

REV	DESCRIPTION	DATE
—	RELEASE	Aug 22, 2003
B	03'0910	Sep 11, 2003
C	03'0912	Sep 15, 2003
D	03'0931	Sep 20, 2003
E	04'0251	Mar 02, 2004
F	04'0332	Mar 17, 2004
G	04'0342	Mar 24, 2004
H	04'0835	Aug 18, 2004

MATERIALS

- HOUSING : HI.-TEMP.PLASTIC(UL 94V-0).BLACK
- TERMINAL : COPPER ALLOY.(t=0.15mm)
GOLD PLATED OVER NICKEL
- FORK : COPPER ALLOY. (t=0.20mm)
TIN PLATED OVER NICKEL

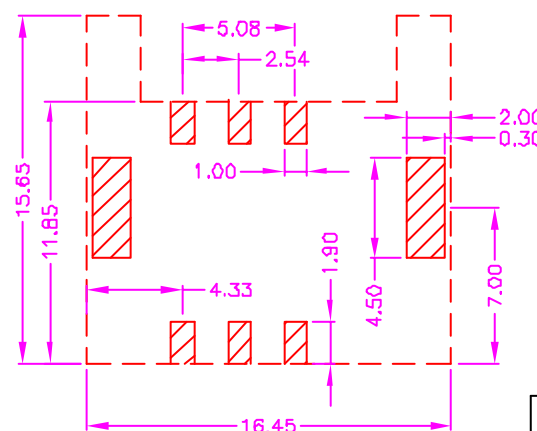
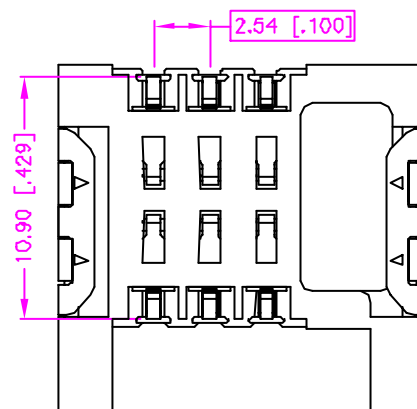
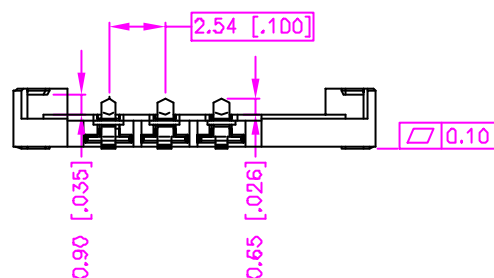
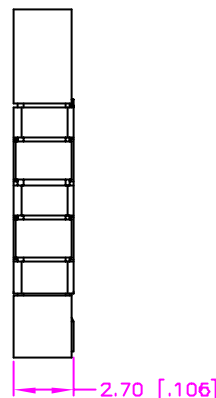
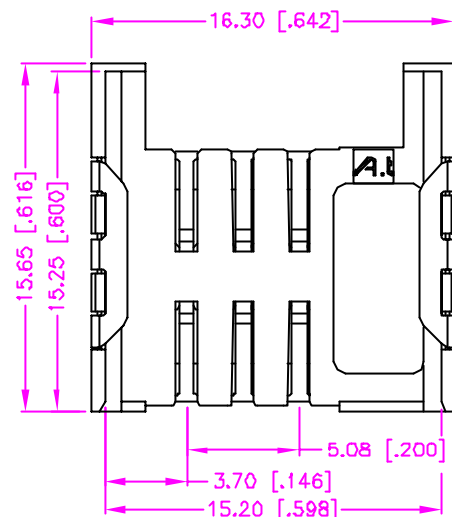
SPECIFICATION

- CURRENT RATING : 1.0 A MAX.
- DIELECTRIC WITHSTANDING VOLTAGE :
500V AC R.M.S. FOR ONE MINUTE.
- INSULATION RESISTANCE : 1000M Ω MIN. AT 500V DC.
- CONTACT RESISTANCE : 30m Ω MAX.
- OPERATING TEMPERATURE : -40°C TO +85°C.

ORDER INFORMATION:

5190006-XXX		FOLLOW NUMBER
SERIES CODE	05: TUBE PACKAGE	
SMT	06: TAPE&REEL PACKAGE	
FEMALE	CONTACT PLATING:	
	0: GOLD FLASH	
	3: 15u" GOLD	
	6: 30u" GOLD	
	NUMBER OF POSITIONS	

TOLERANCE .0=±.38 [.015] .00=±.25 [.010] .000=±. .0000=±. ANG.=±3°		DRAWER <i>HongLin Chen</i> CHECK <i>Bart</i> APP'D <i>Jim</i>	 ASTRON TECHNOLOGY CORP. NAME SIM CARD 6P 2.54PH
UNITS : mm [inch]		PRODUCT SPEC. —	
SCALE NONE	SIZE A4	SHEET 1 OF 1	REV. H
		DRAW NO. R5190006-X05(06)	



RECOMMEND P.C.B. LAYOUT
TOLERANCE ±0.05
TOP VIEW

Astron Technology Corp.

PRODUCT SPECIFICATION

Part No. : **5190000*-*0* Series**
Subject : **2.54PH SIM CARD SMT**

File : **SPEC- 519000*-*0***

Revision : **A**

Date : **APR. 08,2005**

Initiated : **ANY**

Checked: **SUE**

Approved : **ERIC**

1. Scope

This specification covers the product performance, test methods and quality requirements of the Memory Card Connector – SIM (Security Identity Module) Card Reader Connector. The SIM CARD connectors have 6,8 pins on .10 inch (2.54mm) centerline.

2. Applicable Specifications

The following documents form a part of this specification to the extent specified here in. 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.

EIA-RS-364	Test methods for electronic connector
MIL-STD-1344A	Test methods for electronic connector
MIL-STD-202F	Test methods for electrical component parts
UL 94	Flammability standard
MIL-G-45204	Gold plating standard
MIL-T-10727	Tin plating standard
FED-QQ-N-290	Nickel plating standard

3. Requirements

3-1 Design and construction :

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

3-2 Materials and finish:

3-2.1 Insulator : HI-TEMP. plastic, UL 94V-0 Rated.

3-2.2 Terminal : Copper Alloy; Gold plated all over Nickel, or Gold plated on contact area, Tin plating on Solder tails.

3-2.3 Fork: Copper Alloy; Tin plated over Nickel.

3-3 Ratings

3-3.1 Current rating : 1.0A max.

3-3.2 Voltage rating : 30V AC, DC

3-3.3 Operating Temperature : -40°C ~ +85°C.

3-4 Product shape and dimensions : Ref. Customer drawings.

4. Quality Assurance Provisions

4-1 Test specimens shall be inspected to assure compliance to the requirements of this specification.

4-2 No sample shall be reused unless otherwise specified.

5. Package

Parts shall be packaged as Astron packing specification.

6. Test Requirements and Procedures Summary

No.	Test Items	Requirements	Procedures
6-1	Initial examination of product	Meet requirement of product drawing.	Visual and dimensional inspection per product drawing. EIA-364-18A
6-2	Final examination of product	Meet visual requirement.	Visual inspection. EIA-364-18A
Electrical Requirements			
6-3	Contact Resistance (Low level)	30mΩ Max.	The SIM CARD SOCKET and SIM CARD were mated. Low-level current was applied and resistance measurements were taken. (20mV Max., 10mA) EIA-RS -364-23A
6-4	Insulation Resistance	1000MΩ Min.	Test between adjacent contacts on unmated connectors at the potential of 500V DC. It was applied between all contacts. EIA-RS-364-21A
6-5	Dielectric Withstanding Voltage	1. 500V AC R.M.S. for one minute. 2. No evidence of flashover or breakdown.	The potential was applied between adjacent contacts of the connector for one minute. EIA- RS-364-20A

Mechanical Requirements			
6-6	Durability (SIM CARD / SIM CARD SOCKET)	1.Appearance: No evidence of Physical damage. 2.Contact resistance: 50mΩ Max(Finally).	Mating and unmating samples for 10000 cycles at maximum rate of 600 cycles per hour. EIA-RS-364-09A
6-7	Contact Retention Force (Assembly)	400gf Min. per pin	A force applied along axial direction as contact pulled at the speed rate of 25±3mm/minute. EIA-RS-364-29A
6-8	Contact Normal Force	25gf ≤ Fn ≤ 50gf per pin	Force given by a single base connector contact to a single SIM chip pad, See figure 1 . FOLLOW UP MOLEX SPEC
6-9	Vibration	1.Appearance : No evidence of physical damage. 2.Open circuit less than 1 microsecond.	The entire frequency range, from 10 to 55 Hz and return to 10Hz shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of 3 mutually perpendicular directions. (total of 6 hours) Amplitude: 1.50mm Max. EIA-RS-364-28A, Condition I
Environments Requirements			
6-10	Solderability	1.Appearance: No evidence of Physical damage. 2.More than 95% of the solderable area shall be covered with solder.	After 5~10 seconds flux deep. Subject connector lead to solder bath at 230°C ± 5°C for 5 ± 0.5 seconds. MIL-STD-202F, Method 208
6-11	Temperature Life (Heat)	1.Appearance : No evidence of physical damage. 2.Contact Resistance: 50mΩ Max.(Finally) 3.Insulation Resistance: 500MΩ Min.	The specimens shall be subjected to a temperature of 85°C for 96 hours, then placed in ambient temperature for more than 3 hours. MIL-STD-1344A, Method 1005.1
6-12	Temperature Life (Cold)	1.Appearance : No evidence of physical damage. 2.Contact Resistance: 50mΩ Max.(Finally)	The specimens shall be subjected to a temperature of -40°C for 96 hours, then placed in ambient temperature for more than 3 hours.

		3. Insulation Resistance: 500M Ω Min.	MIL-STD-1344A, Method 1005.1
6-13	Humidity Resistance	1. Appearance: No evidence of Physical damage. 2. Contact resistance 50m Ω Max. 3. Insulation resistance 500M Ω Min.	Bath temperature 40°C $\pm$ 2°C, humidity 90% TO 95%RH, for 120 hours. EIA-RS-364-31A
6-14	Salt Spray	1. Appearance: No evidence of Physical damage. 2. Contact resistance: 50m Ω Max(Finally).	The specimens shall be subjected to a salt water spray (concentration : 5 $\pm$ 1%) at a temperature of 35 $\pm$ 2°C for 24 hours, then placed in ambient temperature for more than 1 hour. EIA-RS-364-26A
6-15	Resistance to Soldering heat	No evidence of Physical damage.	The connector shall be tested resistance. To soldering heat in the following conditions. The temperature shall be measured on the surface of P.C.B

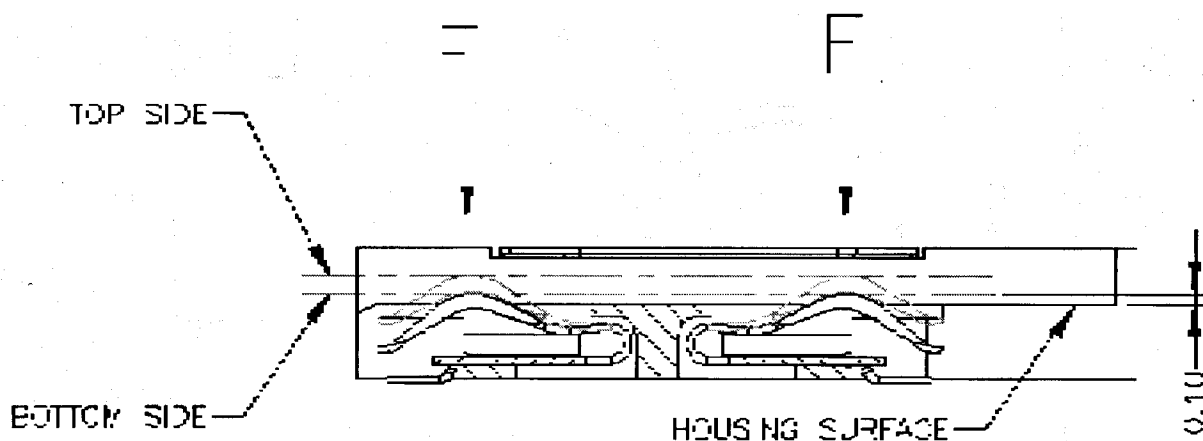


Figure 1

7. Qualification Test Procedure:

NO.	Test Item	Test Sequence(10PCS/Group)									
		A	B	C	D	E	F	G	H	I	J
6-1,2	Visual Examination	1	1	1	1	1	1	1	1	1	1
		3	5	4	3	3	7	7	7	5	3
6-3	Contact Resistance (Low level)		2				2	2	2	2	
			4				5	5	5	4	
6-4	Insulation Resistance						3	3	3		
							6	6	6		
6-5	Dielectric Withstanding Voltage	2									
6-6	Durability (Male /Female)		3								
6-7	Contact Retention Force			3							
6-8	Contact Normal Force			2							
6-9	Vibration				2						
6-10	Solderability					2					
6-11	Temperature Life (Heat)						4				
6-12	Temperature Life (Cold)							4			
6-13	Humidity Resistance								4		
6-14	Salt Spray									3	
6-15	Resistance to Soldering heat										2

< LCP-XYDAR 的 成 形 條 件 >

{MG-350 PRL & BPRL}

項目	
乾燥時間 (小時) 150°C	8 ~ 24
氣缸溫度 (°C) 後方	310 ~ 330
中央	330 ~ 350
前方	340 ~ 360
噴嘴溫度 (°C)	340 ~ 360
模具溫度 (°C)	60 ~ 120
射出壓力 (kgf/cm ²)	300 ~ 800
射出速度 (°C)	中 ~ 高速

*所示的是 Xydar 的一般性射出成形條件。雖依成形品的形狀及制品要求的特性，會使得成形條件多少有些差異，可是仍能利用一般的成形機，在短的成形過期內成形。

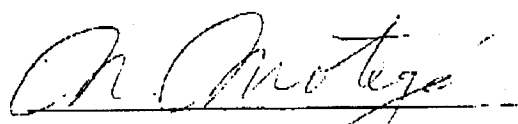
新日本石油化學株式會社

XYDAR 事業室

TYPICAL PROPERTIES OF XYDAR™ MG-350PRL

Properties	ASTM	Units	MG-350PRL
General			
Specific gravity 比重	D792		1.78
Water Absorption	D570	%	<0.1
Thermal			
DTUL (1.81 MPa)	D648		275
Flammability rating	(UL)	°C	V-0, @0.3mm
Mechanical 机械			
Tensile strength	D638	MPa	116
Elongation	D638	%	3.0
Flexural strength	D790	MPa	160
Flexural modulus	D790	GPa	13.3
IIS (unnotched)	D256	KJ/m ²	42
Electrical 电气			
Dielectric strength	D149	KV/mm	36.2
Dielectric constant	D150		
	@10 ³ Hz		4.2
	@10 ⁶ Hz		3.9
Dielectric loss tangent	D150		
	@10 ³ Hz		0.013
	@10 ⁶ Hz		0.029
Volume resistivity	D257	$\times 10^{15} \Omega \cdot \text{cm}$	21.0
Surface resistivity	D257	$\times 10^{15} \Omega$	10.0
Arc resistance	D495	sec	209

Nippon Petrochemicals Co., Ltd.


N. MOTEGI
Manager of Xydar Business Group.

Customer :

CERTIFICATE OF TEST

Sheet No : 2001. 1.26-20-0023

Date : 2001 . 1 . 20 .

Article & Temper		Tensile Strength (N/mm ²)	Yield Strength ()	Elongation (%)	Hardness (HV 1K)	Kb ()	Grain Size (mm)	Erichsen Test (mm)	Electrical Conductivity (%IACS)	Plating (μm)		Bending Test	
										Cu	Sn	Good Way (°)	Bad Way (180°)
JIS H3110 C5191R-H													
Lot No.	Spec. Min Max	588.0		18.0	190							R/T=	R/T ^{2.0}
		657.0			210							No Crack	No Crack
	Size												
0AVH3G	0.200 x 305.000	614.9		18.0	198								GOOD
				***	B l a n k ***								

Element Spec. Min Max Lot No.	Chemical Composition (In Wt%)							Size			Surface	Weight (Kg)
	Cu+Sn+P	Sn	P					Thickness	Width	Length		
	99.5000	5.5000	0.0300					0.190	304.000			
		7.0000	0.3500					0.210	306.000			
0AVH3G	99.9680	5.7790	0.1750					0.200 0.202	304.900 304.920		GOOD	
								***	B l a n k ***			

Total Weight : 4,160.200

Remarks : We hereby certify that above material has been tested to comply with the specification.

Manager of Quality Assurance Dept.

試験成績書

様

INSPECTION CERTIFICATE

需要家

CUSTOMER

振先

MESSRS.

製品名 C5210R-SH

PRODUCTS

寸法 0.15 X 205 X L

SIZE

規格

SPECIFICATION

化学成分

CHEMICAL COMPOSITIONS

発行日

2003年04月04日

0006

DATE OF ISSUE

納品書番号

02180

DELIVERY SHEET NO.

注文番号

NK3-0306GG

CONTRACT NO.

オーダー番号

3

ORDER NO.

品質保証課長

MANAGER OF QUALITY

ASSURANCE SECTION

Kajiwara

規格 SPECIFICATION	Zn %	Sn %	P %	Fe %	Pb %	Cu+Sn+P %							
製造番号 MIN		7.0	0.05			99.7							
LOT NO. MAX	0.20	9.0	0.26	0.05	0.01								
30611	0.01	7.76	0.11	0.001	0.001	99.97							

質量
MASS
(KG)

1,922.10

機械的および物理的性質

MECHANICAL AND PHYSICAL PROPERTIES

規格 SPECIFICATION	引張強さ TENSILE STRENGTH N/mm ²	伸び ELONGATION %	硬さ HARDNESS HV	弾性限界値 ELASTIC LIMIT N/mm ²										寸法検査 DIMENSIONAL INSPECTIONS	GOOD
製造番号 MIN	735	9.0	230	510										外観検査 SURFACE INSPECTIONS	GOOD
LOT NO. MAX	835		270											備考 REMARKS.	
30611	770	12.7	250	588											

この製品は品質管理計画に基づき製造され、検査・試験を行ない、規格に合格したことを証明する。

WE HEREBY CERTIFY THAT THE PRODUCTS DESCRIBED HEREIN HAVE BEEN MANUFACTURED, INSPECTED AND TESTED IN ACCORDANCE WITH THE SPECIFICATION AND Q.C. PROGRAM.

N =	1	THICKNESS	=	38.9
N =	2	THICKNESS	=	35.0
N =	3	THICKNESS	=	36.5
N =	4	THICKNESS	=	35.7
N =	5	THICKNESS	=	32.2

INTERMEDIATE RESULT

03/16/04 10:36:44

Au / Ni/CuSn (u")

Coll. 2

M E A N THICKNESS	=	35.88
STANDARD DEVIATION	=	2.425
COEFF. OF VARIATION (%)	=	6.80
LOWEST READING	=	32.20
HIGHEST READING	=	38.90
No. OF MEAS.	=	5
MEASURING TIME (s)	=	15

N =	1	THICKNESS	=	46.7
N =	2	THICKNESS	=	45.2
N =	3	THICKNESS	=	48.0
N =	4	THICKNESS	=	39.7
N =	5	THICKNESS	=	46.4

INTERMEDIATE RESULT

03/16/04 10:54:09

Ni / CuSn(-10)-01 (u")

Coll. 2

M E A N THICKNESS	=	45.21
STANDARD DEVIATION	=	3.238
LOWEST READING	=	39.70
HIGHEST READING	=	48.02
No. OF MEAS.	=	5
MEASURING TIME (s)	=	15

N =	5	THICKNESS	=	58.3
N =	4	THICKNESS	=	57.3
N =	3	THICKNESS	=	57.9
N =	2	THICKNESS	=	58.7
N =	1	THICKNESS	=	61.8

IRRESULT

09/15/03 19:00:31

Ni/CuSn ((-11)-(-20))(Cu)

Coll. 2

M E A N THICKNESS	=	58.39
STANDARD DEVIATION	=	2.087
LOWEST READING	=	56.31
HIGHEST READING	=	61.81
NO. OF MEAS.	=	5
MEASURING TIME (s)	=	15

N =	1	READING	=	129	=	100
N =	2	READING	=	136	=	100
N =	3	READING	=	133	=	100
N =	4	READING	=	132	=	100
N =	5	READING	=	125	=	100

INTERMEDIATE RESULT

09/15/03 19:03:58

Sn/Ni/Cu

(Cu)

Coll. 2

	THICKNESS	COMP. (%)
M E A N VALUE	= 130.8	= 100.0
STD. DEVIATION	= 4.263	= 0.0000
V meas. (%)	= 3.258	=
LOWEST READING	= 124.7	= 100.0
HIGHEST READING	= 136.0	= 100.0
NO. OF MEAS.	= 5	= 5
MEASURING TIME (s)	=	= 15



Test Report

No.: SZTYR040304254/LP

Date: MAR 11, 2004

Page 1 of 1

Report on the submitted sample said to be 伸銅

Item No. : C5210R
Country of Origin : KOREA
Country of Destination : CHINA / ASIA
Sample Receiving Date : MAR 09, 2004
Testing Period : MAR 09, 2004 TO MAR 11, 2004

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

Test Method : In-house method.
Analysis was performed by Atomic Absorption Spectrometer and Inductively Coupled Plasma Atomic Emission Spectrometer.

Results

Copper color metal strip

Lead content (mg/kg)	57
Cadmium Content (mg/kg)	< 2
Mercury Content (mg/kg)	< 2
Hexavalent Chromium Content (mg/kg)	< 2

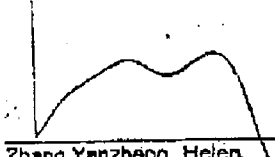
Note: - < = Less Than

- ppm = mg/kg

- Results shown are of the total weight of dry sample.

*** End of Report ***

Signed for and on behalf of
SGS-CSTC Ltd.



Zhang Yanzheng, Helen
Section Manager

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SZL 224195

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch-Laboratory

Z/F, A75/F, Center Building, Zhonghong Road, Shanghai, China 200049 Tel: (86-21) 55331143/36 Tel: (86-755) 83106180 83116034 Fax: (86-755) 83114358
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Test Report

No.: SZTYR040304283/LP

Date: MAR 12, 2004

Page 1 of 1

Report on the submitted sample said to be 伸銅

Item No.: C5191R ✓
Country of Origin: KOREA
Country of Destination: CHINA OR ASIA
Sample Receiving Date: MAR 09, 2004
Testing Period: MAR 09, 2004 TO MAR 12, 2004

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

Test Method: In-house method.
Analysis was performed by Atomic Absorption Spectrometer and Inductively Coupled Plasma Atomic Emission Spectrometer.

Results

Copper color metal strip

Lead content (mg/kg)	78
Cadmium Content (mg/kg)	< 2
Mercury Content (mg/kg)	< 2
Hexavalent Chromium Content (mg/kg)	< 2

Note: - < = Less Than

- ppm = mg/kg

- Results shown are of the total weight of dry sample.

*** End of Report ***

Signed for and on behalf of
SGS-CSTC Ltd.

Zhang Yanzheng, Hefei
Section Manager

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SZL 224121

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Shanghai Branch-Labs Laboratory 中国·深圳·上海梅林康路奥士达大厦2楼、4楼、5楼 邮编: 910008 T: (86-755) 83114358 F: (86-755) 831108190 83118534 sgs_china@sgs.com

Member of SGS Group (Société Générale de Surveillance)



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(852) 2334 2401 (Calibration)

(852) 2334 7827 / 2784 3276 (Textile & Footwear)

(852) 2788 3778 (Electrical)

(852) 2334 9086 (Chemical, Environmental, Food & Petroleum)

(852) 2603 7577 (Health Care & Pharmaceutical)

Test Report

No. 2051723/LD

Date: May 14 2003

Page 1 of 2

Report on the submitted samples said to be 6 ITEMS OF PLASTIC PELLETS.

SGS Job No. : 1342852
Sample Receiving Date : APR 23 2003
Testing Period : APR 23 - 29 2003

Test Requested

- 1) To determine the Cadmium content on the submitted samples in accordance with the EEC Directive 91/338/EEC
- 2) To determine the Lead content on the submitted samples.

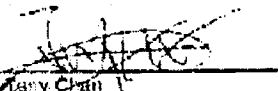
Test Method

- 1) As specified in BS EN 1122:2001 Method 8.
Analysis was performed by Inductively Coupled Argon Plasma - Atomic Emission Spectrometry (ICP-AES).
- 2) As specified in EPA Method 3050B.
Analysis was performed by Inductively Coupled Argon Plasma - Atomic Emission Spectrometry (ICP-AES)

Test Results : Please refer to next page.

Conclusion : When tested as specified, the submitted samples comply with the Cadmium Requirements of the EEC Directive 91/338/EEC

Signed for and on behalf of
SGS Hong Kong Ltd


Gary Chan
Senior Manager

This report is issued by the Company under its General Conditions of Service. The validity of this report does not extend to other samples or to other parts of the submitted samples. The Company is not responsible for the results of any other tests or analyses performed by other laboratories. The Company is not responsible for the results of any other tests or analyses performed by other laboratories. The Company is not responsible for the results of any other tests or analyses performed by other laboratories. The results of this test are valid only for the samples tested unless otherwise stated. The test report cannot be reproduced, except in full, without prior written permission of the Company.

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SGS Hong Kong Ltd.
Retail & Supply Support Division

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(852) 2334 7827 / 2784 3275 (Textile & Footwear)

(852) 2786 3778 (Electrical)

(852) 2334 9085 (Chemical, Environmental, Food & Petroleum)

(852) 2603 7577 (Health Care & Pharmaceutical)

Test Report

No. 2051723/LD

Date: May 14 2003

Page 2 of 2

Test Results

Tests	1	2	3	Limit
1) Cadmium (Cd)	< 5 ppm	< 5 ppm	< 5 ppm	100 ppm
2) Lead (Pb)	< 5 ppm	< 5 ppm	< 5 ppm	--
Tests	4	5	6	Limit
1) Cadmium (Cd)	< 5 ppm	< 5 ppm	< 5 ppm	100 ppm
2) Lead (Pb)	< 5 ppm	< 5 ppm	< 5 ppm	--

(Results shown are of total weight of samples)

Sample Description:

1. Black Plastic Pellet (HM-402BP)
2. Black Plastic Pellet (HM-402BS)
3. Black Plastic Pellet (G-430B)
4. Natural (Brown) Plastic Pellet (RC-210)
5. Natural (Ivory) Plastic Pellet (MG-350PRL)
6. Black Plastic Pellet (MG-350BPRL)

Note: < = Less than
ppm = mg/kg

*** End of Report ***

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