



**Doosan Corporation**  
Electro-Materials

# DS-7106

(ANSI : CEM-1)

COPPER CLAD LAMINATES

### Features

- Excellent punchability
- Significant reduction in dusting
- Long punching tool life
- Low warpage at high temperature

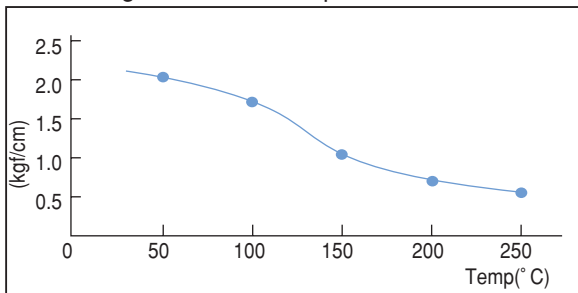
### Applications

Automotive radio, Television, Smoke alarm,  
Power supply, Keyboard, Clock, etc.

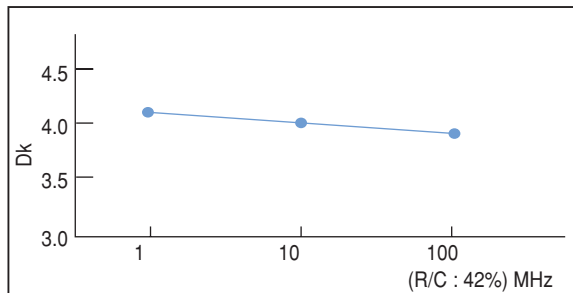
### International Standard Recognition

- UL : E103670
- CSA : LS- 93237
- BSI : 6741
- VDE : VDE - Reg - Nr. 4945

#### ■ Peel strength at elevated temp (Cu.Foil 1 oz)

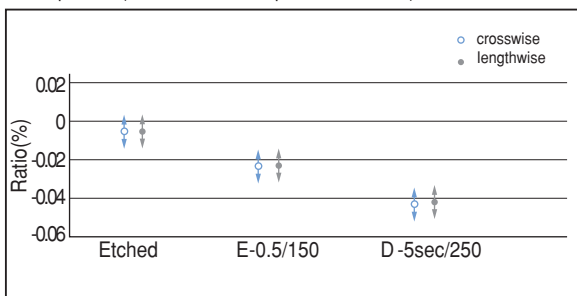


#### ■ Dielectric constant



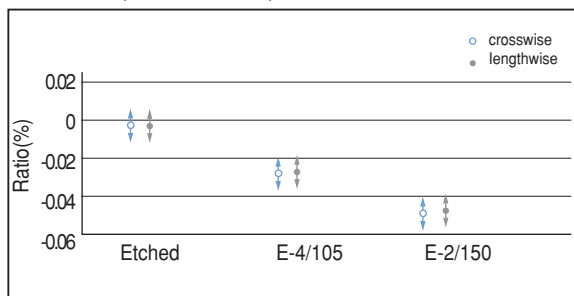
#### ■ Dimensional stability

PCB process (size 360×310mm span 310×254mm)

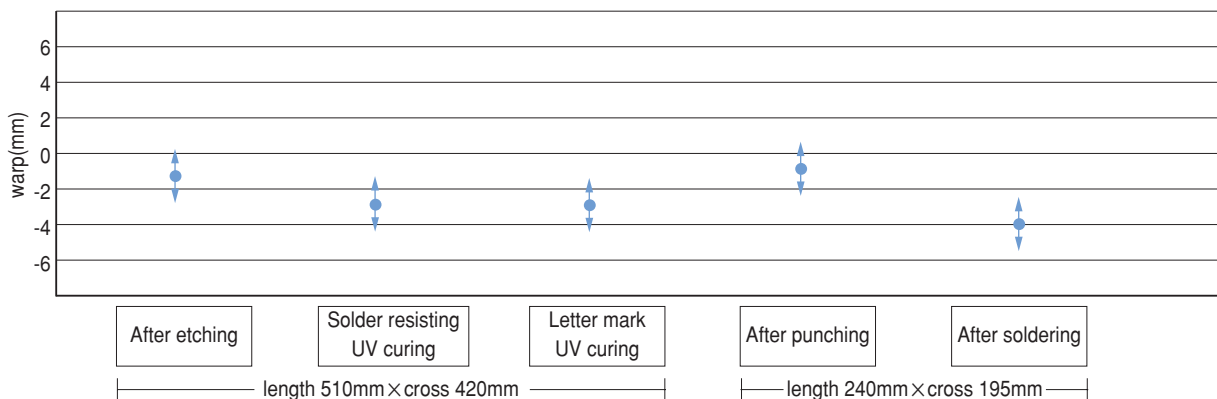


#### ■ Dimensional stability

Test method (IPC-TM-650 2.4.39)



#### ■ Warpage through PCB process (thickness 1.6mm Single side)



# COPPER CLAD LAMINATES

## General Properties

Test Item	Unit	Treatment Condition	Designation	DS-7106
			ANSI Grade	CEM-1
			Property Data	
			Standard Value	Guaranteed Value
Flammability	-	UL-94	V-0	V-0
Insulation Resistance	ohm	C-96/20/65 C-96/20/65+D-2/100	$1 \times 10^{13}$ - $1 \times 10^{14}$ $1 \times 10^{10}$ - $1 \times 10^{11}$	above $1 \times 10^{11}$ above $1 \times 10^9$
Volume Resistivity	ohm-cm	C-96/20/65 C-96/20/65+C-96/40/90	$1 \times 10^{14}$ - $1 \times 10^{15}$ $1 \times 10^{13}$ - $1 \times 10^{14}$	above $5 \times 10^{12}$ above $5 \times 10^{11}$
Surface Resistance	ohm	C-96/20/65 C-96/20/65+C-96/40/90	$1 \times 10^{13}$ - $1 \times 10^{14}$ $1 \times 10^{12}$ - $1 \times 10^{13}$	above $1 \times 10^{12}$ above $1 \times 10^{11}$
Arc Resistance	min. sec		100	above 60
Dielectric Constant (1 MHz)	-	C-96/20/65 C-96/20/65+D-48/50	4.0 - 4.5 4.2 - 4.8	less than 4.8 less than 5.2
Dissipation Factor (1 MHz)	-	C-96/20/65 C-96/20/65+D-48/50	0.015 - 0.020 0.018 - 0.023	less than 0.035 less than 0.045
Comparative Tracking Index	volt	IEC Method	250	above 250
Solder Float (260°C)	sec	A	above 60	above 20
Peel Strength Cu.foil 1 oz (0.035mm)	kgf/cm	A	1.6 - 2.2	above 1.43
Flexural Strength	kgf/mm <sup>2</sup>	A	30 - 35	above 20.4
Water Absorption	%	E-24/50+D-24/23	0.23 - 0.28	less than 0.50
Punching Temperature	°C	A	Ambient	Ambient

Specimen Thickness : 1.6mm

## Purchasing Information

- Copper foil : 0.5 oz/ft<sup>2</sup>(0.018 mm), 1 oz/ft<sup>2</sup>(0.035 mm), 2 oz/ft<sup>2</sup>(0.070 mm) available
- Thickness : 0.8mm to 1.6mm

Standard Size		Tolerance(mm)
1,020 X 1,220mm (40" X 48")	915 X 1,220mm (36" X 48")	+3
1,070 X 1,220mm (42" X 48")	970 X 1,220mm (38" X 48")	-0
1,020 X 1,020mm (40" X 40")		

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