



**102-12/B-187
THERMAL-CYCLE RESISTANT BLACK EPOXY COMPOUND**

DESCRIPTION: 102-12/B-187 is a black, two component, thermally conductive epoxy potting and encapsulating compound. This product is designed to release entrapped air rapidly during cure, resulting in a smooth, pinhole free surface. 102-12/B-187 exhibits excellent thermal shock resistance and is especially suited to protecting sensitive electronic devices from a range of operating conditions including moisture, vibration, and temperature variation. Other useful applications include, but are not limited to, potting relays, electronic controls, sensors, and inverters and sealing of electronic component housings. Using B-187 allows for faster curing compared to B119-44.

MIXING INSTRUCTIONS: Premix Part A in original container prior to adding curing agent. Add B-187 to Part A and mix until uniform. NOTE: it is not unusual for crystallization of Part A or B-187 to occur. Warm materials in 40 – 45°C water bath to return to original viscosity. Repeated crystallization and decrystallization does not affect the performance of the product.

| | Part A | B-187 | Mixed |
|-------------------------|---------------|--------------|--------------|
| Viscosity (cps, 25°C) | 500,000 | 5,000 | 100,000 |
| Mix Ratio (w/w) | 100 | 2.5 | -- |
| Pot Life (hours) | | | > 4 |
| Specific Gravity (g/cc) | 1.76 | 0.98 | 1.73 |

SUGGESTED HANDLING AND CURING INSTRUCTIONS: Material is ready to use as received. Remove product from freezer and allow material to warm to room temperature before opening container. Best results are obtained when product is cured at one of the following schedules, but good properties can be achieved by curing at temperatures between 65 and 200°C. End user is advised to

experimentally determine temperature and time best suited for individual applications.

| Time | Temp. (°C) |
|---------|------------|
| 4 hr. | 65 |
| 1 hr. | 80 |
| 30 min. | 100 |
| 15 min. | 125 |
| 5 min. | 150 |

TYPICAL CURED PROPERTIES:

| | | |
|-------------------------------|----------------------|------------|
| Hardness | > 85 | Shore D |
| Volume Resistance | 1 x 10 ¹⁵ | Ω-cm, min. |
| Dielectric Strength | 475 | V/mil |
| Power Factor (@ 60 Hz) | 0.028 | -- |
| Dielectric Constant (@ 60 Hz) | 4.4 | -- |
| Tensile Strength | 9,600 | PSI |
| CTE | 14.5 | ppm/°C |
| Heat Distortion Temp. | 148 | °C |
| Thermal Conductivity | 2.3 | W/m-K |
| Cure Shrinkage | 0.171 | % |
| Water Absorption | < 0.22 | % |
| Fungus Resistance | Non-nutrient | -- |
| Useful Temperature Range | -55 to +230 | °C |
| Thermal Stability | Good to +280 | °C |

STORAGE: Shelf Life: up to 12 months in unmixed, unopened containers.

SAFETY & HANDLING: Use with adequate ventilation. Keep away from sparks and open flames. Avoid prolonged contact with skin and breathing of vapors. Wash with soap and water to remove from skin.

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