

KB

建滔積層板有限公司 KINGBOARD LAMINATES LTD

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TECHNICAL INFORMATION 技術資料

KB-7150

KB-7150 是一種複合基覆銅箔板，可替代FR-4用於單/雙面線路板，具有良好的加工性、金屬化孔的可靠性和耐濕、熱性。

KB-7150 is composite epoxy resin, glass mat & glass fabric based copper clad laminate which could replace FR-4 to meet the requirement in processing single/double side printed circuit board. CEM-3 has good performance in punching, reliability of PTH (plated through hole) and resistance to moisture and heat.

| Type 型號 | Grade 級別 | Construction 組成 |
|---------|-------------------|---|
| KB-7150 | ANSI (NEMA) CEM-3 | 玻璃布、玻璃氈、銅箔 環氧樹脂、無機填料 Glass fabric, Non-woven glass, Copper foil, Epoxy resin, Inorganic filler |

Features 特點

- 良好的沖壓加工性
Excellent performance in punching
可簡捷方便地進行沖型和鑽孔，提高生產效率，鑽孔加工其鑽頭的壽命比FR-4高2~5倍。
Drilling and punching can be applied expediently with enhanced processing efficiency. The drill bit is lasting 2~5 times during drilling process comparing to FR-4.
- 良好金屬化孔的可靠性
Excellent reliability of PTH
板的厚度方向的尺寸變化小，金屬化孔的耐熱沖擊性好，板的金屬化孔間的離子遷移性好。
There is good dimensional stability in thickness of board and good resistance of thermal stress of PTH. Ion migration among PTH is little.
- 良好的耐濕、熱性
Excellent heat and moisture resistance
白斑試驗證明，其在130°C飽和水蒸汽中處理7小時，於288°C焊錫中浸焊30秒後不會出現白斑。
PCT test shows that there is no "Measling" occur after treated in water vapour for 7 hours at 130°C, then treated in solder float for 30 seconds at 288°C.

Standard Configuration 標準數據

- Thickness 厚度 : 0.8 mm - 1.6mm
- Copper Cladding 銅箔厚度 : 18 μ m, 35 μ m, 70 μ m
- Regular Size (mm) 常規尺寸 : 914 X 1220, 1020 X 1220, 1041 X 1245, 1067 X 1220
- Other Size 其他尺寸 : As specified by customers

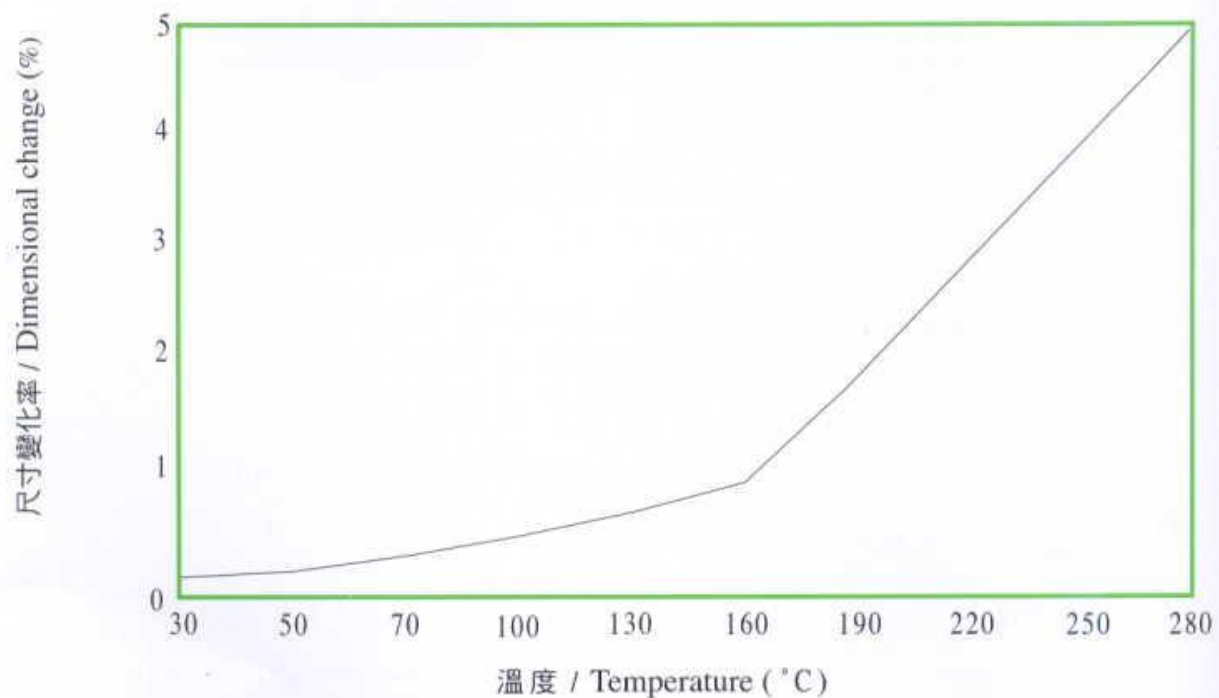
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Performance 表現

厚度方向尺寸變化率與溫度的關係。

Relationship between change in thickness and temperature.



金屬化孔耐熱沖擊性

Heat resistance of PTH

試驗條件：260°C 油中浸 10 秒 → 20°C 流水中沖 10 秒 → 20°C 溶劑中浸 10 秒，
循環直至斷線為止。

Test Condition : dip in oil (260°C) for 10 seconds → wash in flowing water (20°C) for 10 seconds
→ dip in solution (20°C) for 10 seconds, recycle the process until PTH break off.

| | | |
|------------------------------------|-------|-------|
| 鍍層厚度 Thickness of plating layer | 25 μm | 40 μm |
| 循環次數 Number of circle | 25 | 60 |

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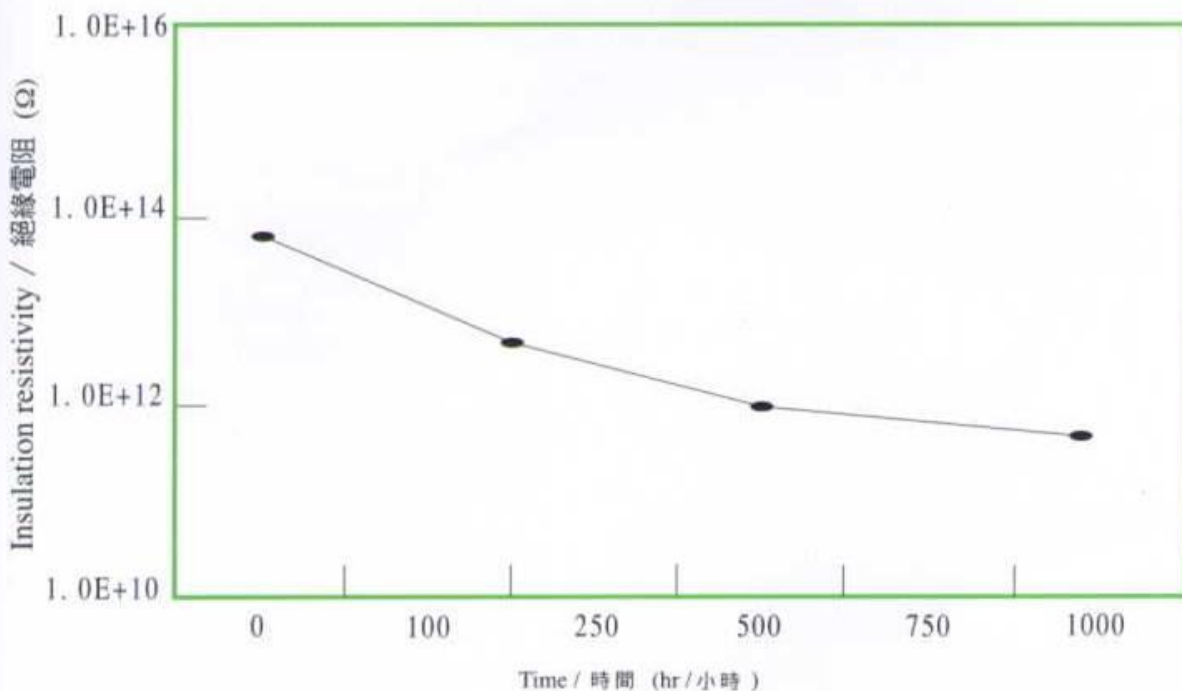
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耐金屬離子遷移性

Resistance of ion-migration

在濕、熱(40°C, RH93%) 條件下，施加直流電壓(500V)處理後測定絕緣電阻。

Test insulation resistivity after applied with DC 500V in condition of 40 °C, RH 93%.



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General Properties 一般特性

| Properties 特性 | Unit 單位 | Test Condition 處理條件 | IPC-4101 Testing Method IPC-4101測試方法 | IPC-4101 Requirement IPC-4101要求 | Typical Value 典型值 |
|------------------------------------|-------------------|---------------------------|--|--|--|
| Flexural Strength 屈曲強度 | Kg/m ² | Lengthwise Crosswise | 2.4.4 | above 2.32 X 10 ⁷ above 1.90 X 10 ⁷ | 3.12 X 10 ⁷ 2.64 X 10 ⁷ |
| Peel Strength (1 oz) 抗剝強度 (1安士) | Kg/cm | A | 2.4.8 | above 1.43 | 2.0 |
| Flammability 耐燃性 | Sec/秒 | E24 / 23 | 2.3.10 | Average Burn ≤ 5 Max Burn ≤ 10 | 2.5 7.0 |
| Thermal Stress 耐焊性 | Sec/秒 | Float 288°C | 2.4.13.1 | above 20 | above 30 |
| Surface Resistance 表面電阻 | MΩ | C96/35/90 | 2.5.17.1 | above 1.0 X 10 ⁴ | 1.0 X 10 ⁶ |
| Volume Resistivity 體積電阻 | MΩ-cm | C96/35/90 | 2.5.17.1 | above 1.0 X 10 ⁶ | 1.0 X 10 ⁹ |
| Permittivity 介電常數 | — | Etched/@1MHZ | 2.5.5.3 | less than 5.4 | 4.8 |
| Loss Tangent 介質損耗 | — | Etched/@1MHZ | 2.5.5.3 | less than 0.035 | 0.02 |
| Moisture Absorption 吸水性 | % | D24/23 | 2.6.2.1 | less than 0.5 | 0.15 |

Remarks: Typical values for reference only 註：典型值只作參考