



ETL-103

(For HB, Variable Resistor)

■特性

- 極佳的尺寸安定性
- 低的加熱減量率
- 加工後板材為淡褐色，提供檢驗人員視覺的舒適感
- 良好的耐化性
- 良好的耐熱性
- 適用低溫沖孔性
- 符合 UL 94 及 RoHS 法規要求

■CHARACTERS

- Excellent dimensional stability
- Low heat loss
- Good appearance
- Excellent solvent resistance
- Excellent heat resistance
- Low temperature punchability
- Meet UL 94 and conform to the claim of RoHS.

■一般物性 GENERAL PROPERTIES

分類 Classification	試驗項目 Test Item		單位 Unit	處理條件 Condition	品管規格值 Guarantee Value		
電氣特性	體積阻抗 Volume Resistivity		Ω-cm	C-96/20/65	Above 1.0 X 10 ¹²		
				C-96/20/65+C-96/40/90	Above 1.0 X 10 ¹⁰		
	表面阻抗 Surface Resistance	接著剖面 Adhesive Surface	Ω	C-96/20/65	-		
				C-96/20/65+C-96/40/90	-		
		積層板面 Laminate Surface		C-96/20/65	Above 1.0 X 10 ¹⁰		
				C-96/20/65+C-96/40/90	Above 1.0 X 10 ⁹		
	絕緣阻抗 Insulation Resistance		Ω	C-96/20/65	t =1.2 Above 1.0 X 10 ¹⁰ t =1.0 Above 1.0 X 10 ¹⁰ t =0.8 Above 1.0 X 10 ⁹		
				C-96/20/65+D-2/100	t =1.2 Above 1.0 X 10 ⁸ t =1.0 Above 1.0 X 10 ⁷ t =0.8 Above 1.0 X 10 ⁷		
	介電常數(1 MHz)Dielectric Constant		-	C-96/20/65	Below 5.50		
				C-96/20/65 +D-24/23	Below 6.00		
散發因子(1 MHz)Dissipation Factor		-	C-96/20/65	Below 0.05			
			C-96/20/65+D-24/23	Below 0.10			
耐漏電破壞性 CTI (IEC 60112)		Volt	A	≥600			
機械特性	彎曲強度(橫向) Flexural Strength(Lengthwise)		kgf/mm ²	A	Above 10		
	彎曲強度(縱向) Flexural Strength(Crosswise)		kgf/mm ²		Above 10		
物理化學 CCL 加工特性	加熱減量 Weight Loss		%	E-1/80+E-2/150	t=1.2 below 2.5	t=1.0 below 2.8	t=0.8 below 3.0
	吸水率 Water Absorption		%	E-24/50+D-24/23	t=1.2 below 2.5	t=1.0 below 2.9	t=0.8 below 3.2
	耐化性 Chemical Resistance			A (浸泡甲乙酮) 25 °C Methyl Ethyl Ketone dipping	25°C 8小時不起泡 8 hours No Marked Change		
	耐熱性 Heat Resistance		-	A	t=1.2 230°C 30min	t=1.0 235°C 30min	t=0.8 240°C 30min
	難燃性 Flame Resistance (UL 94 method)		sec	A& E-168/70	94 HB		
	尺寸變化率 Dimensional Variation	橫向 LW	%	E-0.25/80+E-1/150	below 0.20		
		縱向 CW			below 0.20		
厚度 T		below 0.80					
加工沖孔性 Punchability		A	-	A	Suitable temperature 50-70 °C		

■用途 APPLICATION

長興酚醛樹脂積層板 ETL-103 系列可適用於製造下列產品：滑動式電位器、旋轉式電位器、微調式電位器、開關...等。

ETL-103 series are suitable for precise parts as Trimmer Potentiometer, Slide Potentiometer, Rotary Potentiometer, Switch...etc.

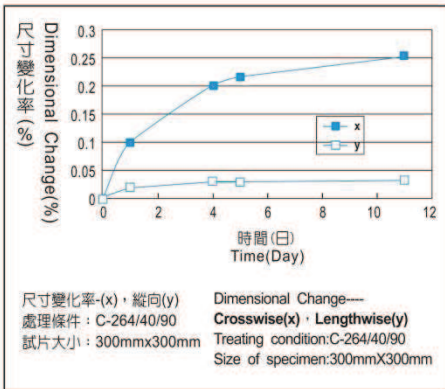
■板材尺寸厚度及容許公差 SIZE, THICKNESS and TOLERANCE

成品尺寸 Panel Dimensions	成品厚度 Manufactured Thickness	容許公差 TOLERANCE
501± $\frac{2}{0}$ mm x 1020± $\frac{2}{0}$ mm	0.8 mm	±0.08 mm
1020± $\frac{2}{0}$ mm x 1020± $\frac{2}{0}$ mm	1.0 mm	±0.08 mm
1020± $\frac{2}{0}$ mm x 1220± $\frac{2}{0}$ mm	1.2 mm	±0.10 mm
	1.4 mm	±0.10 mm
	1.6 mm	±0.12 mm

■性能 PERFORMANCE

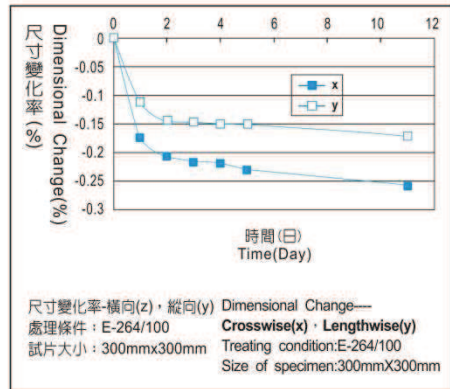
● 溼度處理

Dimensional Change after Humidity Treatment(x,y)



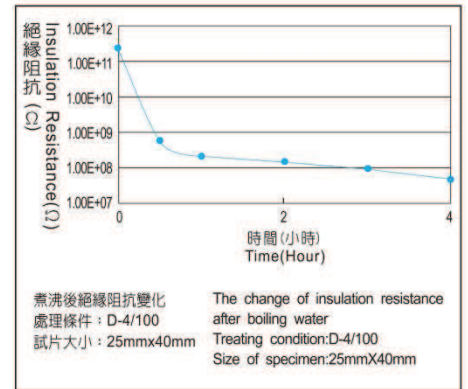
● 加熱處理

Dimensional Change after Heating Treatment(x,y)



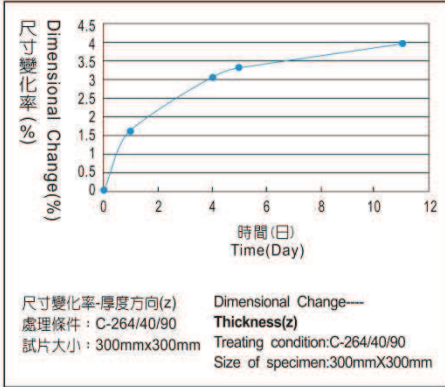
● 電性變化

Change in Electrical Properties



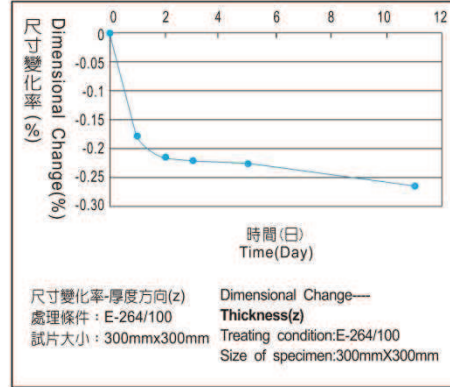
● 溼度處理

Dimensional Change after Humidity Treatment(z)



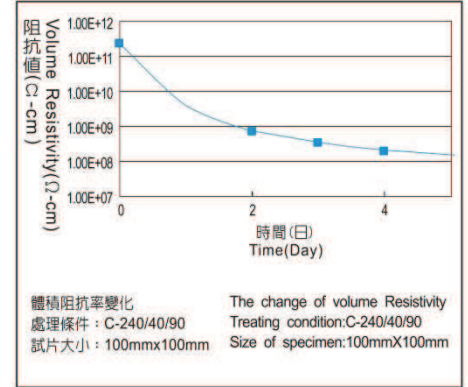
● 加熱處理

Dimensional Change after Heating Treatment(z)

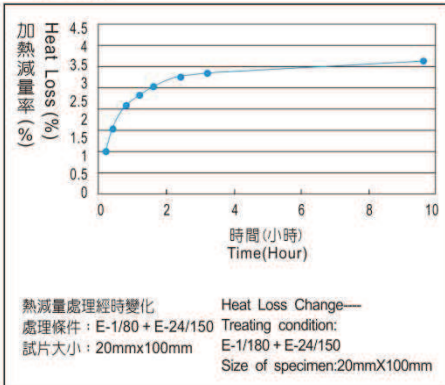


● 電性變化

Change in Electrical Properties

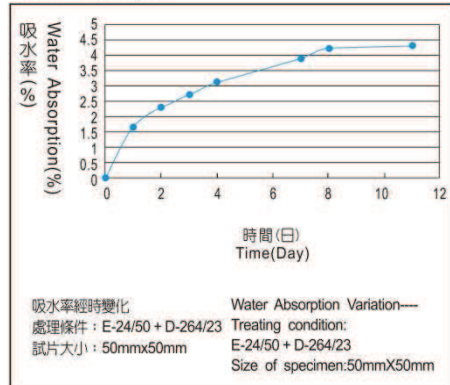


● 加熱減量 Heat Loss



● 吸水率

Water Absorption



● 電性變化

Change in Electrical Properties

