



珠海双碳科技有限公司
ZhuHai Double-carbon Technology Co., LTD.

地址: 珠海市香洲区南屏科技工业园绿园路6号厂房扩建2楼

电话: 0756-8818199 8818369 传真: 0756-8818669-801

技术说明书

Technical Data Sheet

产品名称: 双组份灌封胶 FD503-TG20

Product Name: Two-component potting compound

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

- FD503-TG20 是一种中等粘度双组分加成型高导热灌封胶，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、REACH 指令要求。
- FD503-TG20 is a medium-viscosity two-component addition-type high thermal conductivity potting adhesive that cures by heating, featuring faster curing speed at higher temperatures. It produces no by-products during curing reaction, and can be applied on surfaces of materials such as PC, PP, ABS, PVC and various metals. It can be used in an environment ranging from -40℃ to 200℃ and fully complies with EU RoHS and REACH directives.

2、典型用途 **Typical uses**

- 电感灌封、电源模块的灌封散热保护。
- Potting for inductors, potting heat dissipation and 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	白色流体 White fluid	Q/GZJTHG 42-2022
	粘度（cps） Viscosity (cps)	3000-5000	3000-5000	GB/T 2794
	混合比例A:B (重量比) Mixing ratio A:B (weight ratio)	1 ： 1		Q/GZJTHG 42-2022
	混合后粘度（cps） Viscosity after mixing (cps)	3000-5000		GB/T 2794
	操作时间（min） Working Time (min)	≥30		Q/GZJTHG42-2022
	固化时间（h） Curing Time (h)	≤3		GB/T 531

固 化 后 After curing	硬度(shore A) Hardness (shore A)	20-30	GB/T 531
	导 热 系 数(W/m·K) Thermal conductivity coefficient (W/m·K)	2.0±0.2	ASTM D5470
	介电强度 (KV/mm) Dielectric intensity (KV/mm)	≥13	GB/T 1695
	体积电阻率 (Ω·cm) Volume resistivity (Ω·cm)	≥1.0×10 ¹³	GB/T 1692
	密度 (g/cm³) Density (g/cm³)	2.73±0.1	GB/T 533

- 以上固化前性能数据均在当日生产产品室温条件下所测，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-curing performance data are measured on newly-produced products at room temperature on the same day. Mechanical and electrical property data are all tested after the samples are fully cured. Our company shall not be held liable for data discrepancies caused by different test conditions or product upgrades.

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。当搅拌工具上有其中一个组分时，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，以免因后期胶料增稠而流动性不好。
- Potting: Pour the mixed adhesive into the products to be potted as soon as possible to avoid poor fluidity caused by subsequent thickening of the adhesive.

- 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.
- 以下物质可能会阻碍本产品的固化，或发生不固化现象，所以，最好在进行简易实验验证后应用，必要时需要清洗应用部位。
- The following substances may hinder the curing of this product or lead to incomplete curing. It is recommended to conduct simple verification tests prior to application, and clean the application area when necessary.
 - a、不完全固化的缩合型硅酮胶。
 - a. Incompletely cured condensation-type silicone adhesives.
 - b、胺固化型环氧树脂。
 - b. Amine-cured epoxy resins.

c、白蜡焊接处或松香焊点。

c. Soldering joints with white wax or rosin residues.

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.