

Two-part Thermally Conductive Adhesive XK-D25

Introduction

XK-D25 is an epoxy based, liquid dispensable, thermally conductive adhesive with a thermal conductivity of 2.5W/mK. This material features high performance, electrical insulation, structural bonding and seal. XK-D25 provides strong bonding with room temperature cure and can be accelerated with elevated temperature. The high bonding strength eliminates the need of fasteners and maintains structural bond in severe environments. It will flow or fill gaps under low pressure resulting in low stress on component.

Features

Filling gaps between heat source and heat sink 适于散热器与热源之间的导热与填充；

Excellent electrical insulation, bond strength \geq 8 Mpa 超高电气绝缘, 粘结强度 \geq 8 Mpa

Application temperature: -45~175°C, Short term: 250°C 应用温度-45~175°C, 短期 250°C

Applications

Aerospace equipments

Semiconductor

Telecommunication

Rail transit

Battery pack

between cooling plate and heat source



| | Unit | XK-D25 | METHOD |
|------------------------------------|-------------------|-------------------|--------------------|
| Before Mix | | | |
| Color / Part A | | Yellow | Visual |
| Color / Part B | | White | Visual |
| Viscosity (Low shear) | Pa.s | 130±50 | ASTM D2196 |
| Shelf Life @ 25°C | Months | ≥6 | UL 746B |
| After Mixed | | | |
| Presentation | | Thixotropic | Visual |
| Mixt Ratio (A : B) by Volume | | 1:1 | |
| Working time | H | ≥3 | ASTM D2377 |
| Cure Schedule 1 @25°C | H | ≤24 | ASTM D4473 |
| Cure Schedule 2 @125°C | Min | ≤15 | ASTM D4473 |
| After Cured | | | |
| Color | | Yellow | Visual/PATONE |
| Specific gravity | g/cm ³ | 2.51±0.1 | ASTM D792 |
| Thermal Conductivity | W/m-K | 2.5 | ASTM D5470 |
| Heat Capacity | J/(g.k) | 1 | ASTM D1269 |
| Hardness | ShoreD | 80 | ASTM D2240 |
| Tensile strength (Before aging) | MPa | ≥13 | ASTM D412 |
| Tensile strength (After aging) | MPa | ≥13 | ASTM D412 |
| Elongation (Before aging) | % | ≥13 | ASTM D412 |
| Elongation (After aging) | % | ≥8 | ASTM D412 |
| Bonding strength (Before aging) | MPa | ≥8 | GJB 94 |
| Bonding strength (After aging) | MPa | ≥5 | GJB 94 |
| Coefficient of linear expansion | ppm/k | 110±35 | GJB 332A/ASTM E831 |
| Dielectric strength (Before aging) | kV/mm | ≥10 | ASTM D412 |
| Dielectric strength (After aging) | kV/mm | ≥10 | ASTM D412 |
| Volume resistivity | Ω.cm | ≥10 ¹³ | ASTM D257 |
| Operating thickness | mm | ≥0.09 | ISO 2360 |
| Application temperature | °C | -45~175 | ASTM G166 |
| Flammability | | V-0 | UL94 |
| RoHs/SS00259 compliant | | YES | |