2652, followed by four to six alphanumeric digits or blank, followed by 02 thru 15, 20, 25 or 30, followed by S or R, followed by T1; Cat. Nos. 3518, G3518, followed by four to six alphanumeric digits or blank, followed by 01 or 02, followed by 01 or 02, followed by 01; Cat. Nos. 3613, G3613, followed by four to six alphanumeric digits or blank, followed by 01, followed by 01 or 02, followed by 01; Cat. Nos. 3806, G3806, followed by four to six alphanumeric digits or blank, followed by 01, followed by 01 or 02, followed by 01 thru 12; Cat. Nos. 3930, G3930, followed by four to six alphanumeric digits or blank, followed by 6, followed by N, followed by B, W or G, followed by T1 or N1, followed by S1 or S5, followed by W, N or L; Cat. Nos. 4312, G4312, followed by four to six alphanumeric digits or blank, followed by 06 or 12, followed by 00 or 01, followed by 01 or 02; Cat. Nos. 4312, G4312, followed by four to six alphanumeric digits or blank, followed by 15, followed by 00 or 01, followed by 01 thru 03 or 11 thru 13; Cat. Nos. 6134, G6134, followed by four to six alphanumeric digits or blank, followed by 04 thru 32, followed by W, followed by S or R, followed by S, T or B, followed by X, followed by T1, followed by 1; Cat. Nos. 6135, G6135, followed by four to six alphanumeric digits or blank, followed by 08, followed by 10 or 12, followed by 01 or 02; Cat. Nos. 6136, G6136, followed by four to six alphanumeric digits or blank, followed by 03 thru 50, followed by H or V, followed by T, B or S, followed by Z, followed by T1, followed by 1 or 4; Cat. Nos. 6136, G6136, followed by four to six alphanumeric digits or blank, followed by 05, 06, 63 or 64, followed by 03 thru 45, followed by 01 or 02; Cat. Nos. 6156, G6156, followed by four to six alphanumeric digits or blank, followed by 12, followed by 01 thru 03, followed by 01 thru 04 or 11 thru 14; Cat. Nos. 6156, G6156, followed by four to six alphanumeric digits or blank, followed

by 13, followed by 01 thru 03, followed by 01 thru 04; Cat. Nos. 6173, G6173, followed by four to six alphanumeric digits or blank, followed by 15, followed by 00 or 01, followed by 01, 02, 11 or 12; Cat. Nos. 6173, G6173, followed by four to six alphanumeric digits or blank, followed by 26, followed by 00 or 01, followed by 01; Cat. Nos. 6173, G6173, followed by four to six alphanumeric digits or blank, followed by 07, 36, 40, 43 or 46, followed by 00 or 01, followed by 01, 02, 11, 12; Cat. Nos. 6308, G6308, followed by four to six alphanumeric digits or blank, followed by 12 or 13, followed by 0 or 1, followed by 0 thru 3, followed by 01 thru 05 or 11 thru 15; Cat. Nos. 6308, G6308, followed by four to six alphanumeric digits or blank, followed by 01, followed by 00 thru 03, followed by 01 thru 06; Cat. Nos. 6310, G6310, followed by four to six alphanumeric digits or blank, followed by 144, followed by A, B, C or E, followed by 3 or 5, followed by S1, S2, F1 or F5; Cat. Nos. 7297, G7297, followed by four to six alphanumeric digits or blank, followed by 3, 5 or 7, followed by A, B or C, followed by B, followed by G, followed by T1; Cat. Nos. 7297, G7297, followed by four to six alphanumeric digits or blank, followed by 260001.
Marking: Company name or tradename "WIESON" or "E144137" and series, model or catalog designation on device or carton.

ISO 9001 Quality Certificate

BVQI

Certification

Awarded to

DONGGUAN HUAGUO (WIESON) ELECTRONIC CO., LTD.

HOUJIE TOWN, DONGGUAN, GUANGDONG, P. R. CHINA

BVQI certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

STANDARD

ISO 9001 : 2000

SCOPE OF SUPPLY

DESIGNING, MANUFACTURING AND SALES OF ELECTRONIC CONNECTORS, CABLES, WIRHARNESS, FIBER PASSIVE COMPONENTS, RF PRODUCT, PLASTIC INJECTION, STAMPING PARTS AND TOOLING MOLD.

Original Approval Date: **20 MARCH 2006**

Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 23 DECEMBER 2008

To check this certificate validity please call 852 – 2815 2092

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation

Certificate Number: 189613 *Date :* 22 MARCH 2006 Lin-hua Jiang

Deputy Local Technical Manager

ANAB

Managing office address:
BVQI (N.A.) INC.
515 West 5th Street, Jamestown
New York 14701, USA New York 14701, USA

Issuing office address:
BVQI (HK) Limited
Room 2501-02 Viewood Plaza, 199 Des Voeux Road, Central , Hong Kong

SGS

Test Report No.: GC061204651 Date: DEC 07, 2006

EAST FORTUNE PLASTIC MANUFACTORY
LIAO SHE DONGKEN TOWN, DONGGUAN CITY

Report on the submitted sample said to be PBT FRGF 25% BK
Client Reference: Product of Lot No.: QG06947

SGS Ref No.	: GZ0612179902/CHEM
Buyer	: XSY
Sample Receiving Date	: DEC 05, 2006
Testing Period	: DEC 05, 2006 TO DEC 07, 2006

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

Test Method : (1) With reference to BS EN 1122:2001, Method B for Cadmium Content.
Analysis was performed by ICP.
(2) With reference to EPA Method 3050B:1996 for Lead Content.
Analysis was performed by ICP.
(3) With reference to EPA Method 3052:1996 & EPA Method 7473:1998 for Mercury Content.
Analysis was performed by ICP & Direct Mercury analyzer.
(4) With reference to EPA Method 3060A:1996 & EPA Method 7196A:1992 for Hexavalent Chromium Content.
Analysis was performed by UV-Vis Spectrometry
(4) With reference to IEC 62321 Ed.1.111/54/CDV for Hexavalent Chromium by Colorimetric Method.
(5) With reference to EPA Method 3540C & 3550C for PBB and PBDE Content.
Analysis was performed by GC-MS.

Test Results : Please refer to next page.

Signed for and on behalf of
SGS-CSTC Ltd.

May Hu
Engineer

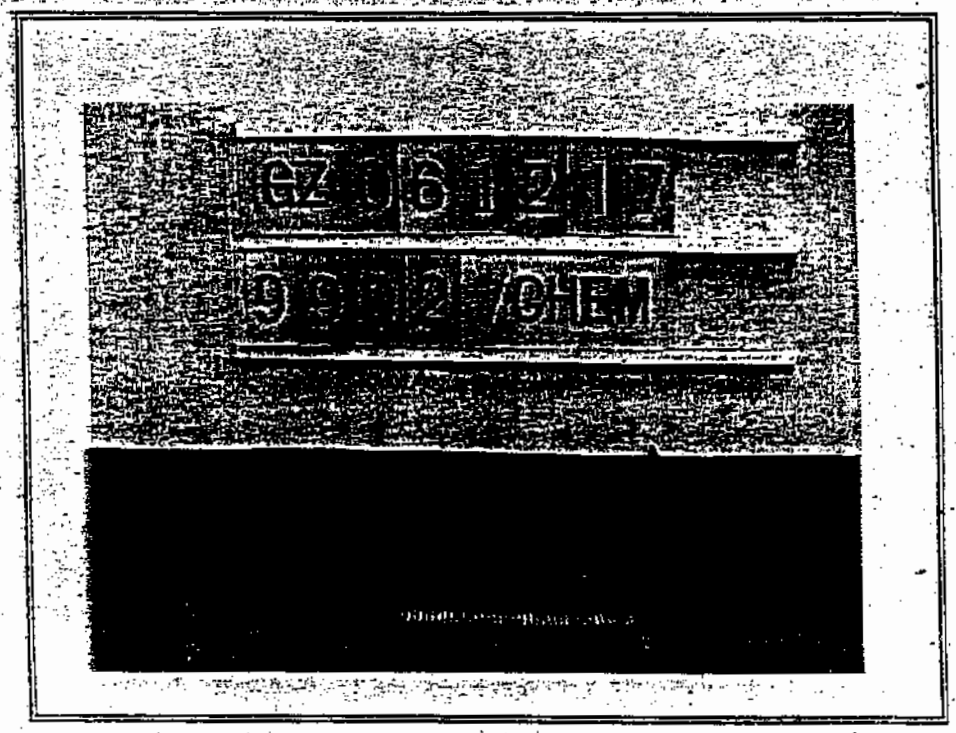
Test results by chemical method [Unit: mg/kg]

Test Item(s):	Method (refer to)	No.1	MDL
Cadmium(Cd)	(1)	N.D.	2
Lead (Pb)	(2)	16	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	N.D.	2
Sum of PBBs	(5)	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 plastic

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

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

SGS-CSTC Standards Technical Services Co., Ltd. 198 KEZHU Road, SCIENTECH Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20)82155678 f (86-20)82075080 www.cn.sgs.com

SGS

Test Report

No.: GZ0611165256/CHEM Date: NOV 10, 2006

DONGGUAN SKOK STEEL CO.,LTD/
ZHANGJIAGANG AUCKSUN METAL PRODUCTS CO.,LTD
XIAO KENG VILLAGE, LIAOBU, DONGGUAN CITY, GUANGDONG, PRC/
ZHANGJIAGANG EUROPE INDUSTRY PARK, JIANGSU, PRC

Report on the submitted sample said to be SPCC

SGS Ref No.	: GZ10138615EC-3.3
Supplier	: POSCO
Country of origin	: KOREA
Sample Receiving Date	: NOV 06, 2006
Testing Period	: NOV 06, 2006 TO NOV 10, 2006

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.
(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.

Jiang YongPing, Terry
Sr. Engineer

GZCM 1048278

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中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075125 e sgs.china@sgs.com

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 Silver-gray metal sheet

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 cm^2 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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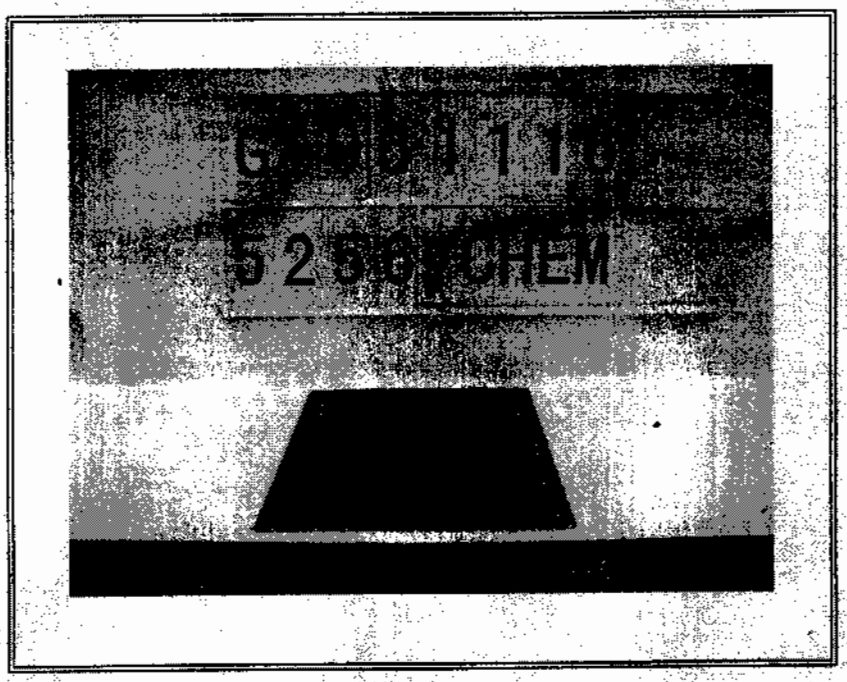
Sample photo :



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*** End of Report ***

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SGS

测试报告

兴隆五金电镀厂
东莞市沙田镇齐沙村福隆工业区

以下测试之样品是由申请者所提供及确认：铁材镀镍

SGS 参考编号	：SZ10288709-3.2
收板日期	：2007 年 3 月 14 日
测试日期	：2007 年 3 月 14 日至 2007 年 3 月 20 日

测 试 要 求　：按照 RoHS 指令 2002/95/EC 及其修订文件要求进行测试。

测 试 方 法　：参照 IEC 62321 Ed.1 111/54/CDV 电子电器产品中限用物质含量的测定程序
(1) 用 ICP 测定镉的含量
(2) 用 ICP 测定铅的含量
(3) 用 ICP 测定汞的含量
(4) 用比色法测定六价铬的含量

测 试 结 果　：请参见下一页

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

Signed for and on behalf of
SGS-CSTC Ltd.

Huang Fang, Sunny
Sr. Engineer

备注：根据客户申请，SGS 出具了此中文报告；英文版本可根据客户要求提供。(The Chinese test report is issued according to the applicant's request. The English version is available from SGS if further needed).

GZCM 1210533

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广州经济技术开发区科学城科珠路198号 邮编：510663 | t (86-20) 82155555 | f (86-20) 82075125 | e sgs.china@sgs.com

测试结果 (单位：毫克/千克)：

测试项目	参考方法	No.1	MDL	RoHS 限值
镉 (Cd)	(1)	N.D.	2	100
铅 (Pb)	(2)	N.D.	2	1000
汞 (Hg)	(3)	N.D.	2	1000
点测试法测六价铬(Cr VI)	(4)	Negative	参见注释 4	#

测试部件描述：
No.1 带银灰色镀层的金属

注释：1. 毫克/千克 = ppm
2. N.D.= 未检出 (< MDL)
3. MDL = 方法检测限
4. 点测试：
Negative = 未检测到六价铬，Positive = 检测到六价铬；
(如果点测试结果不能确认，测试样品将进一步由沸水萃取法进行测试)。
沸水萃取法：
Negative = 未检测到六价铬
Positive = 检测到六价铬；每 50cm^2 表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于 0.02mg/kg。
5. # Positive = 阳性,表示结果与 RoHS 要求相抵触
Negative = 阴性,表示结果与 RoHS 要求不相抵触

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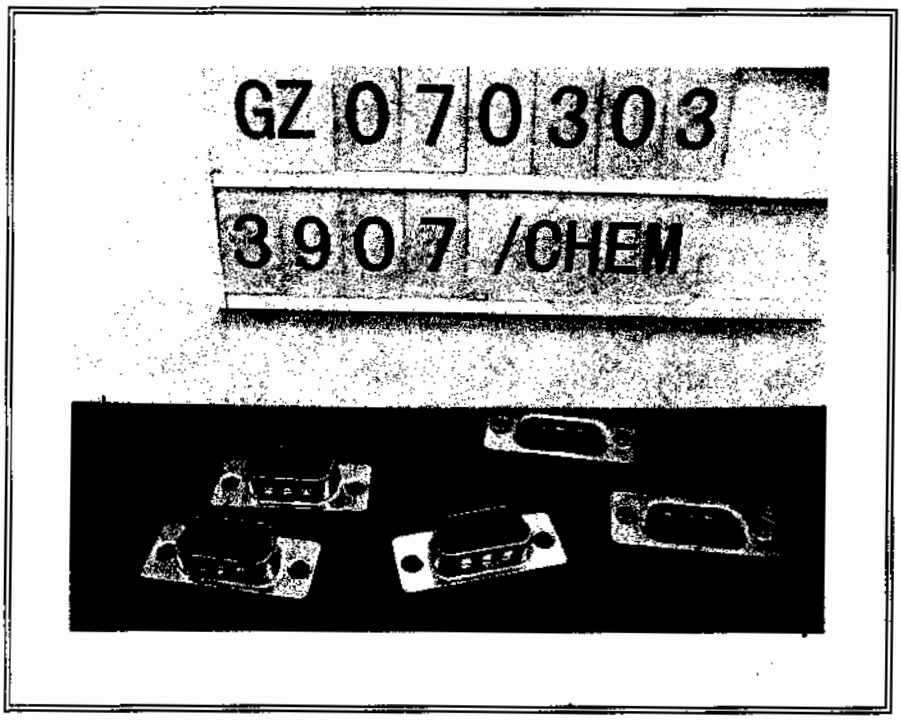
样品照片：



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*** 报告完 ***

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測試報告

號碼 : CE/2007/13843　日期 : 2007/01/22　頁數 : 1 of 5

名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
NO. 11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN, R. O. C.

以下測試樣品係由客户送樣，且由客户聲稱並經客户確認如下(The following sample(s) was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description)	:	黃銅
樣品型號(Style/Item No.)	:	C2680 (65/35)
生產或供應廠商	:	名佳利金屬工業股份有限公司
Manufacturer/Vendor	:	MINCHALI METAL INDUSTRY CO., LTD.
原產國	:	台灣
Country of Origin	:	TAIWAN
收件日期(Sample Receiving Date)	:	2007/01/15
測試期間(Testing Period)	:	2007/01/15 TO 2007/01/22

==========

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

測試方法 / Test Method : 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) 用感應藕合電漿原子發射光譜儀檢測鎘含量 / Determination of Cadmium by ICP-AES.

(2) 用感應藕合電漿原子發射光譜儀檢測鉛含量 / Determination of Lead by ICP-AES.

(3) 用感應藕合電漿原子發射光譜儀檢測汞含量. / Determination of Mercury by ICP-AES.

(4) 針對金屬材質之樣品，用Spot test / Colorimetric方法檢測六價鉻含量. / Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.

(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.

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

NO. 136-1, Wu Kung Road, WuKu Industrial Zone, Taipei county, Taiwan.
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測試報告

號碼 : CE/2007/13843　日期 : 2007/01/22　頁數 : 2 of 5

名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
NO. 11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN, 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 (Refer to)	結果 / Result No.1	方法偵測極限值 (MDL)
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	13.7	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 5
多溴聯苯總和 / 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 : 黃銅色金屬片 / YELLOW-COPPER COLORED METAL SHEET

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名佳利金屬工業股份有限公司
MINCHALI METAL INDUSTRY CO., LTD.
中壢市北園路11號
NO. 11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN, R. O. C.

Note: 1. mg/kg = ppm
2. n.d. = Not Detected / 未檢出
3. MDL = Method Detection Limit / 方法偵測極限值
4. Sum of Mono to NonaBDE & 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，修訂2002/95/EC內容，通過解除高分子材質中十溴聯苯醚之使用限制。
5. Spot-test:
Negative = Absence of CrVI coating / surface layer,
Positive = Presence of CrVI coating / surface layer;
(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)
Negative=鍍層中偵測不到六價鉻, Positive= 鍍層中偵測到六價鉻;
當該測項無法確認時, 測試樣品可藉由boiling-water-extraction測試方法進一步確認
Boiling-water-extraction:
Negative = Absence of CrVI coating / surface layer,
Positive = Presence of CrVI coating / surface layer; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm^2 sample surface area.
Negative=鍍層中偵測不到六價鉻, Positive=鍍層中偵測到六價鉻;
該濃度溶液≧0.02 mg/kg with 50 cm^2 (sample surface area)
6. "-" = Not Regulated / 無規格值

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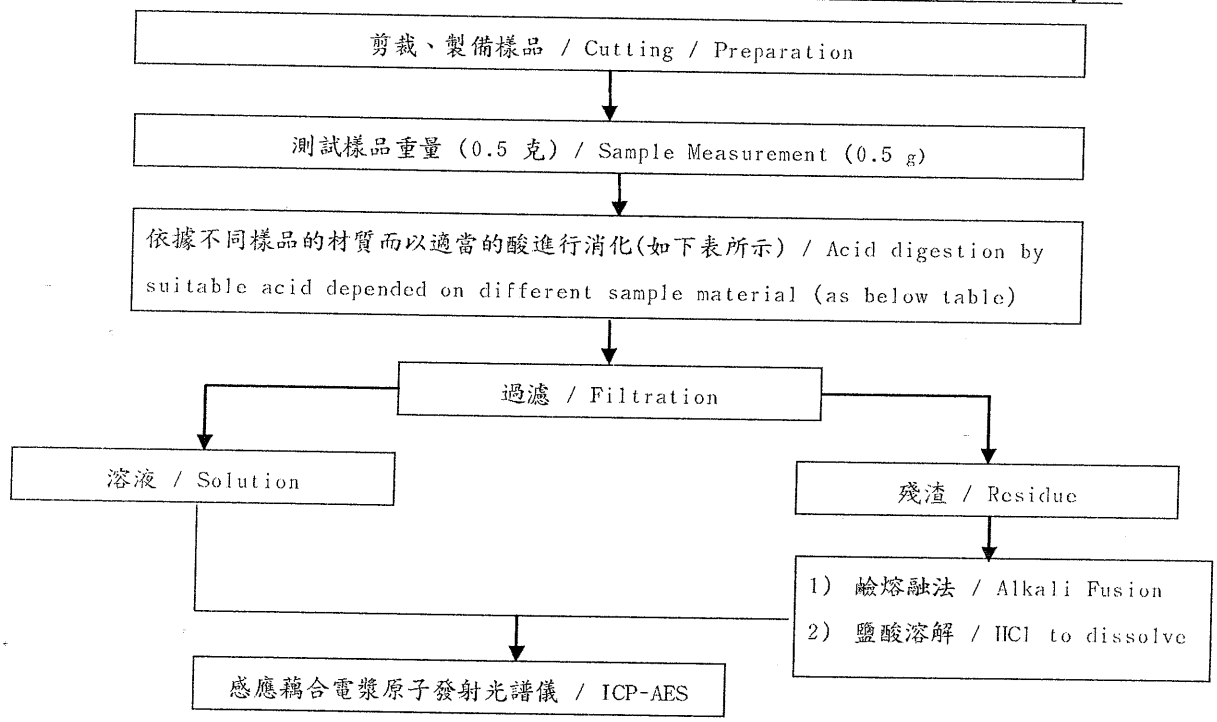
1) 根據以下的流程圖之條件，樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
3) 測試負責人：葉禮源 / Name of the person in charge of measurement: Daniel Yeh

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



鋼,銅,鋁,焊錫 / Steel, copper, aluminum, solder	王水,硝酸,鹽酸,氫氟酸,雙氧水 / Aqua regia, HNO_3, HCl, HF, H_2O_2
玻璃 / Glass	硝酸,氫氟酸 / HNO_3/HF
金,鉑,鈀,陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO_3
塑膠 / Plastic	硫酸,雙氧水,硝酸,鹽酸 / H_2SO_4, H_2O_2, HNO_3, HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

測試報告

號碼 : CE/2007/13843　　日期 : 2007/01/22　　頁數 : 5 of 5

名佳利金屬工業股份有限公司
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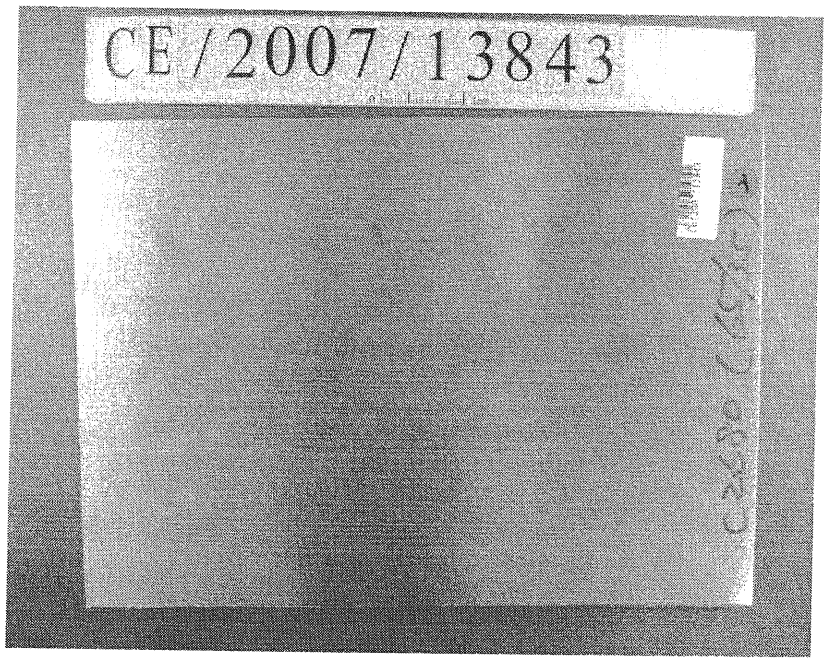

** 報告結尾 **

NO. 136-1, Wu Kung Road, WuKu Industrial Zone, Taipei county, Taiwan.
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SGS

Test Report No.: GZ0612187440/CHEM Date: DEC 25, 2006

SINGCON ELECTRONICS CROP
SINGCON ELECTRONICS CROP JIANGBIAN INDUSTRIAL AREA SONGGANG TOWN BAOAN DISTRICT SHENZHEN CHINA

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

SGS Ref No.	: SZ10193589-2.1
Sample Receiving Date	: DEC 19, 2006
Testing Period	: DEC 19, 2006 TO DEC 25, 2006

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.
(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.

Jiang YongPing, Terry
Sr. Engineer

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)	28	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 Golden plated metal terminal

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 # 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 cm^2 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.

SGS [illegible] Co., Ltd.
[illegible] Road, [illegible] District, Guangzhou, China
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Sample photo :

SGS authenticate the photo on original report only

*** End of Report ***

GZCM1017079

SGS

测试报告

编号：GZ0612187441/CHEM　　日期：2006年12月25日　页码 1 of 2

圣刚五金制品厂
深圳市宝安区松岗镇江边污染工业区

以下测试之样品是由申请者所提供及确认：镀药水

SGS参考编号　　：SZ10193589-2.2

收样日期　　：2006年12月19日

测试日期　　：2006年12月19日至2006年12月25日

测试要求　　：委托测试样品中的镉，铅，汞和六价铬的含量。

测试方法　　：参照 IEC 62321 Ed.1 111/54/CDV 电子电器产品中限用物质含量的测定程序
(1) 用 ICP 测定镉的含量
(2) 用 ICP 测定铅的含量
(3) 用 ICP 测定汞的含量
(4) 用比色法测定六价铬的含量

测试结果　　：(单位：毫克/千克)

测试项目	参考方法	No.1	MDL
镉 (Cd)	(1)	N.D.	2
铅 (Pb)	(2)	N.D.	2
汞 (Hg)	(3)	N.D.	2
酸性铬酸盐和铬酸六价铬(Cr VI)	(4)	N.D.	2

样品照片描述：
No.1 镀药液体

注释：1. 毫克/千克 = ppm
2. N.D.= 未检出 (< MDL)
3. MDL = 方法检测限

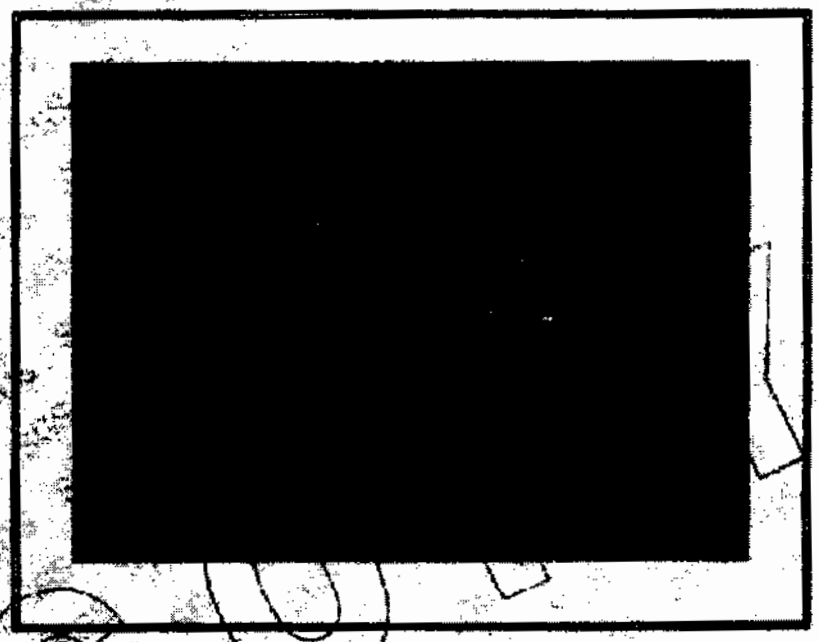
Signed for and on behalf of
SGS-CSTC Ltd.

Jiang YongPing, Terry
Sr. Engineer

备注：根据客户申请，SGS 出具了此中文报告；英文版本可根据客户要求提供。(The Chinese test report is issued according to the applicant's request. The English version is available from SGS if further needed).

[illegible]
中国·广东省广州市天河区科学城科学城路198号 邮编:510663 t (86-20) 82075523 f (86-20) 82075525 www.cn.sgs.com
t (86-20) 82075528 f (86-20) 82075529 e sgs.china@sgs.com

样品照片：



此图片仅限于随 SGS 正本报告使用

*** 报告完 ***

GZCM1017082

SGS [illegible] Co., Ltd.
Member of the SGS Group (SGS SA)
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Test Report

No.. GZ0611171870A/CHEM Date: NOV 28, 2006 Page 1 of 3

CIXI CITY HUAJIE ELECTRON CO., LTD.
YANGSHAN VILLAGE INDUSTRIAL AREA, ZHONGHAN STREET, CIXI CITY, ZHEJIANG PROVINCE

This report is to supersede test report GZ0611171870/CHEM.

Report on the submitted sample said to be DVI螺丝铆钉套材

SGS Ref No.	: SZ10157918-2.1
Sample Receiving Date	: NOV 17, 2006
Testing Period	: NOV 17, 2006 TO NOV 23, 2006

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

Test Method : With reference to IEC 62321 Ed.1 111/54/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

Signed for and on behalf of
SGS-CSTC Ltd.

Jiang YongPing, Terry
Sr. Engineer

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Test Report No.: GZ0611171870A/CHEM Date: NOV 28, 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)	11	2
Lead (Pb)	(2)	20663	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by Spot test	(4)	Negative	See Note (4)

Test Part Description
No.1 Brassy metal

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 cm^2 sample surface area.

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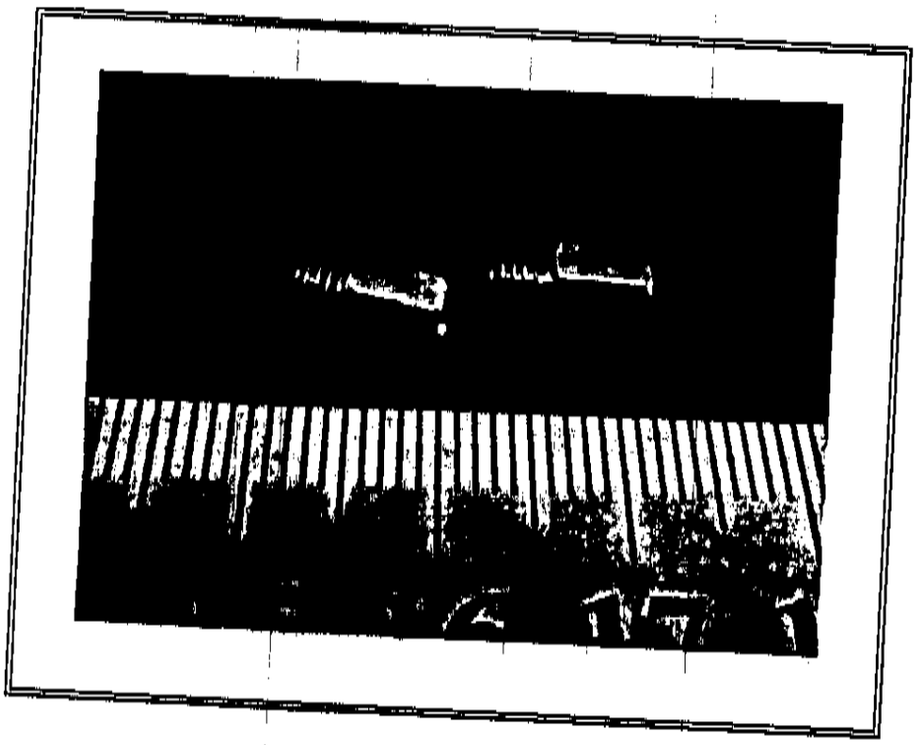
Test Report No.: GZ0611171870/CHEM Date: NOV 23, 2006 Page 3 of 3

Sample photo :



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*** End of Report ***

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Test Report

No. GZ0611171871/CHEM Date: NOV 23, 2006

CIXI CITY HUAJIE ELECTRON CO., LTD.
YANGSHAN VILLAGE INDUSTRIAL AREA, ZHONGHAN STREET, CIXI CITY, ZHEJIANG PROVINCE

Report on the submitted sample said to be 螺丝铆钉电镀液

SGS Ref No. : SZ10157918-2.2
Sample Receiving Date : NOV 17, 2006
Testing Period : NOV 17, 2006 TO NOV 23, 2006

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

Test Method : With reference to IEC 62321 Ed.1 111/54/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

With reference to EPA 3060A: 1996 & EPA 7196A: 1992.
(4) Determination of Hexavalent Chromium by Colorimetric Method.

Test Results : (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

Test Part Description:
No.1 Green liquid

Note 1 mg/kg = ppm
2 N.D. = Not Detected
3. MDL = Method Detection Limit

Signed for and on behalf of
SGS-CSTC Ltd.

Jiang YongPing, Terry
Sr. Engineer

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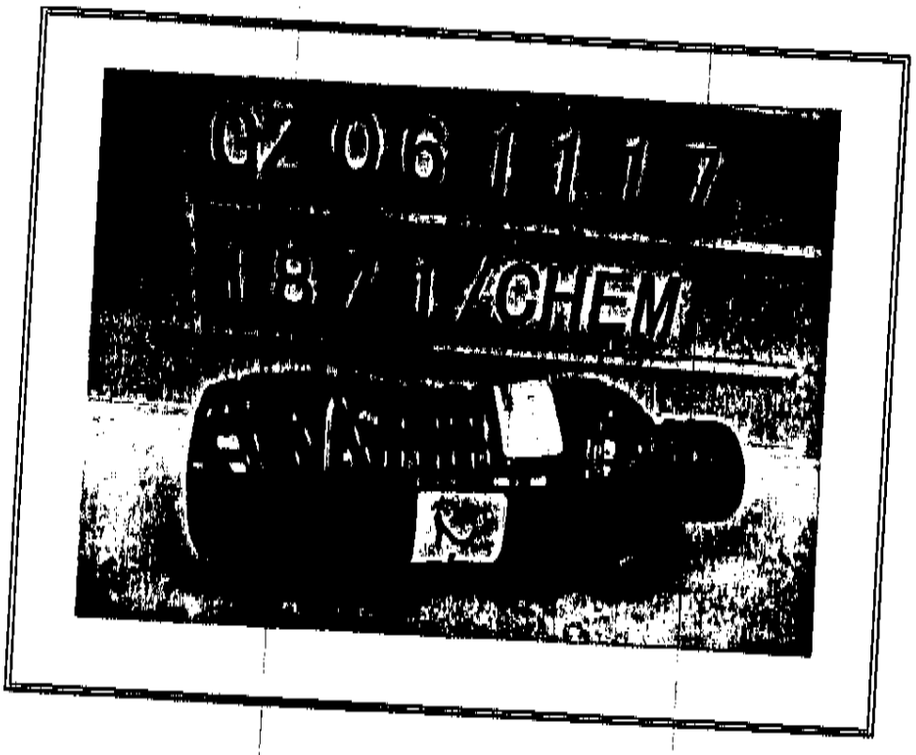
Test Report No.: GZ0611171871/CHEM Date: NOV 23, 2006 Page 2 of 2

Sample photo :



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