

Product Name

产品名称

SMT-999 Photovoltaic Module Junction Box Potting Compound
SMT -999 光伏组件接线盒灌封胶

Description

描述

SMT-999 PV Junction Box Potting Adhesive is a two-component condensation-cure silicone sealant. It is a white silicone material with proper hardness, flame retardancy and thermal conductivity, and has passed UL94 V-0 and TUV certifications. It cures rapidly at room temperature with no exotherm, no corrosion and low shrinkage during curing. The cured material features excellent electrical properties and good thermal conductivity. It is waterproof, moisture-proof, chemical-resistant, anti-yellowing and capable of resisting weather aging for more than 20 years. It is suitable for thermal conductive sealing and potting of various electronic components to form thermally conductive insulators.

This product is indicated for:

- Potting for junction boxes of photovoltaic modules
- Potting of electronic and electrical components requiring waterproofing, insulation and thermal conductivity

SMT-999 光伏组件接线盒灌封胶是一种双组分缩合型有机硅密封胶，阻燃导热，硬度适宜的白色硅胶，通过了UL94V-0和TUV标志认证。室温固化，固化快速快，固化时不放热、无腐蚀、收缩率小，电性能优异，导热性较好；防水防潮，耐化学介质，耐黄变，耐气候老化 20 年以上，适用与电子元器件的各种导热密封、浇筑，形成导热绝缘体。

本品适用于：

- 光伏组件接线盒的灌封
- 对防水绝缘导热有要求的电子电器部件的灌封

Properties

产品特点

- Neutral curing at room temperature, fast curing rate to boost production efficiency, user-friendly and with excellent self-defoaming capability.
 - Maintains rubber elasticity in the range of -40°C to 250°C after curing, featuring superior electrical properties and good thermal conductivity.
 - Delivers outstanding adhesion to most plastics, rubbers, reinforced PA nylon, polyphenylene oxide (PPO), PVDF and other substrates.
 - Relevant SGS and TUV test reports are available, complying with the EU RoHS Directive.
 - Non-corrosive to PVC, ABS, PP, aluminum panels and other materials.
-
- 室温中性固化，固化速度快，生产效率高，易于使用，有较好的自排泡性
 - 固化后可在（-40°C-250°C）范围内保持橡胶弹性，电性能优异，导热性较好
 - 具有优异的粘接性，与大部分塑料，橡胶，加强尼龙 PA 及聚苯醚 PPO、PVDF 等材料有良好的粘接性能
 - 有 SGS、TUV 相关的测试报告，符合欧盟 ROHS 环保指令要求
 - 对 PVC、ABS、PP 和铝板等材料无腐蚀

Applications

产品应用

Before application:

- Compatibility test between potting adhesive and contacting materials as well as adhesion test on target substrates shall be carried out prior to construction.

Construction Method:

- Metering: Accurately weigh Part A and Part B (curing agent) at a weight ratio of 5:1. Before weighing, properly stir Part A to fully disperse settled fillers into the resin base.
- Mixing: Blend Part A and Part B evenly in a mixing tank. Incomplete mixing will impair the appearance and insulating performance of cured compound.
- Potting: Pour the well-mixed compound into target products promptly. Vacuum degassing is recommended prior to potting if high thermal conductivity is required.
- Curing: Leave potted parts to cure at room temperature. They can proceed to the next process after initial set. Complete curing takes around 1 hour under ambient temperature. Curing proceeds faster in hot summer and slower in cold winter.

施工前:

- 施工前应进行灌封胶与所接触材料的相容性试验和与待粘结基材的粘结性试验。

施工方法:

- 计量: 按照 A、B 组份的配比 5: 1 (重量比) 比例准确称量 A 组份、B 组份 (固化剂); 注意在称量前, 对 A 组分胶液应适当搅拌, 使沉入底部的填料分散到胶液中。
- 搅拌: 将 A、B 组份在混合罐中混合均匀, 混合不均则会影响固化物的外观和绝缘性能。

- 浇注：把混合均匀的胶料迅速灌装到需要罐封的产品中，若需较高的导热性，建议真空脱泡后再灌装。
- 固化：灌装好的制件放置在室温下固化，初固后可进入下道工序，室温条件下一般需 1 小时左右固化。夏季温度高，固化会快一些；冬季温度低，固化会慢一些。

Storage

存储要求

This product is non-hazardous. Store in cool and dry place below 10-27°C. Shelf life: 12 months. Use as soon as possible.

本产品属于非危险品，储存于温度在10-27°C的阴凉干燥处，有效期为12个月，建议尽早使用。

Note

注意事项

- Not to be used as structural sealant.
 - Not suitable for copper and polycarbonate substrates.
 - Do not apply when substrate surface temperature is lower than 5°C or higher than 40°C.
 - Not applicable for frosted, damp areas or locations under continuous water immersion.
 - Avoid contact with rubber materials such as rubber strips and rubber spacers to prevent yellowing.
 - Avoid contact with acidic or alkaline substances (e.g. exterior wall cleaning agents) to prevent discoloration.
 - Unsuitable for all substrates that exude grease, plasticizers or solvents, such as surfaces of oil-impregnated wood.
 - Use the product within its shelf life; expired material shall not be used.
 - Construction shall be carried out strictly in accordance with the adhesion compatibility test procedure.
 - Avoid direct contact with skin and eyes; do not ingest.
 - Keep out of reach of children and store in an area inaccessible to minors.
 - Trace chemical substances will be released during curing. The working area must be fully ventilated. The fully cured product is non-toxic to human body.
 - Ambient temperature and relative humidity have certain influences on the working time (skin-over time) and curing speed of the adhesive. Monitor environmental changes before construction and conduct timely control or parameter adjustment accordingly.
-
- 不能作为结构密封胶使用。
 - 不宜用于铜及聚碳酸酯材料。
 - 材料表面温度低于5℃或超过40℃时，不宜施工。
 - 不宜用于结霜、潮湿或连续浸水的地方。
 - 应避免与橡胶类材料接触（如胶条、橡胶垫块等），以免发生黄变。
 - 应避免与酸性或碱性物质接触（如外墙清洗液），以免发生变色。
 - 不宜用于所有会渗出油脂、增塑剂或溶剂的材料，如浸油木材的表面。
 - 应在产品保质期内使用，过期产品不得使用。
 - 应严格按照粘结性试验的流程施工。
 - 避免皮肤和眼睛直接接触，请勿吞食。
 - 避免小孩接触。请放置于儿童接触不到的地方。
 - 产品在固化过程中会释放出微量化学物质，作业场所应保持充分的通风，固化后对人体无毒。
 - 环境温、湿度对胶水操作（表干）时间和固化速度有一定影响，施工前应关注环境变化情况并及时进行管控或调整。

Shelf life & Instruction

使用寿命和说明

Shelf life: 12 months

保质期：12 个月

These instructions are only recommendations, which are based on our experience. We advise preliminary testing before use.

这些说明只是基于我们的经验的建议。我们建议在使用前进行初步测试。

Packaging Specification

包装规格

Part A is packed in 10kg per drum and Part B in 2kg per drum; other package sizes can be customized according to customer requirements.

本产品A组分10KG /桶， B组分2KG/桶， 或可根据客户需求定制其他容量。

Technical Data Sheet (Condition: 23°C, 55%RH)

技术参数表 (条件: 23°C, 55%RH)

Test Items	Technical requirements	Typical Data	Test Method
Appearance of Part A	White flowable liquid	White flowable liquid	Visual inspection
Appearance of Part B	Colorless or light yellow transparent liquid	Colorless or light yellow transparent liquid	Visual inspection
Density of Part A, g/cm ³	1.33±0.03	1.33	GB/T 13477.6
Density of Part B, g/cm ³	0.97±0.03	0.97	
Pot Life, min	≥5	30	GB/T 29595-2013
Tensile Strength, Mpa	≥1.0	1.6	GB/T 528-2009
Maximum Elongation, %	≥60	84	GB/T 528-2009
Hardness, Shore A	≥40	45	GB/T 39693.4-2025

检测项目	技术指标	典型数据	检测标准
A 组分外观	白色流动体	白色流动体	目测
B 组分外观	无色或浅黄色透明液体	无色或浅黄色透明液体	目测
A 组分密度, g/cm ³	1.33±0.03	1.33	GB/T 13477.6
B 组分密度, g/cm ³	0.97±0.03	0.97	
适用期, min	≥5	30	GB/T 29595-2013
拉伸强度, Mpa	≥1.0	1.6	GB/T 528-2009
最大伸长率, %	≥60	84	GB/T 528-2009
邵氏硬度, Shore A	≥40	45	GB/T 39693.4-2025