

# S3155

(ANSI:CEM-1) Halogen-Free CEM-1 Copper Clad Laminate

## 特点

- 不含卤素、锑、红磷等成分。
- 燃烧时不产生剧毒气体和不残留有毒成分。
- 良好的加工性与耐潮湿性。
- 符合IPC-4101标准及JPCA标准。

## FEATURES

- Constituents free such as halogen, antimony and red phosphorus.
- No toxic gas emission and no hazardous residue during waste combustion.
- Good punching process and moisture resistance.
- Conform to IPC-4101 standard & JPCA standard.

## 应用领域

家用电器、电源基板、仪器仪表、游戏机等。

## APPLICATIONS

Appliance, power base board, apparatus and instrument, game machine, etc.

## GENERAL PROPERTIES

Test Item	Treatment Condition	Unit	Property Data		
			SPEC	Typical Value	
Tg	DSC	°C	-	128	
Flammability	C-48/23/50	-	V-0	V-0	
	E-24/125				
Volume Resistivity	C-96/35/90	MΩ. cm	≥ 10 <sup>6</sup>	6.78×10 <sup>7</sup>	
	E-24/125		≥ 10 <sup>3</sup>	1.08×10 <sup>5</sup>	
Surface Resistivity	C-96/35/90	MΩ	≥ 10 <sup>4</sup>	3.39×10 <sup>5</sup>	
	E-24/125		≥ 10 <sup>3</sup>	8.84×10 <sup>4</sup>	
Arc Resistance	D-48/50+D-0.5/23	S	≥ 60	115	
Dielectric Breakdown	D-48/50+D-0.5/23	KV	≥ 40	45kv+ NB	
Permittivity (1MHz)	C-24/23/50	-	≤ 5.4	4.5	
Loss tangent (1MHz)	C-24/23/50	-	≤ 0.035	0.010	
Thermal Stress	Unetched Etched	260°C, 20s	-	No delamination	
					288°C 20s No delamination
Peel Strength	1oz Cu. Foil	260°C, 10s	N/mm	≥ 1.05	1.50
		105°C		≥ 1.05	1.40
Flexural Strength	LW CW	A	MPa	≥ 242	550
				≥ 172	440
Water Absorption	E-1/105+DES+D-24/23	%	≤ 0.50	0.2	
CTI	IEC-112	V	-	400	

Specimen Thickness:1.6mm

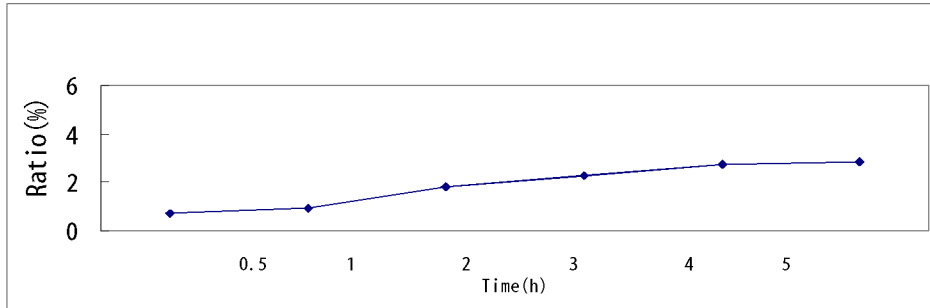
Explanations: C = Humidity conditioning;  
D = Immersion conditioning in distilled water;  
E = Temperature conditioning.

The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in °C and with the third digit the relative humidity.

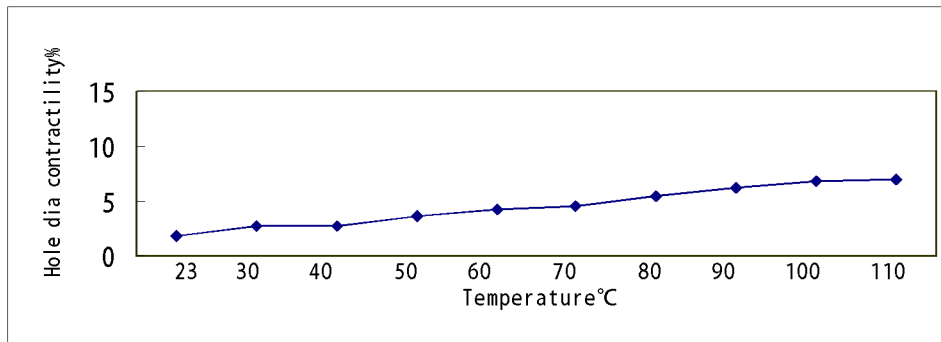
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## Water absorption at pressure cooker



## Hole dia contractility



## PURCHASING INFORMATION

Thickness	Copper foil	Standard Size
0.6mm to 3.2mm	18 $\mu$ m to 105 $\mu$ m	1,020×1,220mm (40" × 48" ) 915×1,220mm (36" × 48" ) 1,070×1,220mm (42" × 48" )

✘ Other sheet size and thickness could be available upon request.

## HALOGEN CONTENT TEST

✘ JPCA-ES-01-1999 Standard "Test method of halogen-free materials"

Halogen	JPCA Standard	S3155
Cl	≤ 0.09%	0.02%
Br	≤ 0.09%	0.00%