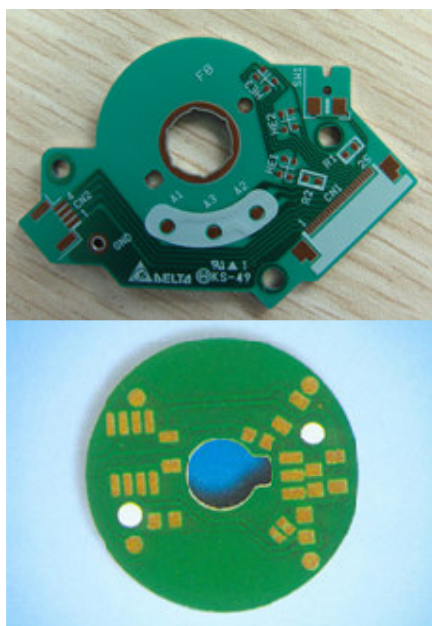


## Iron-Based Copper-clad Laminate Sheet



### Description and Application:

The iron-based copper-clad laminate have excellent flame retardant, high mechanical strength, dimensional stability etc. It's completely designed and manufactured by our company, owns spectacular characteristic and functions, The material for the base is from special steel, silicon steel and etc. It has all the functions as metal material and the following particular characteristic:

- ❖ High mechanic strength, good for further machinery suitable for the assembly heaven electronic parts on its surface;
- ❖ Vacancy area convenient for further machinery,procuring and fixing of the base;
- ❖ Silicon-steel is iron-magnetic,and can be applied on micro-motors such as on VTR, FDD.

**Note:** Chaoshun specially produces Metal Based Copper-Clad Laminates, and our products have been compiled series with all complete specifications.

**Tapy and specification of Iron based Laminates:** CFAF-01, CFAF-04-A, CFAF-05 etc.

**The thickness of the iron:** 0.5mm, 0.8mm, 1.0mm

**The thickness of the copper:** 18 $\mu$ m, 35 $\mu$ m

**Base size:** 330mm $\times$ 380mm (13" $\times$ 15"); 500mm $\times$ 600mm (20" $\times$ 24"); 333mm $\times$ 500mm (13" $\times$ 20")

### CFAF-01 -Iron-base copper-clad laminate.

**Thickness copper:** 35 $\mu$ m

**Thickness of the dielectric:** 70 $\mu$ m

**Iron base:** 0.5mm

**Chemical composition of Iron base material:** 4% C; 1% Si; 22% Mn; 10% P; 16% S; 4.1% Al

Item	Test item		Technology request	Unit	Test result
1	Peel Strength	A	$\geq 1.8$	N/mm	2.3
		After thermal stress (260C)	$\geq 1.8$	N/mm	2.0
2	Blister test After Thermal stress (260C, 2min)		No delaminating	/	ok
3	Thermal resistance		$\leq 2.0$	$^{\circ}$ C/W	1.1
4	Flammability (A)		FV-O	/	FV-O
5	Surface Resistivity	A	$\geq 1 \times 10^5$	M $\Omega$	$6.7 \times 10^6$
		C-96/35/90	$\geq 1 \times 10^5$	M $\Omega$	$6.7 \times 10^6$
6	Volume Resistivity	A	$\geq 1 \times 10^6$	M $\Omega$ ·m	$3.2 \times 10^7$
		C-96/35/90	$\geq 1 \times 10^6$	M $\Omega$ ·m	$3.2 \times 10^7$
7	Dielectric Breakdown(DC)		$\geq 28.5$	KV/MM	68.5
8	Dielectric constant C-96/35/90		$\leq 4.4$	/	4.2
9	Dielectric dissipation factor C-96/35/90		$\leq 0.03$	/	0.027

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CHAO SHUN ELECTRONIC TECHNIQUE CO., LTD  
XINQIAO INDUSTRIAL ZONE CHANGZHOU NEW DISTRICT

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

Sample Name : IRON-BASED COPPER-CLAD LAMINATE  
SGS Ref No. : SHEC0040908527  
Model : CFAF-01


Sample Receiving Date : September 07, 2004  
Testing Period : September 07 to September 10, 2004

Test Requested : 1) To determine the Cadmium Content of the submitted sample.  
2) To determine the Lead content of the submitted sample.  
3) To determine Mercury Content of the submitted sample.  
4) To determine Hexavalent Chromium content of the submitted sample.  
5) To determine the PBBs(Polybrominated biphenyls) PBBEs(PBDEs)  
(Polybrominated biphenyl ethers) Content of the submitted samples.  
6) To determine the Chlorinated Paraffin content of the submitted sample.

Test method : 1) With reference to BS EN 1122:2001, Method B or other acid digestion  
Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission  
Spectrometry (ICP-AES) or Atomic Absorption Spectrometry.  
2) With reference to US EPA Method 3050B or other acid digestion  
Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission  
Spectrometry (ICP-AES) or Atomic Absorption Spectrometry.  
3) With reference to US EPA 3052 or other acid digestion  
Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission  
Spectrometry (ICP-AES).  
4) With reference to US EPA3060A and US EPA7196A  
Analysis was performed by UV-VIS Spectrometric method.  
5) With reference to US EPA 8081, Analysis was performed by GC/MS.  
6) With reference to US EPA 8081, Analysis was performed by GC/MS.

Test Results : Please refer to next page

Signed for and on behalf of  
SGS-CSTC Chemical Laboratory

  
Ella Zhang  
Supervisor



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## Test Results

No.	Item	Unit	MDL	Δ
1	Cadmium (Cd)	ppm	2	N.D.
2	Lead (Pb)	ppm	2	N.D.
3	Mercury (Hg)	ppm	2	N.D.
4	Hexavalent Chromium (Cr VI)	ppm	2	N.D.
5	PBBs(Polybrominated biphenyls)	ppm	5	N.D.
	PBBEs(PBDEs) (Polybrominated biphenyl ethers)	ppm	5	N.D.
6	Chlorinated Paraffin	ppm	30	N.D.

(Result shown is of the total weight of sample)

### Sample Description:

A. Grey metal sheet

Note : ppm=mg/kg

MDL= Method Detection Limit

N.D. = Not detected.(<MDL)

\*\*\* End of Report \*\*\*

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