



产 品 说 明 书

Product Instruction

产品名称:

三防漆

Product Name:

Conformal Coating

产品型号:

M78H-86

Product Model:

M78H-86

厂商名称: 珠海长先新材料科技股份有限公司

Manufacturer: Zhuhai Changxian New Material Technology Co., Ltd.

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M78H-86 三防漆

M78H-86 Conformal Coating

产品描述:

Product Overview:

M78H-86 三防漆由改性聚氨酯、酯类、碳氢类环保溶剂及特殊助剂组成,属于单组分配方,固化机理为氧化固化。膜层丰满度高,光泽性好、电性能优异,耐高低温冲击。属于高固、低粘体系,适用于刷、喷涂工艺。本产品符合 ROHS、REACH、无卤等环保要求。适用于要求比较高的印制电源板及各种电子与电器元器件的防潮保护。

M78H-86 conformal coating is a single-component formulation composed of modified polyurethane, environmentally friendly ester and hydrocarbon solvents, and specialty additives. It cures through oxidation to form a high-build, glossy film with excellent electrical properties and resistance to thermal shock at high and low temperatures. Its high-solids, low-viscosity formulation is suitable for brush and spray application.

This product meets RoHS, REACH, and halogen-free environmental requirements. It is designed for moisture protection of power supply PCBs and a wide range of electronic and electrical components with demanding performance requirements.

性能指标:

Performance Specifications:

- 外观: 黄褐色透明液体
- 固含: $33 \pm 3\%$
- 相对密度: 0.90 ± 0.05
- 粘度 (25°C, 涂-4#杯, S): 12-18
- 干燥时间: 25°C, 55%RH: 触干: 5~15min
- 60-80°C: 触干: $\leq 5\text{min}$
- 推荐干燥方法: 60-80°C: 1-5 分钟 + 室温放置干燥
- 达到最佳性能时间: 7 天
- 膜层厚度: 25-50um
- 附着力: 0-1 级
- 介质耐压 (MIL-46058C): $>1500\text{V}$
- 绝缘阻抗 (MIL-46058C): $>10^{12} \Omega$
- 防潮性能 (MIL-46058C) $\geq 5 \times 10^9 \Omega$
- 中性盐雾试验 (5%NaCl, $35 \pm 2^\circ\text{C}$), 72H : 无起泡, 发白, 开裂, 锈蚀现象
- 阻燃等级: 符合 HB 级 (技术要求 IPC-CC-830B)
- 使用温度: $-40^\circ\text{C} \sim 125^\circ\text{C}$
- 推荐稀释剂: X-86, X-86D
- Appearance: Transparent yellowish-brown liquid
- Solids Content: $33 \pm 3\%$
- Relative Density: 0.90 ± 0.05
- Viscosity (25°C, Tu-4 Cup): 12-18 s
- Drying Time at 25°C, 55% RH: Touch dry: 5-15 minutes
- Drying Time at 60-80°C: Touch dry: ≤ 5 minutes
- Recommended Drying Method: Heat at 60-80°C for 1-5 minutes, followed by drying at room temperature
- Time to Achieve Optimum Properties: 7 days

- Film Thickness: 25–50 μm
- Adhesion: Grade 0–1
- Dielectric Withstand Voltage (MIL-46058C): $>1,500\text{ V}$
- Insulation Resistance (MIL-46058C): $>10^{12}\ \Omega$
- Moisture Resistance (MIL-46058C): $\geq 5 \times 10^9\ \Omega$
- Neutral Salt Spray Test (5% NaCl, $35 \pm 2^\circ\text{C}$, 72 hours): No blistering, whitening, cracking, or corrosion
- Flammability Rating: Meets HB requirements under IPC-CC-830B
- Service Temperature Range: -40°C to $+125^\circ\text{C}$
- Recommended Thinners: X-86, X-86D

使用工艺:

Application Procedure:

1. 生产场所控制：良好抽风；温度： $10\sim 30^\circ\text{C}$ ；湿度 $<75\%$ ；
 2. 线路板清洁：一般情况下，不需要特别清洗，需确保涂覆表面干燥，干净，无油污，无杂质。
 3. 适用于涂刷、浸渍、喷涂工艺。一般情况下单层涂层厚度为 $25\sim 50\mu\text{m}$ 。用户可根据涂施工工艺，通过稀释剂调节粘度和漆膜厚度达到自身工艺要求的最佳效果。
 4. 使用过程中保持三防漆容器密闭，避免水汽进入。不可用吹风设备直接对着三防漆敞口容器吹，以免三防漆溶剂挥发或出现表面发白现象。
 5. 生产过程中如需停顿，需将三防漆容器密封，喷嘴浸在清洗剂中，以免喷嘴堵塞，影响喷雾效果。
 6. 烘烤温度视元器件耐温及生产工艺设定，上限为 100°C 。刚烘出来的产品不要马上触摸，以免烫伤或破坏膜层，待冷却后。
 7. 未使用完的三防漆，应放入专门容器密封保存，不可与未使用的三防漆混合。
 8. 长时间不用时管道喷嘴需清洗，三防漆最好从敞开容器中倒出密封保存，用过后不要倒回原来的桶中
 9. 使用过的容器，管道，喷嘴可以用稀释剂清洗。
1. Workplace Conditions: Provide effective exhaust ventilation. Maintain a temperature of $10\sim 30^\circ\text{C}$ and a relative humidity below 75%.
 2. PCB Cleaning: Special cleaning is generally not required. Ensure that the surfaces to be coated are dry, clean, and free from oil and other contaminants.
 3. Application Methods: Suitable for brushing, dipping, and spraying. A single coat typically has a film thickness of $25\sim 50\ \mu\text{m}$. Adjust the viscosity and film thickness with thinner to suit the application method and achieve the desired coating performance.
 4. Keep the coating container closed during use to prevent moisture ingress. Do not direct airflow from fans or blowers into an open coating container, as this may accelerate solvent evaporation or cause surface whitening.
 5. During production interruptions, seal the coating container and immerse the spray nozzle in a cleaning agent to prevent blockage and maintain spray quality.
 6. Set the baking temperature according to the heat resistance of the components and the production process, with a maximum temperature of 100°C . Allow coated assemblies to cool after baking before handling to avoid burns or damage to the coating.
 7. Store any remaining coating from the application process in a separate, tightly sealed container. Do not mix it with unused coating.
 8. Before an extended shutdown, clean the lines and spray nozzles. Transfer coating from open containers into tightly sealed storage containers. Do not return used coating to the original container.
 9. Used containers, lines, and spray nozzles can be cleaned with thinner.

包装、储运及保质期:

Packaging, Storage, Transportation and Shelf Life:

- **包装:**

4L/桶、20L/桶

- **储运:**

本产品为易燃化学品, 请远离火源、热源, 按法规搬运。

本产品存储和使用过程中, 禁止太阳光、紫外光照射漆液, 存放于阴凉通风处, 存储温度应低于 25℃。使用过程中产品不宜长时间密闭静置, 适当流动搅拌有利于延长存储时间。

- **保质期:**

密闭保存, 存储温度应低于 25℃, 保质期为 6 个月

- **Packaging:**

4 L/pail; 20 L/drum.

- **Storage and Transportation:**

This product is flammable. Keep away from ignition sources and heat. Handle in accordance with applicable regulations.

During storage and use, protect the coating from sunlight and ultraviolet light. Store in a cool, well-ventilated area at temperatures below 25°C.

During use, avoid leaving the product sealed and undisturbed for extended periods. Periodic circulation or stirring can help extend its storage life.

- **Shelf Life:**

Six months when stored in sealed containers below 25°C.

安全操作须知:

Safe Handling Instructions:

安全使用须知不在此列出, 操作前请阅读本产品的化学品安全说明书 (MSDS), 可从本公司业务专员处获得。

Safety instructions are not listed in this document. Before operation, please read the Material Safety Data Sheet (MSDS) of this product, which can be obtained from our sales representative.

温馨提示:

Please Note:

- 由于我们的产品会持续优化和改进, 本手册中的相关信息可能会根据实际情况进行调整, 不另行通知。如需获取最新版本或了解更多信息, 欢迎随时联系我们的销售团队。
- 本公司严格按相关产品标准控制质量和提供产品 (特制品按双方约定)。产品应用条件的多样性和多变性, 且均非我们所能控制, 因此用户应对本产品之说明书与施工参考工艺所介绍的信息和产品预先进行试验和评估, 自行确定对其特定用途的适用性。
- As our products are continuously improved, the information in this manual may be updated from time to time without prior notice. Please feel free to contact our sales team for the latest version.
- Do not mix this product with other products.
- We strictly control product quality and supply products in accordance with applicable product standards. Custom products are supplied according to mutually agreed specifications. Application conditions vary and are beyond our control. Users should therefore test and evaluate the product and the information provided in this manual and the recommended application procedures to determine suitability for their specific use.