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技 术 说 明 书

Technical Data Sheet

产品名称: 双组份灌封胶 FD503-TG101

Product Name: Two-component potting compound

1、产品特点及应用 **Product features and applications**

- FD503-TG101 是一种低粘度双组分加成型有机硅灌封胶，可以室温固化，也可加热固化，具有温度越高固化越快的特点。本品在固化反应中不产生任何副产物，可以应用于PC(Poly-carbonate)、PP、ABS、PVC 等材料及金属类的表面，可在-40℃至 200℃环境下使用。完全符合欧盟 ROHS 指令要求。
- FD503-TG101 is a low-viscosity two-component addition-cure silicone potting adhesive, which can be cured at room temperature or by heating with faster curing speed at higher temperatures. It produces no by-products during curing and features good compatibility with surfaces of metals as well as materials such as PC, PP, ABS and PVC. It can be used in environments ranging from -40℃ to 200℃ and fully complies with EU RoHS directives.

2、典型用途 **Typical uses**

- 电源模块的灌封散热保护。
- Potting and heat dissipation protection for power modules.
- 其它电子元器件的灌封散热保护。
- Potting and heat dissipation protection for other electronic components.
- 如有其它应用领域需求，请咨询我司技术人员。
- Please consult our technical staff if you have demands for other application fields.

3、技术参数 **Technical parameters**

性能指标 Performance index		A组份 Component A	B组份 Component B	检验标准 Inspection standard
固 化 前 Before curing	外观 Appearance	灰色流体 grey fluid	浅黄色流体 Light yellow fluid	Q/GZJTHG42-2022
	粘度（cps） Viscosity (cps)	2500±1000	2500±1000	GB/T 2794
	混合比例A:B (重量比) Mixing ratio A:B (weight ratio)	1 ： 1		/
	混合后粘度（cps） Viscosity after mixing (cps)	2500±1000		GB/T 2794
	操作时间（min） Working Time (min)	≥30		Q/GZJTHG42-2022
	固化时间（h） Curing Time (h)	≤6		GB/T 531

固 化 后 After curing	硬度(shore A) Hardness (shore A)	45-55	GB/T 531
	导 热 系 数(W/m·K) Thermal conductivity coefficient (W/m·K)	≥0.9	ASTM D5470
	介电强度 (KV/mm) Dielectric intensity (KV/mm)	≥15	GB/T 1695
	体积电阻率 (Ω·cm) Volume resistivity (Ω·cm)	≥1.0×10 ¹³	GB/T 1692
	拉伸强度 (MPa) Tensile Strength (MPa)	≥1.0	GB/T 528
	伸长率 (%) Elongation (%)	≥50	GB/T 528
	线膨胀系数 (ppm/℃) Linear Expansion Coefficient (ppm/℃)	≤ 220	ASTM E831
	密度 (g/cm ³) Density (g/cm ³)	1.72±0.05	GB/T 533

- 上固化前性能数据均在 25℃，相对湿度 55% 条件下所测，机械性能及电性能数据均在试样完全固化后所测。本公司对测试条件不同或产品改进造成的数据不同不承担相关责任。
- All the above pre-cure performance data are measured at 25℃ and 55% relative humidity. Mechanical and electrical performance data are measured after the samples are fully cured. The company shall not be liable for any data variations caused by different test conditions or product improvements.

4、使用工艺 Use technology

- 混合前：首先把 A 组分和 B 组分在各自的容器内充分搅拌均匀，建议使用机器进行搅拌，保证胶料搅拌均匀。当搅拌工具有其中一个组分时，不能用来搅拌另一组分，防止交叉污染。
- Before Mixing: First, stir Component A and Component B thoroughly in their separate containers. Machine stirring is recommended to ensure uniform mixing. If a mixing tool has been used for one component, it must not be used for the other component to avoid cross-contamination.
- 混合时：应遵守 A 组分：B 组分=1：1 的重量比，并搅拌均匀。
- When mixing: The weight ratio of Component A to Component B should be 1:1, and it should be stirred evenly.
- 排泡：胶料混合后应真空排泡 1-3 分钟。

- Defoaming: After the rubber compound is mixed, vacuum defoaming should be carried out for 1 to 3 minutes.
- 灌封：混合好的胶料应尽快灌注到被灌产品中，避免因后期胶料增稠而流动性下降。
- Potting operation: Pour the mixed adhesive into the products to be potted as soon as possible to avoid thickening and reduced fluidity of the glue later.
- 固化：常温固化和加温固化均可，温度越高，固化速度越快。
- Curing: Both room-temperature curing and heat curing are applicable. The higher the temperature, the faster the curing speed.

5、注意事项 Precautions

- 胶料应在干燥室温环境下密封贮存，混合好的胶料应尽快用完，避免造成浪费。
- The rubber compound should be stored in a sealed container in a dry and room-temperature environment. The mixed rubber compound should be used up as soon as possible to avoid waste.
- 本品属非危险品，但勿入口和眼。
- This product is non-hazardous, but do not ingest or put it in your eyes.
- 本品无毒，具有良好的生理惰性，对皮肤无刺激和伤害。产品不含有易燃易爆成份，不会引发火灾及爆炸事故，对运输无特殊要求。
- This product is non-toxic and has good physiological inertness, causing no irritation or harm to the skin. The product contains no flammable or explosive components and will not cause fire disasters and explosion accidents have no special requirements for transportation.
- 存放一段时间后，胶会有所分层。请搅拌均匀后使用，不影响性能。
- After being stored for a period of time, the glue will stratify. Please stir well before use. It will not affect the performance.
- 灌入产品中胶的厚度不应低于 0.5mm，防止在一些特殊的环境下，出现胶不干现象。
- The thickness of the adhesive poured into the product shall not be less than 0.5 mm to prevent incomplete curing under special environmental conditions.
- 胶料应避免与以下物质接触，防止出现胶料不固化的现象，行业称之为中毒：
- The adhesive should avoid contact with the following substances to prevent non-curing, a phenomenon known in the industry as poisoning:
- ①脱模剂，如洗洁精；

Release agents, such as dish soap;

- ②增塑剂，如绝缘塑料、线材和护线圈中的某些增塑剂；

Plasticizers, such as certain plasticizers in insulating plastics, wires and cables, and wire grommets;

- ③含氮磷硫卤素的物质，如天然橡胶、氯丁橡胶；

Substances containing nitrogen, phosphorus, sulfur or halogens, such as natural rubber and neoprene;

- ④助焊剂，如松香； Fluxes, such as rosin;

- ⑤有机金属（铅锡汞等），如单组份缩合型硅酮密封胶及双组份缩合型灌封硅橡胶；

Organometallic substances (lead, tin, mercury, etc.), such as one-component condensation silicone sealants and two-component condensation silicone potting gels;

- ⑥含胺的物质，如聚氨酯、环氧树脂。

Amine-containing substances, such as polyurethanes and epoxy resins.

6、包装、贮存及运输 **Packaging, Storage & Transportation**

- A剂 10kg/桶、25kg/桶；B剂 10kg/桶、25kg/桶。
- Agent A: 10kg/ drum, 25kg/ drum; Agent B: 10kg per drum, 25kg per drum.
- 本产品的贮存期为 1 年（0-35℃），超过保存期限的产品应确认无异常后方可使用。
- Shelf life: 1 year (0-35℃). Products beyond the shelf life shall be inspected and confirmed to be normal before use.
- 此类产品属于非危险品，可按一般化学品运输。
- Such products are non-hazardous and can be transported as general chemicals.

7、建议和声明 **Suggestions and Statements**

- 建议用户在正式使用本产品之前先做适用性试验。由于实际应用的多样性，我公司不承担特定条件下使用我司产品出现的问题，不承担任何直接、间接或意外损失的责任，用户在使用过程遇到什么问题，可联系我公司售后服务部，我们将竭力为您提供帮助。
- We suggest that users conduct an applicability test before using this product officially. Due to the diversity of actual applications, our company does not guarantee that problems arising from the use of our products under specific conditions will be resolved. We will not be held responsible for any direct, indirect or accidental losses. If users encounter any problems during use, they can contact our company's after-sales service department. We will do our best to provide assistance.