



THP-100 Series *New Product*

熱硬化型穴埋めインキ

Thermal Curable Permanent Hole-Plugging Materials

THP-100 DX7-500Ps

特徴 Features

- 高 Tg / 低 CTE High Tg / Low CTE
- 高信頼性: -65°C ⇄ 150°C、1000Cycle クラックなし
No crack after -65 ⇄ 150deg.C x 1000 cycles
- 低硬化収縮 Extra-low shrinkage after curing

特性 Properties

	従来品 Conventional product	THP-100 DX7 -500Ps	THP-100 Z2	THP-100 Z2K	Test Condition
粘度 (dPa·s)	450±50	500±75	350±75	350±75	コーンプレート型粘度計 Cone plate type viscometer
ガラス転移温度 (°C) Tg	150-160	165-175	150-160	155-165	TMA (Pulling mode) X-Y方向 X-Y direction
線膨張係数 (ppm) CTE (α1 / α2)	30-35/100-110	20-25/55-65	40-45/110-120	40-45/110-120	
ヤング率 (Gpa) Young's modulus	4.5-5.0	5.0-6.0	4.0-4.5	4.0-4.5	引っ張り法 Pull-mode (室温 At room temperature)
破断点強度 (MPa) Tensile strength	50-55	60-70	45-55	45-55	
伸び率 (%) Elongation	2.0-2.5	1.5-2.5	1.5-2.0	1.5-2.0	
吸水率 (%) Water absorption	<1.0	<1.0	<1.0	<1.0	D-24/23, 塗膜厚み100umt Resin thickness: 100um
ピール強度 (N/m) Peel strength	>5.0	>5.0	>6.0	>6.0	引っ張り方向90° Pull-mode for vertical direction at 90

THP-100 Z2 & Z2K

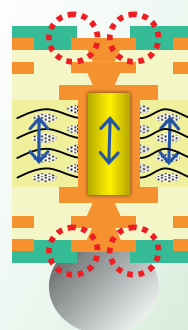
特徴 Features

- 保存安定性良好: 有効期限 180 日 (10°C以下保管)
Very long shelf life and quality stability for 180days
(Stored below 10deg.C)
- 短時間硬化: 150°C/15 分 Quicker curing time
- 高耐熱性: 288°C/10sec/5cycle クラックなし
Higher thermal resistance. No crack at 288deg.C 10sec. x 5 cycles.
- 小径 TH 基板 への印刷性良好
Excellent plugging ability to small diameter holes

THP-100 DX7-500Ps

	従来品 Conventional product	THP-100 DX7 -500Ps
Before reflow		
After L2a reflow		

- ◇ Core
T=0.4mm PTH=0.25mm
- ◇ Treatment
L2a (C-120/60/60) +
Reflow (270°C/5cycles)
※基板表面実温度



→ Mismatch of thermal expansion enhances stress on outer layers possibly to create cracks of BU and SR (Red circled areas)

THP-100 Z2&Z2K



高アスペクト比基板



(T=3.5mm PTH=0.20mm)