

## 液态感光阻焊材料 Liquid Photo-imageable Solder Mask PM-500 SN08KM (DI)

PM-500 SN08KM(DI) 是双组份液态感光黑色哑光阻焊材料, 适应于丝网印刷 DI 曝光工艺。

是特别开发的高阶产品, 其最小隔线能力达到 3mil, 侧蚀可控制在 15um(10Z) 以内。具有低曝光量、耐长时间显影之特性。油墨流平性能好, 表面易整平。

能够满足化锡、化金、无铅喷锡等各种表面处理制程。

本产品符合欧盟 RoHS 和无卤要求。

PM-500 SN08KM(DI) is dual component type liquid photoimageable Matt black solder mask, Applicable for screen printing DI exposure public art.

Applicable It is easy to make 3 mil Solder dam.Under-cut can be controlled within 15um(10Z). Mask surface leveling.

Applicable for IMT、ENIG、HASL.

Comply with EU RoHS and HF.

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### 一、物性 General properties

1	主剂 Main agent	PM-500 SN08KM (DI)
2	固化剂 Hardener	H-50 SNH6
3	颜色 Color	哑光/黑色 Matt/ Black
4	主剂粘度 Main agent' s Viscosity (at 25°C)	180-220P
5	固化剂粘度 Hardener' s Viscosity (at 25°C)	100-150P
6	混合比例 Mixing ratio	主剂 Main agent: 固化剂 Hardener=4: 1
7	混合后粘度 Viscosity after mixed (at 25°C)	160±20dPa. s
8	混合后固体含量 Non-volatile % after mixed	78±3%
9	混合后比重 Specific gravity after mixed	1.4±0.05
10	保存期限 Shelf life	6个月/ 6 month after production
11	包装规格 Package	1Kg/Cans (罐) , 10Kg/Box (箱)

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### 二、应用操作指引



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### Processing instructions

Pre-treatment	<p>IMT recommended use superbond</p> <p>ENIG, Plug Hole or recommended use superbond、Pumice</p> <p>OSP, HASL can be superbond, pozzolana, sand blast or polish-brush</p>
↓	
Mixing	<p>Main agent and hardener are mixed in proportion, add appropriate thinner, stir 10 MIN</p>
↓	
Hold time	<p>More than 20 minutes, but not more than 24 hours</p>
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Coating	<p>Screen printing by 36-43T polyester screen. Clean screen mesh to avoid other ink contamination. Room temperature: 20-25°C, Room humidity: 45-60%RH. Printing wet film thickness requirements in more than 38-45 um, and above 25-30 um after drying.</p>
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Hold time	<p>More than 20 minutes after printing, But not more than 2 hours</p>
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Pre-cure	<p>First side: by hot air dryer at 70-75°C for 10-20min</p> <p>Back side: by hot air dryer at 70-75°C for 15-30min</p> <p>Both side: by hot air dryer at 70-75°C for 35-55min</p>
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Cooling	<p>Hold more than 20 minutes to cool down enough, But not more than 24 hours</p>
↓	
Exposure	<p>300-500mj/cm<sup>2</sup> (on resist surface) to 9-12 level</p>
↓	
Hold time	<p>Hold 20 min after exposure, But not more than 24hours</p>
↓	
Developing	<p>By 2.0-2.5kg/cm<sup>2</sup> Spraying of 1wt% Na<sub>2</sub>CO<sub>3</sub> at 30±2°C for 60-90 sec</p> <p>Rinsing by 1.5-2.0kg/cm<sup>2</sup> spraying of water at below 25°C for 60-100sec Taking off rinsing water by sponge roll and drying by hot air at 40°C for several minutes</p>
↓	
Post cure	<p>ENIG、IMT : 150°C×50 MIN;</p> <p>OSP、HASL: 150°C×60 MIN;</p> <p>Heavy copper PCB (more than 20Z) : 75°C×120MIN+100°C×30MIN+150°C×60MIN</p> <p>Plug Hole PCB: 65°C×60MIN+80°C×30MIN+100°C×30MIN+120°C×30MIN+150°C×60MIN</p>
↓	
Screen print Marking ink	<p>Screen printing and curing condition depend upon marking specification</p>

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### 三、Coating properties 涂膜特性 (IPC-SM-840E)

要求 Requirement	测试方法 Test Method	结果 Result
防霉性 Nonnutrient	IPC-TM-650 2. 6. 1	OK
表面状况 Visual Requirements	IPC-SM-840E 3. 3. 1	OK
铅笔硬度 Pencil Hardness	ASTM D3363	OK
附着力 (硬板) Adhesion of RPB	IPC-TM-650 2. 4. 28. 1	OK
可加工性 Mach inability	IPC-TM-650 2. 4. 7. 1	OK
耐溶剂和清洗剂 Resistance to Solvents and Cleaning Agents	IPC-TM-650 2. 3. 42 涂膜无分离、裂纹、粘着 Coating shall not exhibit delamination, cracks, tackiness, swelling or permanent degradation	OK
耐化学试剂 Resistance to Assembly Processes and Chemistry	IPC-SM-840E 3. 6. 1. 2 10vol% H <sub>2</sub> SO <sub>4</sub> 20°C 30min 10wt% NaOH 20°C 30min	OK
水解稳定性 Hydrolytic Stability	IPC-TM-650 2. 6. 11	OK
阻燃性 Flammability	UL94 V0 E343546	OK
可焊性 Solder ability	J-STD-003 260±5°C*10±1 秒	OK
耐焊性 Resistance to Solder	IPC-TM-650 2. 6. 8 Flux shall be a ROM0 or ROM1 per J-STD-004 助焊剂应依据 J-STD-004, 使用 ROM0 或 ROM1 浮锡 Solder Float 260±5°C*10±1 秒	OK
Simulation of Lead Free Reflow 无铅回流焊模拟	IPC-SM-840E 3. 7. 3. 1 浮锡 Solder Float 260±5°C*10±1 秒*5 次	OK
介电强度 Dielectric Strength	IPC-TM-650 2. 5. 6. 1	1000 V DC/mil
绝缘电阻 Insulation Resistance	IPC-TM-650 2. 6. 3. 1	≥ 7.0 × 10 <sup>12</sup> Ω
耐湿绝缘电阻 Moisture and Insulation Resistance	IPC-TM-650 2. 6. 3. 1	≥ 5.0 × 10 <sup>8</sup> Ω
电迁移 Electrochemical Migration	IPC-TM-650 2. 6. 14	OK
冷热冲击 Thermal Shock	IPC-TM-650 2. 6. 7. 3 -65°C to +125°C *100 Cycles -65°C 到 +125°C *100 次	OK

备注: 此资料为本公司试验结果, 不作为保证之用。适宜之条件, 需参照操作指引, 待贵公司实施确认后, 再予以确定。

PS: This information is our test results, not as a guarantee. The suitable condition, need to consult Processing instructions, to be your company carry out confirmation, to be determined.

若英文内容与中文内容有差异, 以中文为准。

In case of any discrepancy between the English and Chinese content, the Chinese version shall prevail.