

Product Number: NB0186-B
Product Name: Antenna



Specification For Approval

Date: 2010 / 07 / 06

File No.: 100706001

Version: 1.0

Customer : 合勤科技有限公司

Customer P/N : 65-031-060612B

INVAX P/N : NB0186-B

Description : Antenna

Cortec Checked By:	
Customer Approved By:	



INVAX System Technology Corp.
4F. No. 815.Chung Hsiao East Rd.,Sec.5
Taipei, TAIWAN

TEL:886-2-2788-5218 FAX:886-2-2783-1658
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Xian-Xi Industrial, Sha-Tou Administration Zone,
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Province, China

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<http://www.cortec.com.cn>

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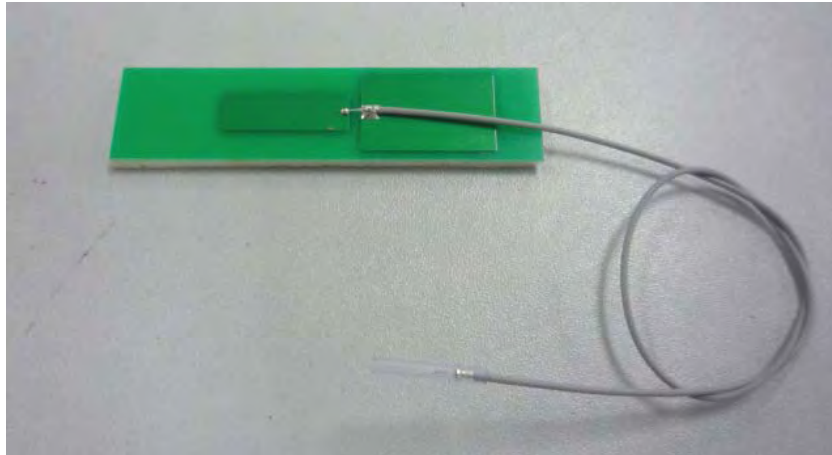
Product Number: NB0186-B

Product Name: Antenna



1. Specification

Sample Photo



A. Electrical Characteristics

Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	5.3 ± 0.7 dBi
Efficiency	$\geq 90\%$
Polarization	Linear
Impedance	50 Ohm

B. Material & Mechanical Characteristics

Material of Radiator	PCB
Cable Type	O.D. 1.13 mm // 240 mm (Gray)

C. Environmental

Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C
Storage Time	1800 Days

Product Number: NB0186-B

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2. Characteristics and Reliability Test

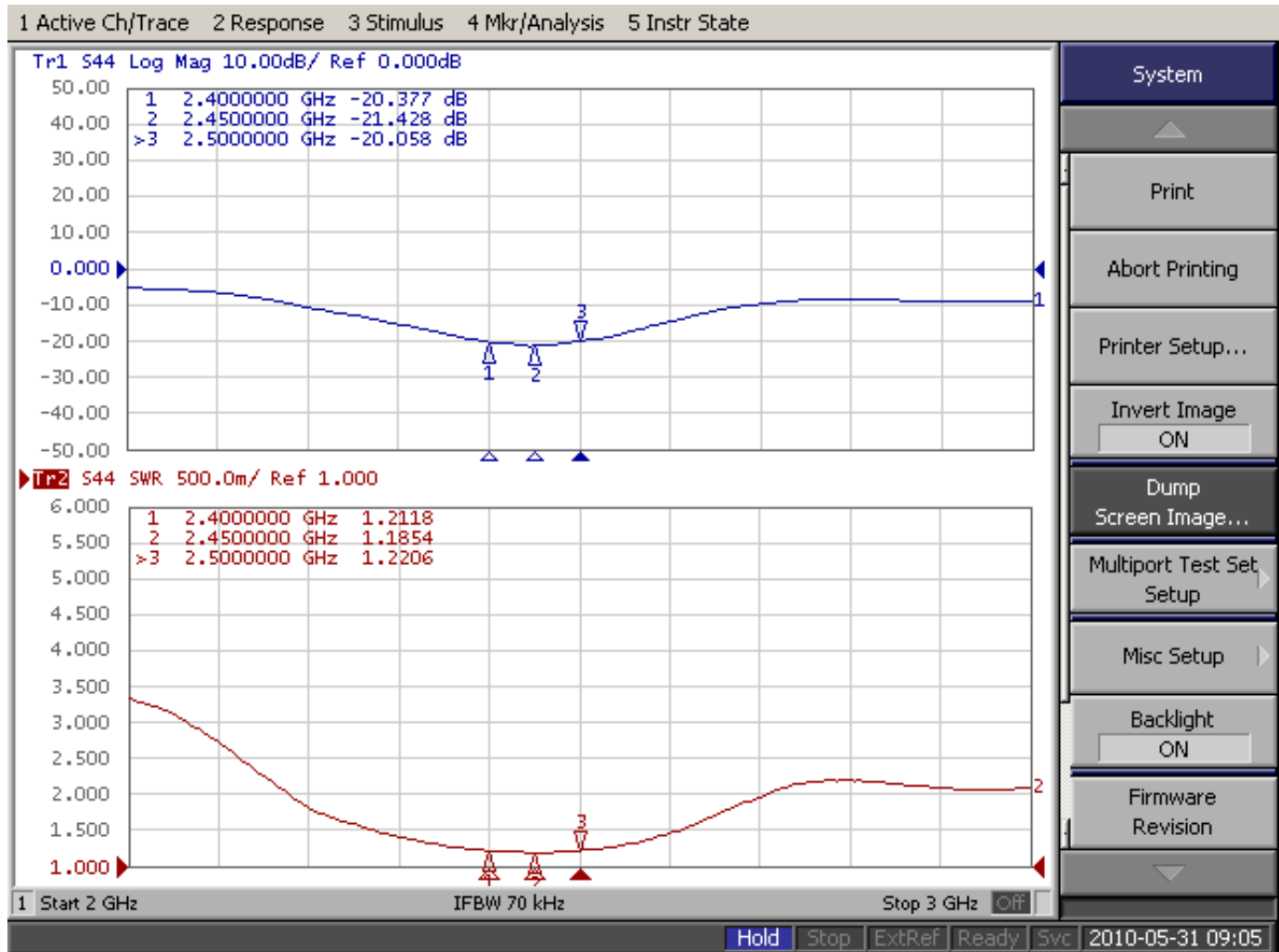
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	MIL-STD-202G, 101E, cond. B Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	MIL-STD-202G, 108A, cond. A Temp: 85°C; Time: 96 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2002/95/EC
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

Product Number: NB0186-B

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3. Antenna - S Parameter Test Data



Product Number: NB0186-B

Product Name: Antenna



4. Antenna - Radiation Pattern Test Data

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

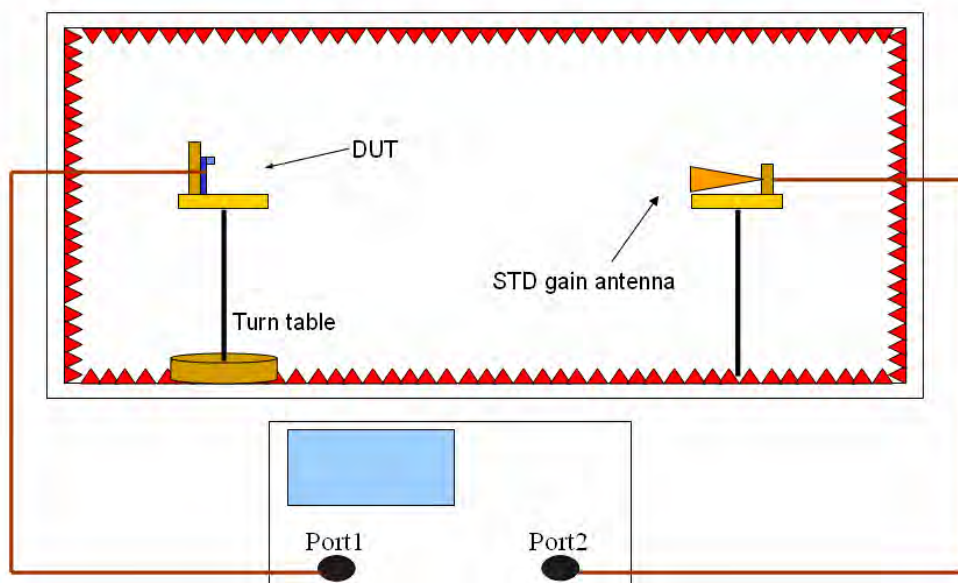
Quiet Zone: 600mm @1 GHz

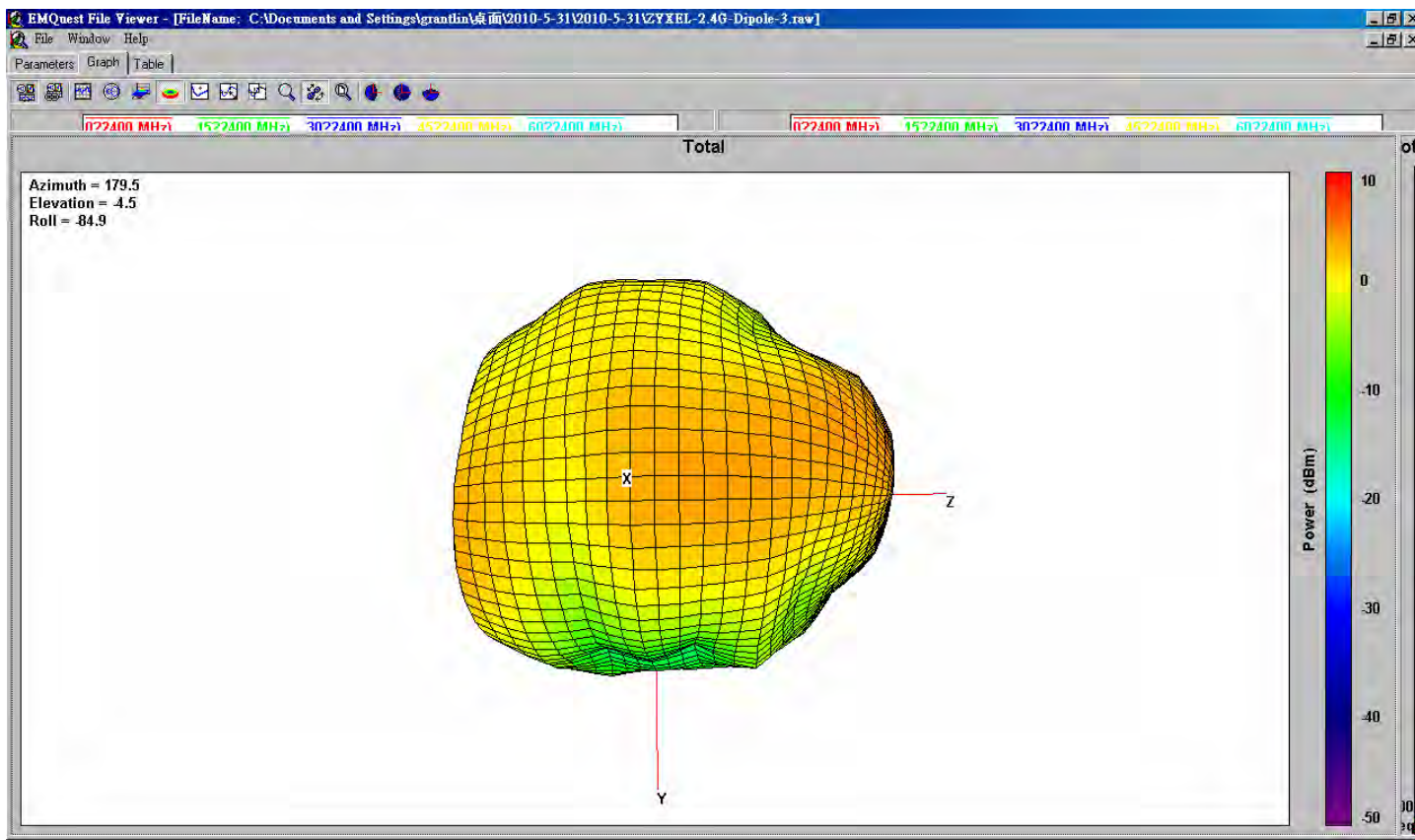
Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna





Total	Point Values	Ant. Port Input Pwr. (dBm)	Tot. Rad. Pwr. (dBm)	Peak EIRP (dBm)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
	Frequency (MHz)							
	2400	0	-0.394525	5.29203	5.68655	-0.394525	91.3161	5.29203
	2420	0	-0.292552	5.10527	5.39782	-0.292552	93.4856	5.10527
	2440	0	-0.366691	4.76342	5.13011	-0.366691	91.9033	4.76342
	2460	0	-0.139171	5.14014	5.27932	-0.139171	96.8463	5.14014
	2480	0	0.0806671	5.33055	5.24988	0.0806671	101.875	5.33055
	2500	0	0.25325	5.37206	5.11881	0.25325	106.005	5.37206

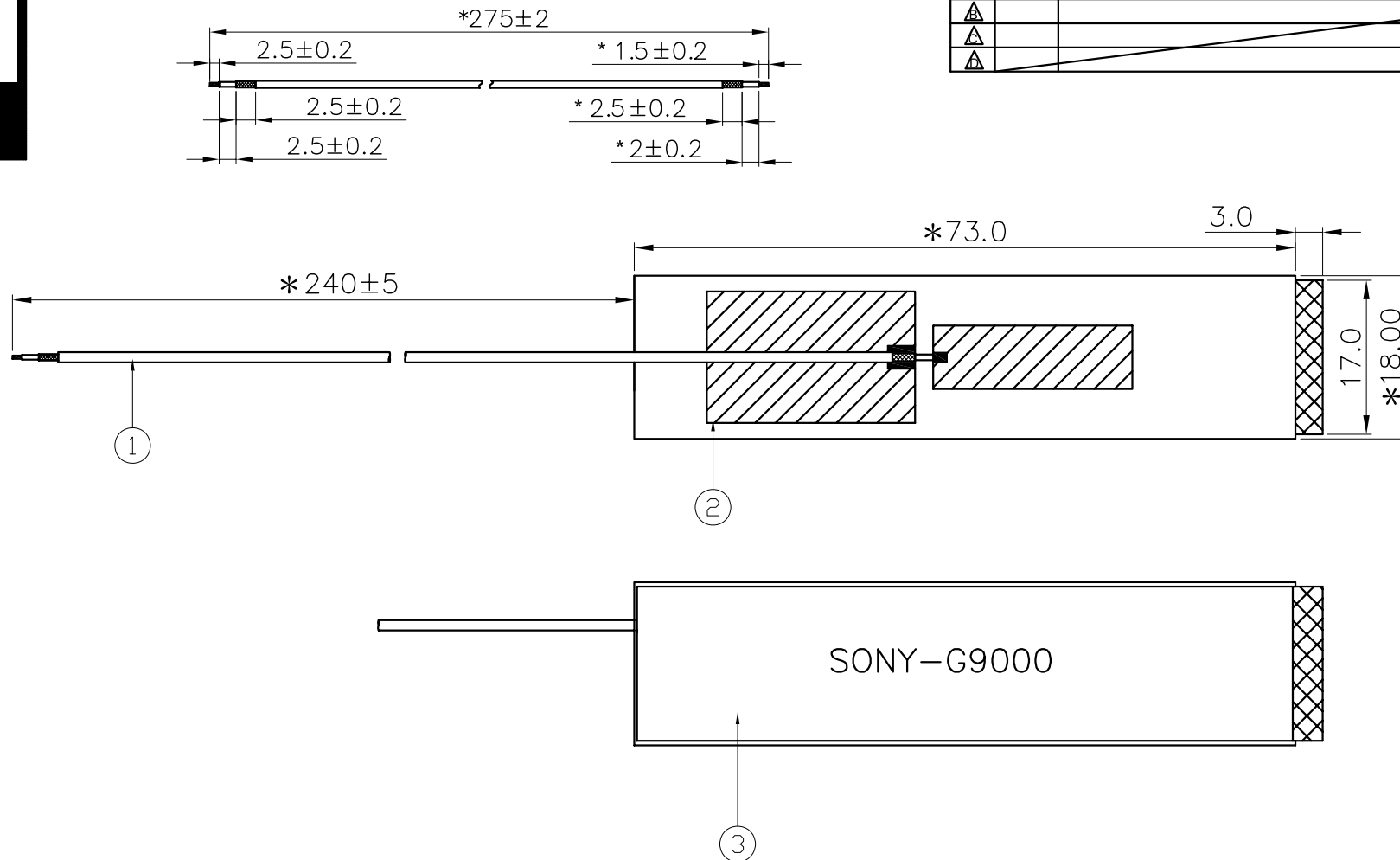
5. Mechanical Drawing
 See attached files

6. Material Description and RoHS Test Report
 See attached files

RoHS

Compatible

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



Note:

1. Take " * " is the important dimension.
2. Tolerance: Unmarked tolerance refer to the standard tolerance please.

3	GS-NB0186-A	Paster	SONY-G9000	72*17*2mm	1
2	NB0186-B01	PCB	FR4	73*18*0.6mm	1
1	R-CB-113A	Coaxial Cable	OD1.13	Gray	1
No.	Part Number	Name	Material	Finish	Q'ty

Invax System Group.

Cortec

Cortec Technology Inc.

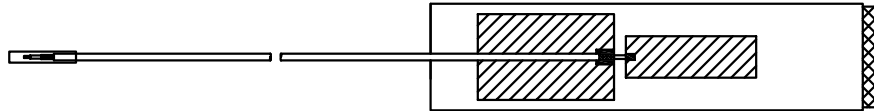
Http://www.invaxsystem.com
E-mail: info@invax.com.tw

Tel: 886-2-27885218
Fax: 886-2-27831658

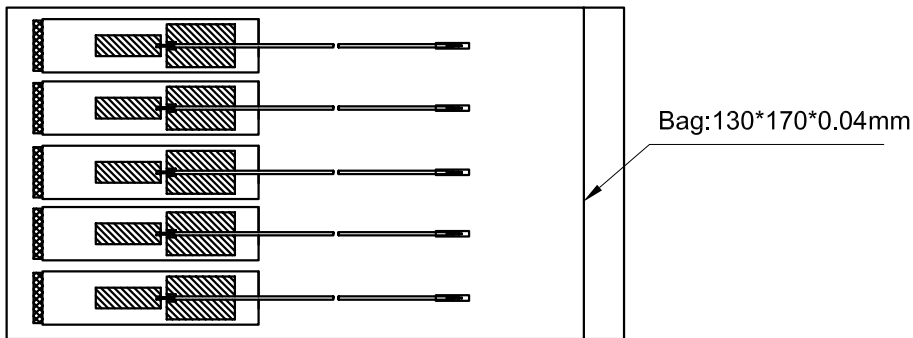
TITLE: Embedded Antenna			
PART NO.: NB0186-B		DWG NAME: NB0186-B.dwg	
APPROVED BY	CHECKED BY	DESIGNED BY	 Tolerance X.X ±0.5 X.XX ±0.2 X° ±1°
Grant 2010/07/02	Jack 2010/07/02	Seagold 2010/07/02	
UNITS: mm			
SCALE: 1/1			
REVISION: A			

Part Number : NB0186-B	Revision : A
Name: Embedded Antenna	Customer : ZyXEL

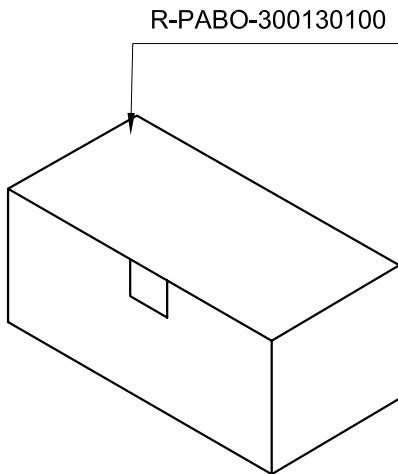
1. The Product



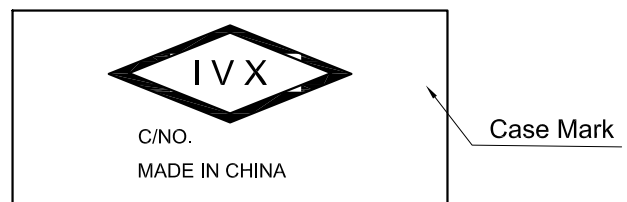
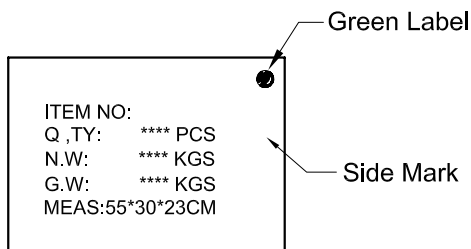
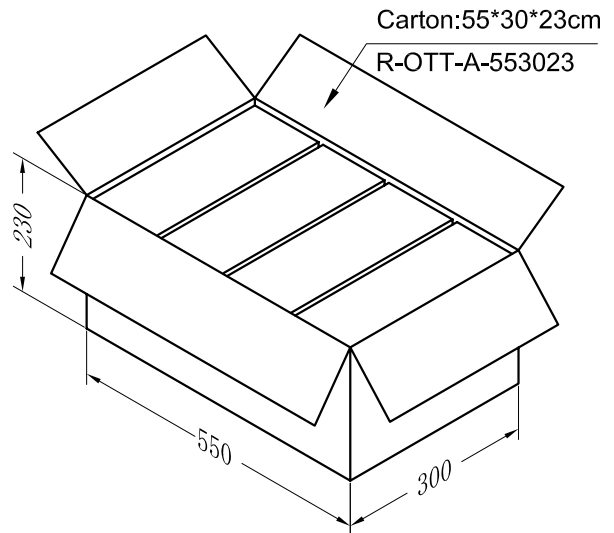
2. 10PCS/per Bag



3. 200PCS/per Box



4. 1600PCS/per Carton



物质安全数据表

产品名称: **KB-6160/6150(FR-4)**

Page 1 of 2

1 – 产品及厂商资料

- 1.1. 产品名称 : 环氧玻璃布基覆铜层压板
1.2. 物料编号 : **KB-6160/6150(FR-4)**
1.3. 供应商名称 : 建滔积层板有限公司

2 – 成分/组成信息

- 2.1. 组成 : a) 增强材料 : E 级玻璃纤维布 CAS NO. 65997-17-3 含量: 41~44%
b) 粘合剂 : 环氧树脂 CAS NO. 26265-08-7 含量: 37~40%
c) 覆金属层 : 电解铜箔 CAS NO. 7440-50-8 含量: 15~17%
- 2.2. 有害成分 : 无
2.3. 标记 : 无

3 – 危险性概述

- 3.1. 健康危害 : 无
3.2. 环境影响 : 无

4 – 急救措施

- 4.1. 吸入 : NA
4.2. 皮肤接触 : 长期接触有刺激性, 用肥皂水清洗皮肤
4.3. 眼睛接触 : NA
4.4. 食入 : NA

5 – 消防措施

- 5.1. 危险特性 : 无
5.2. 燃烧产物 : CO₂, HBr
5.3. 灭火方式 :
- 推荐 : 常用灭火方法及灭火剂均可
- 不推荐 : 无
5.4. 消防人员之特殊防护设备 : 穿戴防烟的呼吸用具
5.5. 其他推荐方式 : 无

6 – 泄露应急处理

- 6.1. 个人防护 : NA
6.2. 环境注意事项 : 无
6.3. 清理方法 : NA
6.4. 次要危害 : 无

7 – 操作处置与储存

- 7.1. 操作者防护及预防 : 无
7.2. 火灾及爆炸预防 : NA
7.3. 操作处置注意事项 : 无
7.4. 不相容物质 : 避免强氧化剂及腐蚀性物品
7.5. 推荐的储存条件 : 室温
7.6. 包装材料
- 推荐 : 采用原有的包装
- 不推荐 : 无

8 – 接触控制/个体防护

- 8.1. 特殊控制参数 : 无
8.2. 推荐的工程控制 : 无
8.3. 个人防护设备 : 无

<p>9 – 物理及化学性质 9.1. 物质状态及形状 : 固体, 片状 9.2. 颜色 : 黄色/自然色 9.3. 气味 : 无</p>	
<p>10 – 稳定性和反应性 10.1. 避免接触的条件 : 暴晒、雨淋、周围有腐蚀性气体 10.2. 避免接触的物品 : 强氧化剂 10.3. 分解产物 : 见 5.2</p>	
<p>11 – 毒性资料 11.1. 吸入 : NA 11.2. 皮肤接触 : NA 11.3. 眼睛接触 : NA 11.4. 食入 : NA</p>	
<p>12 – 生态学资料 12.1. 生物蓄集性 : NA 12.2. 生物降解性 : NA</p>	
<p>13 – 废弃处置 13.1. 处置方法 : 控制焚烧法 13.2. 残余物处置 : 无特殊规定 13.3. 污染性包装处置 : NA</p>	
<p>14 – 运输信息 特殊运输方式及注意事项 : 无</p>	
<p>15 – 法规信息 适用法规 : Sony (SS-00259) 技术标准</p>	
16 – 相关物质含量 (SGS 测试)	SS-00259 第三版限制标准
1 (Cd) 镉 <2ppm (EN1122)	1 (Cd) 镉 <5ppm
2 (Pb) 铅 6ppm (EPA3050B)	2 (Pb) 铅 30ppm
3 (Hg) 汞 <2ppm (EPA3052)	3 (Hg) 汞 <5ppm
4 (Cr ⁶⁺) 六价铬离子 <2ppm (USEPA3060A&7196A)	4 (Cr ⁶⁺) 六价铬离子 <5ppm
5 Cd+Pb+Hg+Cr ⁶⁺ <12 ppm	5 Cd+Pb+Hg+Cr ⁶⁺ <100 ppm
6 不含 (PBB) 多溴联苯和 (PBDE) 多溴二苯醚 (83/264/EEC)	6 不含 (PBB) 多溴联苯和 (PBDE) 多溴二苯醚 (83/264/EEC)
<p>17– 其他信息 : 制表日期: 2005 年 1 月 1 日 就我们目前对该产品的认知, 以上所列的信息均是正确的。但是, 我们无法保证在这里包含了所有的完整和准确的信息。材料的适用性由使用者做最终的决定。</p>	



QMTS2.E123995

Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component

Enhanced searching capability for this category can be found in UL's iQ Family of Databases (iq.ul.com).

[Page Bottom](#)

Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component

[See General Information for Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component](#)

KINGBOARD LAMINATES (MACAO COMMERCIAL OFFSHORE) LTD

E123995

AV DA PRAIA GRANDE 599
EDIFICIO COMERCIAL RODRIGUES
3RD ANDAR B
., MACAU

Industrial laminates:

Mtl Dsg	ANSI Type	Color	Build up		R.T.I.		H				Meets 746E DSR
			Min Thk (mm)	Flame Class	Elec (°C)	Mech (°C)	H W I	H A I	V T R	C T I	
Industrial laminates, furnished as sheets.											
KB-150	XPC	NC, BK	0.71	HB	130	130	2	0	0	-	Yes
			1.57	HB	130	130	1	0	1	4	Yes
KB-151	XPC	NC, BK	0.71	HB	130	130	5	0	4	-	-
			1.57	HB	130	130	4	0	4	0	-
KB-2150	FR-2	NC	1.45	V-0	105	105	4	3	1	4	Yes
KB-2150G	FR-2	TN	0.71	V-0	75	75	0	3	6	-	Yes
			1.45	V-0	105	105	0	3	6	3	Yes
KB-2150GC	FR-2	TN	0.71	V-0	75	75	0	4	6	-	-
			1.45	V-0	105	105	0	3	6	0	Yes
KB-2151	FR-2	TN	0.71	V-0	75	75	2	0	6	-	Yes
			1.45	V-0	105	105	1	0	0	0	Yes
KB-3151S (with Adhesive)											
	FR-1	NC	1.45	V-0	130	130	-	-	-	0	Yes
		NC	0.71	V-0	130	130	0	0	-	-	Yes
KB-3151S (without Adhesive)											
	FR-1	NC	1.45	V-0	130	130	3	3	4	4	Yes
		NC	0.71	V-0	130	130	3	3	4	-	Yes
KB-3152	FR-1	TN	0.71	V-0	130	130	3	0	-	-	Yes

			1.45	V-0	130	130	1	0	0	0	Yes
KB-4150	FR-4	NC	0.86	V-0	130	140	0	3	1	-	Yes
			1.40	V-0	130	140	0	2	1	4	Yes
KB-5150	CEM-1	TN	0.63	V-0	130	140	3	2	4	-	Yes
			1.40	V-0	130	140	1	2	4	3	Yes
KB-5150&											
	CEM-1	TN	0.63	V-0	130	140	1	3	4	-	Yes
			1.40	V-0	130	140	1	3	4	0	Yes
KB-5252	CEM-1	NC	0.63	V-0	130	140	3	2	-	-	Yes
			1.40	V-0	130	140	1	2	-	3	Yes
KB-6150	FR-4	NC	0.10	V-0	120	125	2	4	-	-	-
			0.63	V-0	130	140	0	3	4	-	Yes
			1.40	V-0	130	140	0	2	4	4	Yes
KB-6150C	FR-4	NC	0.63	V-0	130	140	0	3	4	-	Yes
			1.40	V-0	130	140	0	2	4	0	Yes
KB-616(X)	FR-4	YL	0.38	V-0	130	130	3	3	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	Yes
			1.40	V-0	130	140	0	2	4	4	Yes
KB-6160A	FR-4	YL	0.38	V-0	130	130	0	0	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	Yes
			1.40	V-0	130	140	0	2	4	3	Yes
KB-6160C	FR-4	NC	0.38	V-0	130	130	0	0	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	Yes
			1.40	V-0	130	140	0	2	4	0	Yes
KB-6165	FR-4	YL	0.38	V-0	130	130	2	0	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	Yes
			1.40	V-0	130	140	0	2	4	3	Yes
KB-6168	FR-4	NC	0.38	V-0	130	130	0	3	-	-	Yes
		NC	0.63	V-0	130	140	0	3	4	-	Yes
		NC	1.40	V-0	130	140	0	2	4	3	Yes
KB-7150	CEM-3	NC, WT	0.63	V-0	130	140	0	2	4	-	Yes
			1.40	V-0	130	140	0	2	4	3	Yes
KB-7150C	CEM-3	NC	0.63	V-0	130	140	0	2	4	-	Yes
			1.40	V-0	130	140	0	2	4	0	Yes
Industrial laminates, furnished as sheets, rods or tubes.											
HF-140	FR-4	NC	0.38	V-0	130	130	0	2	-	-	Yes
		NC	0.63	V-0	130	140	0	2	-	-	Yes
		NC	1.40	V-0	130	140	0	2	-	3	Yes
KB-3150N	FR-1	NC	0.71	V-0	130	130	0	0	-	-	Yes

		NC	1.45	V-0	130	130	-	-	-	3	Yes
KB-3150NU %											
	FR-1	NC	0.71	V-0	130	130	3	3	4	-	Yes
		NC	1.45	V-0	130	130	3	3	4	4	Yes
KB-5152	No ANSI	NC	0.60	V-0	-	-	-	-	-	-	-
KB-6162	No ANSI	NC	0.63	V-0	-	-	-	-	-	-	-
Industrial laminates.											
KB-3151C (with Adhesive)											
	FR-1	NC	0.71	V-0	130	130	0	0	-	-	Yes
		NC	1.45	V-0	130	130	-	-	-	0	Yes
KB-3151C (without Adhesive)											
	FR-1	NC	0.71	V-0	130	130	3	3	4	-	Yes
		NC	1.45	V-0	130	130	3	3	4	4	Yes
KB-3153	FR-1	NC	1.45	V-0	130	130	0	0	4	0	Yes
KB-6155	FR-4	NC	0.38	V-0	130	130	0	3	-	-	Yes
		NC	0.63	V-0	130	140	0	3	4	-	Yes
		NC	1.40	V-0	130	140	0	2	4	4	Yes
KB-7152	CEM-3	NC	0.63	V-0	130	140	0	2	4	-	Yes
		NC	1.40	V-0	130	140	0	2	4	3	Yes

Ultrathin build ups:

Build Up					Laminate			Prepreg		
Mtl Dsg	ANSI Type	Min Thk (mm)	TI Elec	TI Mech	Mtl Dsg	Thk (mic)	TI Elec	Mtl Dsg	Thk (mic)	TI Elec
Ultrathin industrial laminates and bonding layers, furnished in sheet form, for use in multilayer printed wiring boards where the thickness is built up to the minimum specified.										
HF-140	FR-4	0.38	130	130	HF-140	50	90	PP-HF140	50	90
KB-6155	FR-4	0.38	130	130	KB-6155	0.05	90	KB-6055	0.05	90
KB-616(X)	FR-4	0.38	130	130	KB-6160, KB-6164, KB-6167	100	120	KB-6060, KB-6064, KB-6067	50	90
KB-6160A	FR-4	0.38	130	130	KB-6160A	50	90	KB-6060A	50	90
KB-6160C	FR-4	0.38	130	130	KB-6160C	50	90	KB-6060C	50	90
KB-6165	FR-4	0.38	130	130	KB-6165	50	90	KB-6065	50	90
KB-6168	FR-4	0.38	130	130	KB-6168	50	90	KB-6068	50	90

Metal clad industrial laminates:

				Bld up	Clad Cond Thk	Max		Max	Solder Lts

Metal Clad Dsg	Lam-inate Dsg	Pre-preg Dsg	ANSI Type	Min Thk (mm)	Min Ext (mic)	Max Ext (mic)	Max Int (mic)	Area Dia (mm)	Flame Class	Oper Temp (°C)	Temp (°C)	Time (sec)
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides, furnished as sheets.												
KB-616(X)												
	KB-6160, KB-6164, KB-6167	KB-6060, KB-6064, KB-6067	FR-4	0.38	17	102	35	50.8	V-0	130	288	30
KB-6160A												
	KB-6160A	KB-6060A	FR-4	0.38	12	102	70	50.8	V-0	130	288	20
KB-6160C												
	KB-6160C	KB-6060C	FR-4	0.38	12	102	60	50.8	V-0	130	288	20
KB-6165												
	KB-6165	KB-6065	FR-4	0.38	12	102	54	50.8	V-0	130	288	60
KB-6168												
	KB-6168	KB-6068	FR-4	0.38	12	102	70	50.8	V-0	130	288	60
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides, furnished as sheets, rods or tubes.												
HF-140												
	HF-140	PP-HF140	FR-4	0.38	12	102	102	50.8	V-0	130	288	30
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides, furnished as sheets.												
KB-1151												
	KB-1151	-	XPC	0.71	35	102	-	50.8	HB	130	260	10
KB-2150G												
	KB-2150G	-	FR-2	0.71	35	102	-	50.8	V-0	75	265	15
				1.45	35	102	-	38.1	V-0	105	265	15
KB-2150GC												
	KB-2150GC	-	FR-2	0.71	35	102	-	50.8	V-0	75	265	15
				1.45	35	102	-	50.8	V-0	105	265	15
KB-2151												
	KB-2151	-	FR-2	0.71	35	102	-	50.8	V-0	75	288	10
				1.45	35	102	-	50.8	V-0	105	288	10
KB-3152												
	KB-3152	-	FR-1	0.71	35	102	-	50.8	V-0	130	288	10
KB-5150												
	KB-5150	-	CEM-1	0.63	17	102	-	38.1	V-0	130	288	20
KB-5252												
	KB-5252	-	CEM-1	0.63	17	102	-	13	V-0	130	260	10
KB-6150												

	KB-6150	-	FR-4	0.63	17	102	-	50.8	V-0	130	288	20
KB-6150C												
	KB-6150C	-	FR-4	0.63	17	102	-	50.8	V-0	130	288	20
KB-616(X)												
	KB-6160, KB-6164, KB-6167	-	FR-4	0.38	17	102	-	50.8	V-0	130	288	30
KB-6160A												
	KB-6160A	-	FR-4	0.38	12	140	-	50.8	V-0	130	288	20
KB-6160C												
	KB-6160C	-	FR-4	0.38	12	102	-	50.8	V-0	130	288	20
KB-6165												
	KB-6165	-	FR-4	0.38	12	102	-	50.8	V-0	130	288	60
KB-6168												
	KB-6168	-	FR-4	0.38	12	102	-	50.8	V-0	130	288	60
KB-7150												
	KB-7150	-	CEM-3	0.63	17	102	-	50.8	V-0	130	290	20
KB-7150C												
	KB-7150C	-	CEM-3	0.63	17	102	-	50.8	V-0	130	288	20
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides, furnished as sheets, rods or tubes.												
HF-140												
	HF-140	-	FR-4	0.38	12	102	-	50.8	V-0	130	288	30
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides.												
KB-3151C*												
	KB-3151C	-	FR-1	0.71	17	102	-	50.8	V-0	130	260	10
KB-3151S												
	KB-3151S	-	FR-1	0.71	17	102	-	38.1	V-0	130	260	10
KB-6155												
	KB-6155	-	FR-4	0.38	12	102	-	50.8	V-0	130	288	60
KB-7152												
	KB-7152	-	CEM-3	0.63	17	102	-	50.8	V-0	130	288	20
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one side only, furnished as sheets.												
KB-1150												
	KB-1150	-	XPC	0.71	35	117	-	25.4	HB	130	260	10
KB-5150												
	KB-5150	-	CEM-1	0.71	35	102	-	50.8	V-0	130	260	10

Metal clad industrial laminates for use in single layer printed wiring boards with copper on one side only, furnished as sheets, rods or tubes.

KB-3150N

	KB-3150NU %	-	FR-1	0.71	17	102	-	50.8	V-0	130	260	10
--	----------------	---	------	------	----	-----	---	------	-----	-----	-----	----

Metal clad industrial laminates for use in single layer printed wiring boards with copper on one side only.

KB-3153

	KB-3153	-	FR-1	1.45	34	102	-	50.8	V-0	130	260	10
--	---------	---	------	------	----	-----	---	------	-----	-----	-----	----

Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides.

KB-6155

	KB-6155	KB-6055	FR-4	0.38	12	102	70	50.8	V-0	130	288	60
--	---------	---------	------	------	----	-----	----	------	-----	-----	-----	----

Metal clad industrial laminates (Flammability Only Recognition):

Metal Clad Dsg	Lam-inate Dsg	Pre-preg Dsg	ANSI Type	Bld up		Clad Cond Thk			Max Area Dia (mm)	Flame Class	Max Oper Temp (°C)	Solder Lts	
				Min Thk (mm)	Max Ext (mic)	Max Ext (mic)	Max Int (mic)	Temp (°C)				Time (sec)	

Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides, furnished as sheets (Flammability Only Recognition).

KB-5152

	KB-5152	-	No ANSI	0.60	-	-	-	-	V-0	-	260	10
--	---------	---	---------	------	---	---	---	---	-----	---	-----	----

KB-6162

	KB-6162	-	No ANSI	0.63	-	-	-	-	V-0	-	288	30
--	---------	---	---------	------	---	---	---	---	-----	---	-----	----

% - Corresponds to Unclad values without adhesive. For declad values (single sided) see corresponding grade "KB-3150N"

& - Corresponds to Declad values with adhesive. For Unclad values see corresponding grade designation.

* - With adhesive

X - may be 0, 4, 7

Marking: Company name and material designation on container or wrapper.

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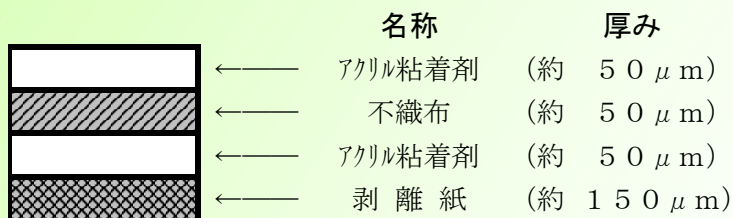
強力高性能両面接着テープ

G9000

特 長

- 従来品に比べ接着力が強力な基材入りの両面接着テープです
- 接着特性のバランスが良く、特に耐熱性に優れています。
- 従来のように、塗工時に有機溶剤を使用しないため、地球環境への影響が少ない次世代の接着テープです

基本構成



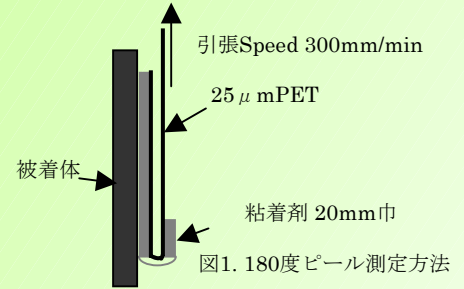
仕 様

粘着剤主成分	アクリル系樹脂	粘着剤厚み (基材含む)	0.15mm
色	無色透明	形 状	抜き加工品
基 材	不織布		ロール品

特性

1. 剥離強度 (180度ピール)

- ・テープ幅：20mm
- ・圧着条件：2kgローラー1往復
- ・常温1時間放置後
- ・測定雰囲気：23℃±5℃ 65%±10%
- ・引張りスピード：300mm/min
- ・バックング材：25μmPET



(N/2cm)

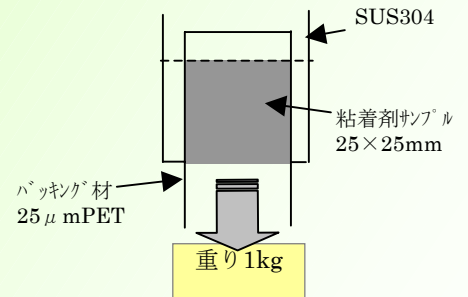
被着体	SUS	AL	ABS	アクリル	PS	PP	PC
接着強度	13.7	8.8	11.6	12.4	11.5	5.1	11.9

被着体	軟質PVC	硬質PVC	ガラス	CR	NR
接着強度	12.6	13.2	12.9	3.4	4.0

ジャッキー

2. 保持力

- ・テープ貼付け面積：25×25mm
- ・被着体：SUS304
- ・圧着条件：2kgローラー1往復
- ・荷重：1kg
- ・1時間後のズレ (mm) を測定



測定温度	40℃	60℃	80℃	100℃
ズレ (mm)	0.2	0.3	0.3	0.6

3. ボールタック (J. Dow法)

ボールタック (ボールNo)	2~×
----------------	-----

×:1未満

4. 温度特性 (180度ピール)

- ・テープ幅：20mm
- ・圧着条件：2kgローラー1往復
- ・常温1日放置後
- ・測定雰囲気：各温度
- ・引張りスピード：300mm/min
- ・バックング材：100 μ mAL箔(-20~5 $^{\circ}$ C)、25 μ mPET(10~100 $^{\circ}$ C)
- ・被着体：SUS

(N/2cm)

測定温度	-20 $^{\circ}$ C	0 $^{\circ}$ C	5 $^{\circ}$ C	10 $^{\circ}$ C	23 $^{\circ}$ C	40 $^{\circ}$ C	60 $^{\circ}$ C	80 $^{\circ}$ C	100 $^{\circ}$ C
ズレ(mm)	AL	94.2	91.0	25.5	17.4	14.4	11.9	10.8	9.3

AL:バックング材からのaf 両af

5. 定荷重剥離試験

- ・テープ幅：20mm
- ・圧着条件：2kgローラー1往復
- ・荷重：100g
- ・はく離距離 (mm) を測定
- ・RT 1時間後、RTにて測定

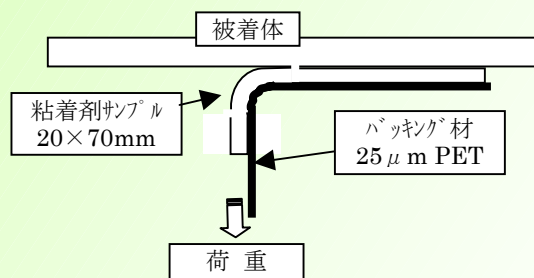


図3. 定荷重剥離測定方法

		SUS	AL	ABS	PS	アクリル	PP
定荷重剥離 剥離距離(mm) 100g/2cm	1h後	1.0	2.0	2.0	2.5	2.0	3.5
	3h後	1.3	3.0	3.5	5.0	3.3	7.8
	5h後	1.3	2.8	4.5	7.5	4.5	11.0
	24h後	1.5	9.5	18.5	34.0	16.0	59.0

注意:このレポートは当社の信頼できる実験に基づいたものですが、記載内容通りの性能が保証されることを意味するものではありません。使用者ご自身の責任において、当製品の使用目的、使用条件を充分ご検討の上、ご使用くださいますようお願いいたします。

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 ゲートシティ大崎イースタワー8F
 関西 〒542-0081 大阪市中央区南船橋4-12-12 Tel.06-6243-9561(代)
 鹿沼工場 〒322-8502 栃木県鹿沼市さつき町12-3 Tel.0289-76-0211(代)

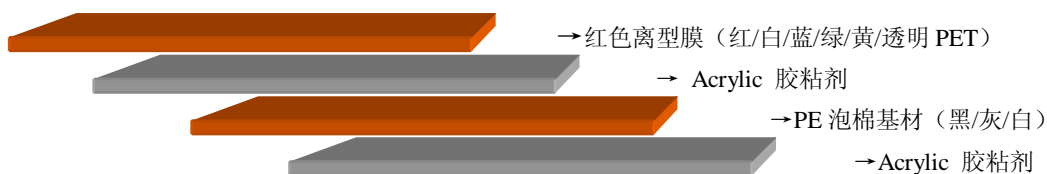
PE 泡棉胶带

NO.1 产品特点

架桥 PE 泡棉胶带,是以架桥 PE 为载体, 涂层 Acrylic 胶粘剂。

- ① PE 泡棉基材, 防震/吸音/填充能力强。
- ② 耐候性优, 持久粘性好。
- ③ 具有良好的保持力、初期粘着力, 抗 UV 表面性能极佳。
- ④ 采用 PE 离型膜, 易于冲型加工, 模切无毛削。
- ⑤ 防水/防溶剂/防化学品能力好。

NO.2 产品结构/材质



NO.3 产品规格

编 号	厚 度 (胶体)	宽 度	长 度	胶 系	基 材	颜 色	隔离材料
BM305/BM308/BM310/BM315/BM320/BM330/BM340	0.5mm/0.8mm/1.0mm/1.5mm/2.0mm/3.0mm/4.0mm	2mm,3mm1050mm	5mm, 10mm, 50m, 100m,...300m	丙烯酸 脂压敏胶	PE 泡棉	白/灰/黑色	绿/红/蓝色 PE 离型膜

NO.4 产品应用

- ① 汽车装饰条/汽摩标牌/汽车密封条的粘接。
- ② 家具装饰条/灯框装饰条/建材饰材的贴合。
- ③ 粘接金属五金标牌面板等。

NO.5 产品性能

初粘力	≤90 (MM)	SUS 板 180 度剥离法
粘着力	19 (N/25mm)	SUS 板 180 度剥离法
持久力	≥38H	SUS 板 180 度剥离法
长期耐温	80℃	200g/72 小时
短期耐温	130℃	200g/20 分钟

以上数据资料只作参考, 非每批产品的保证质, 使用前请先试用确认。

【使用说明】

- I 胶带请保存于阴凉处, 避免太阳光直射. 避免放在温度过高或过低的地方长期保存。
- I 胶带的理想工作温度在 20~38℃ 之间, 其工作时的温度最好不要低于 10℃, 在 10℃ 以下, 其初粘着力较弱, 不利于粘贴。
- I 贴合材料表面必须清洁, 接合后, 一般以拇指 7~8KG/cm 均匀加压, 效果更佳。
- I 该胶带粘着性能在 24hr 小时后才能达到 90%, 72~96hr 后, 其粘着性能才能达到 100%。

Coaxial Cable Datasheet

O.D. 1.13 mm (AWG32) Coaxial Cable Specification		
1. Cable Type	O.D. 1.13 mm (AWG32)	
2. Impedance	50 ± 3 ohm	
3. Inner Conductor	Material	silver-coated cooper
	Conductor Numbers	7
	Conductor Size	0.08 mm
	Outer Diameter	0.24 mm
4. Dielectric Layer	Material	FEP
	Color	Clear
	Average Thickness	0.22 mm
	Diameter	0.68 mm
5. Braid (Shielding)	Material	tin-coated cooper
	Construction	16-4-0.05 mm
	Coverage	90 %
6. Outer Cover	Material	FEP
	Color	Black / white / gray
	Average Thickness	0.10 mm
	Diameter	1.13 ± 0.05 mm
7. V.S.W.R Testing (DC ~ 6GHz)	< 1.3	
8. Attenuation (dB / 1 meter)	100 MHz	0.60
	400 MHz	1.25
	1800 MHz	2.23
	2400 MHz	2.70
	5200 MHz	4.15
9. Capacitance	97 ± 3 (pF / meter)	
10. Maximum Power	30 dBm	
11. Spark Test	500 V	
12. Rating Temp. and Volt.	200°C / 30V	
13. Conductor Resistance	520 ohm / KM / 20°C max.	
14. Dielectric Resistance	1500 M ohm / KM / 20°C min.	



the standard in safety

Underwriters
Laboratories

VP Engineering
JIANGYIN SHENYU COMMUNICATION
NO 1-1 OF CHENGJIANG
XINYUAN RD
JIANGYIN,
JIANGSU 214400 CHINA

Date: 2008/06/26
Subscriber: 100237430
PartySite: 1427934
File No: E318898
Project No: 08CA18591
PD No: 08M37544
Type: L
PO Number: WENTHEN MEI 1.4.

Subject: Initial Production Inspection

PLEASE NOTE: YOU ARE NOT AUTHORIZED TO SHIP ANY PRODUCTS BEARING ANY UL MARKS UNTIL THE INITIAL PRODUCTION INSPECTION HAS BEEN SUCCESSFULLY CONDUCTED BY THE UL FIELD REPRESENTATIVE.

An Initial Production Inspection (IPI) is an inspection that must be conducted prior to the first shipment of products bearing the UL Mark. This is to ensure that products being manufactured are in accordance with UL's requirements including the Follow-Up Service Procedure. After the UL Representative has verified compliance of your product(s), authorization will be granted for shipment of product(s) bearing the appropriate UL Marks as denoted in the Procedure.

Inspections at your plant will be conducted under the supervision of LAKER HU, UL INSPECTION CENTER NANJING, CHINA NATIONAL IMPORT & EXPORT, COMMODITIES INSPECTION CORP, 1 BAIXIA RD, 8TH FL, NANJING, JIANGSU, China, 210001., PHONE: 25-5234-5767, FAX: 25-5234-5769, EMAIL: ul521@ccicjs.com

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to our Customer Service Professional, PHONE: 1-877-ULHELPS (1-877-854-3577), referring to the above Project and/or PD Numbers.

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MEL File

UL INSPECTION CENTER 521

Production Date: 07/04/2008
Contact: Ms. Shanny Tang
Phone: 186510-86278808
Email: Shenyu@Shenyucable.com

ADDENDUM TO TRANSMITTAL LETTER

VP Engineering
JIANGYIN SHENYU COMMUNICATION
NO 1-1 OF CHENGJIANG
XINYUAN RD
JIANGYIN,
JIANGSU 214400 CHINA

Date: 2008/06/26
Subscriber: 100237430
PartySite: 1427934
File No: E318898
Project No: 08CA18591
PD No: 08M37544
Type: L
FO Number: WENTHEN MEI 1.4.

Subject: **Initial Production Inspection**

The following material resulting from the investigation under the above numbers is enclosed.

<u>Issue</u>				<u>Revised Date</u>
<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	
2008/06/23	1	1	Add New Volume	
2008/06/24	1	6	Add New Proc/Report Sect	
2008/06/23			Add New Indep Report	

File E318898
Project 08CA18591

June 23, 2008

REPORT

on

APPLIANCE WIRING MATERIAL - COMPONENT

Jiangyin Shenyu Communication
Jiangsu, China

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reproduce this Report provided it is in its entirety.

DESCRIPTION

PRODUCT COVERED:

Appliance Wiring Materials, Style 11149 - FEP insulation employing 9 mils minimum average thickness, 8 mils minimum at any point, braided copper shield with 50% coverage, and FEP jacket employing 5 mils minimum average thickness, 4 mils minimum at any point.

TEST RECORD NO. 1

SAMPLES:

A sample of Style 11149 with FEP insulation, braided copper braid and FEP jacket as indicated below and constructed as described herein was manufactured and submitted for examination and test.

Material	Construction	Temp °C	Voltage	Wall Thickness, mils
FEP	INSULATED SINGLE	200	30 V	9.0
FEP	NON-INTEGRAL JACKET	200	30 V	4.4

GENERAL:

Test results relate only to the items tested. The following tests were conducted with acceptable test results. Only the following tests were considered necessary.

TEST	SECTION
Detailed Examination	5 - 13
Physical Properties	14
Conductor Corrosion	18
Flexibility After Air Oven Aging	20
Heat Shock	21
Cold Bend	22
Dielectric Test, Method I	28
Dielectric Test, Method II	29
Dielectric Test, Method III	30
Horizontal Flame Test	39
VW-1 Flame	41

TEST RECORD SUMMARY:

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in Underwriters Laboratories Inc. Standard for Appliance Wiring Material, UL 758, Second Edition dated 2006-04-24 with revisions through and including 2008-04-30.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

CONCLUSION

A sample of the components covered by this Report has been found to comply with the requirements covering the category and the components are judged to be eligible for Component Recognition and Follow-Up Service. Under the Service, the manufacturer is authorized to use the Recognized Marking described in the Follow-Up Service Procedure on such products which comply with said Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Recognized Markings are considered as Recognized Components by Underwriters Laboratories Inc. Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Report by:

Reviewed by:

Carl Huang
Staff Engineer

Jacqueline Nguyen
Senior Project Engineer

File E318898
Project 08CA18591
June 24, 2008

REPORT

On

COMPONENT - CANADIAN APPLIANCE WIRING MATERIAL

Jiangyin Shenyu Communication
Jiangsu, China

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TABLE OF CONTENTS

Material	Construction	Description No.	Test Records
FEP	Insulated Single	1	1
FEP	Jacketed Cable	2	1

DESCRIPTION NO. 1

PRODUCT COVERED:

CNR - Appliance Wire, Extruded FEP, Insulated Singles, Class I, Group A, B, or A/B.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE USE):

CNR indicates investigation to Canadian Standard C22.2 No. 210-05. This product shall be constructed in accordance with the Canadian Standard for Appliance Wiring Material Products, C22.2 No. 210-05, and as described below.

CONSTRUCTION DETAILS:

Marking - In accordance with the Section General.

Construction - This is an insulated single with extruded FEP insulation. See below for details.

Conductor - Solid or stranded, size in accordance with the Table below.

Insulation - In accordance with the Table below.

TABLE I

Insulation Material:	FEP	Class	25							
Use Class:	I (Internal)									
Group:	A (Not subject to mechanical abuse) B (Potentially subject to mechanical abuse), or A/B									
Voltage Rating:	30 V									
Temperature Rating:	200°C									
Flame Rating:	FT1, FT2									
Conductor Size	Minimum Average Thickness, mils					Minimum Thickness at any point, mils				
	30V	150V	300V	600V	1000V	30V	150V	300V	600V	1000V
32 - 2 AWG	9	-	-	-	-	8	-	-	-	-

PRODUCT COVERED:

CNR - Appliance Wire, Single conductor Cable with non-integral FEP jacket, Class I, II, or I/II, Group A, B, or A/B.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

CNR indicates investigation to Canadian Standard C22.2 No. 210-05. This product shall be constructed in accordance with the Canadian Standard for Appliance Wiring Material Products, C22.2 No. 210-05, and as described below.

CONSTRUCTION DETAILS:

Marking - In accordance with the Section General.

Construction - This is a single conductor Cable with non-integral FEP jacket.

Insulated Singles - Insulated singles complying with Description 1 of this Procedure with the appropriate group, temperature rating, voltage rating and flame rating.

Shield - Required, braided copper, minimum 50% coverage.

Jacket - In accordance with the Table below.

TABLE 1

Jacket Material:	FEP	Class	6
Use Class:	I (Internal) or II (External)		
Group:	A (Not subject to mechanical abuse) B (Potentially subject to mechanical abuse), or A/B		
Voltage Rating:	30 V		
Temperature Rating:	200°C		
Flame Rating:	FT1, FT2		
Minimum Average Thickness		Minimum Thickness at any point	
in.	(mm)	in.	(mm)
0.005	0.127	0.004	0.102

TEST RECORD NO. 1

SAMPLES:

Samples of the Appliance Wiring Material as indicated below and constructed as described herein, were submitted by the manufacturer for examination and test.

Material	Construction	Temp°C	Voltage, V	Average Thickness, Mils	Minimum Thickness At Any Point, Mils
FEP	Insulated single	200	30	9.0	8.0
FEP	Non-integral jacket	200	30	4.4	4.0

GENERAL:

Test results relate only to the items tested. The following tests were conducted with acceptable test results.

Test	Section
Detailed Examination	4 - 6
Physical Properties	5.2 & 6.2.1
Conductor/Insulation Compatibility	4.2.3.2
Deformation Test	7.6.7 & 8.8.7
Flexibility and Dielectric Test	7.6.8
Heat Shock and Dielectric Test	7.6.6 & 8.8.6
Cold Bend and Dielectric Test, Insulation	7.6.2 & 8.8.2
Slow Compression	7.6.9
Dielectric Strength	6.1.4
FT2 Horizontal Test	7.6.3 (b) & 8.8.3 (b)
FT1 (VW-1) Flame Test	7.6.3 (a) & 8.8.3 (a)

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in Canadian Standard CAN/CSA C22.2 No. 210-05, Second Edition, for Appliance Wiring Material Products, containing revisions through and including November, 2006.

CONCLUSION

Samples of the components covered by this Report have been found to comply with the requirements covering the category and the components are judged to be eligible for Component Recognition and Follow-up Service. Under the Service, the manufacturer is authorized to use the Recognized Marking described in the Follow-Up Service Procedure on such components which comply with said Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those components which properly bear the Recognized Markings are considered as Recognized Component by Underwriters Laboratories Inc. Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.

Report by:

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