



Doosan Corporation
Electro-Materials

DS-1202G

(ANSI : FR-2) GREEN LAMINATE

COPPER CLAD LAMINATES

Features

- Halogen-free, eliminating all kinds of brominated flame retardants
- Absence of highly toxic dioxins in burning exhaust gas
- Antimony-free, no toxic evolution during waste burning
- Less odor, no cresol and its derivatives used

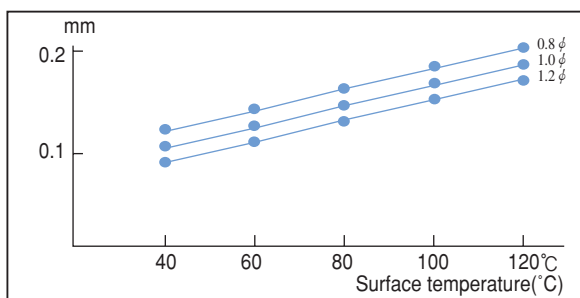
Applications

Automatic vending machine, Heaters, Color TV, Microwave oven, Measuring equipment, etc.

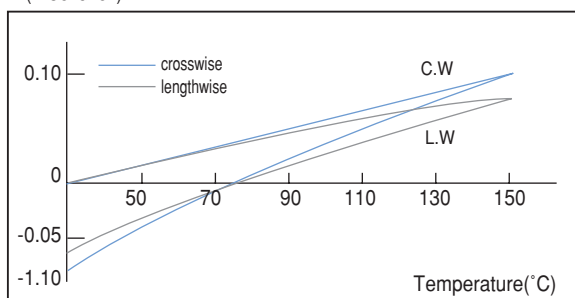
International Standard Recognition

- UL : E103670
- BSI : 6741
- VDE : VDE-Reg-Nr. 4158

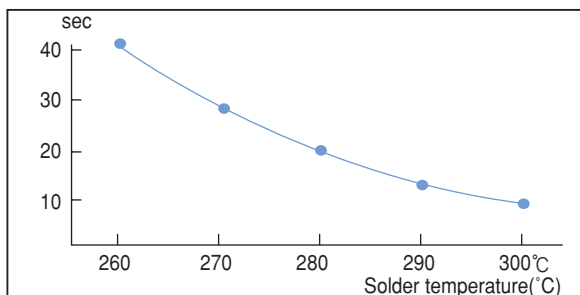
■ Punching hole shrinkage



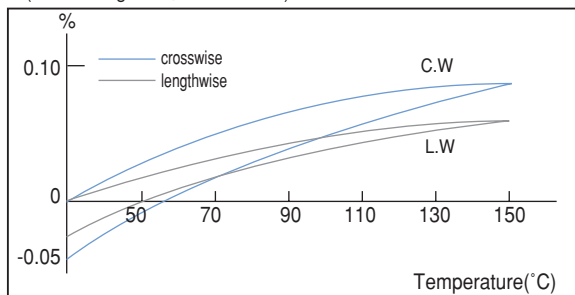
■ Thermal expansion and shrinkage (A Condition)



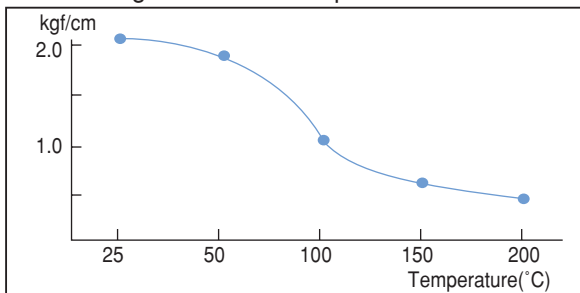
■ Solder resistance at elevated temperature



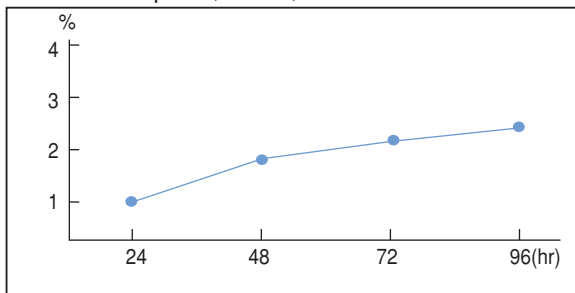
■ Thermal expansion and shrinkage (After treating: 140°C 10Min 3times)



■ Peel strength at elevated temperature



■ Water absorption (C-X/60/95)



COPPER CLAD LAMINATES

General Properties

Test Item	Unit	Treatment Condition	Designation	DS-1202G
			ANSI Grade	FR-2
			Property Data	
			Standard Value	Guaranteed Value
Flammability	sec	UL 94	avg : 3.0 max : 8.0	avg : 5.0 max : 10.0
Insulation Resistance	ohm	C-96/20/65 C-96/20/65+D-2/100	5×10^{11} - 5×10^{12} 3×10^8 - 3×10^9	above 1×10^{11} above 1×10^8
Volume Resistivity	ohm-cm	C-96/20/65 C-96/20/65+C-96/40/90	5×10^{13} - 5×10^{14} 1×10^{12} - 1×10^{13}	above 1×10^{12} above 1×10^{11}
Surface Resistance	Adhesive Surface	ohm	C-96/20/65 C-96/20/65+C-96/40/90	above 1×10^{12} above 1×10^{10}
	Laminate Surface	ohm	C-96/20/65 C-96/20/65+C-96/40/90	above 1×10^{11} above 5×10^9
Dielectric Constant (1 MHz)	-	C-96/20/65 C-96/20/65+D-48/50	4.3 - 4.8 4.5 - 5.0	less than 5.0 less than 5.3
Dissipation Factor (1 MHz)	-	C-96/20/65 C-96/20/65+D-48/50	0.020 - 0.030 0.025 - 0.035	less than 0.040 less than 0.050
Comparative Tracking Index	volt	IEC Method	600	above 600
Solder Float(260 °C)	sec	A	30 - 40	above 15
Peel Strength	Cu.Foil 1 oz (0.035mm)	kgf/cm	A	1.8 - 2.3
			S	1.8 - 2.3
Flexural Strength(LW) (CW)	kgf/mm ²	A	14 - 17 13 - 16	above 8.16 above 8.16
Water Absorption	%	E-24/50+D-24/23	0.6 - 0.7	less than 0.75
Trichloroethylene Resistance	-	Immersion in boiling Trichloroethylene (For 2 minutes)	No abnormality	No abnormality
Punching Process ability		A	Suitable Temperature 40 °C - 60 °C	

Specimen Thickness : 1.6mm

Purchasing Information

- Copper foil : 1 oz/ft²(0.035 mm) copper foil as standard
- Thickness : 0.6mm to 3.2mm

Standard Size	Tolerance(mm)
1,020 × 1,020mm (40" × 40")	+3
1,020 × 1,220mm (40" × 48")	-0
1,070 × 1,160mm (42" × 45.6")	

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