PRODUCT ADVANTAGE

- High Thermal Conductivity
- Enhanced Mechanical Resistance
- High Reliability
- Good for Small Gaps
- No Voids
- No Phase Separation
- Minimized Induced Stress

OUR THREE PILLARS

1. EXCEEDING PERFORMANCE SPECIFICATIONS
2. MAXIMIZING PRODUCTIVITY
3. LOWERING PROCESS COST

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YPB-005 (Version 5/2017)

YINCAE®

INNOVATION AT ITS BEST

SMT 158D

The World's First Commercial Diamond FIlled Underfill

Preferred by global leaders in the electronics manufacturing industry

YINCAE® SMT 158D Underfill Material

YINCAE Advanced Materials is proud to introduce SMT 158D, the world's first (and only) commercial diamond filled underfill!

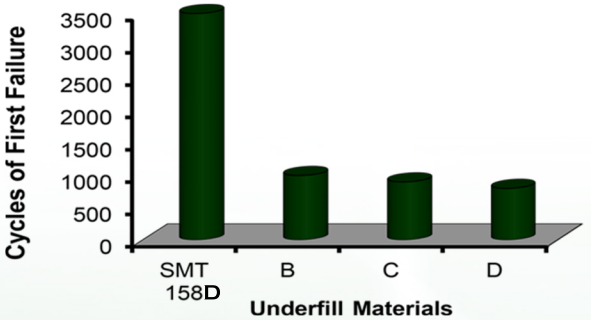
SMT 158D was developed in response to the need for underfill materials with a larger thermal conductivity. The thermal conductivity of SMT 158D is 5W/mK, compared to the thermal conductivity of traditional silicon dioxide filled underfill which has a thermal conductivity of less than 1W/mK.

Increased thermal conductivity increases the reliability of electronic devices. This increased reliability is especially apparent in 3-D package devices in which a large amount of heat must dissipate through the underfill.

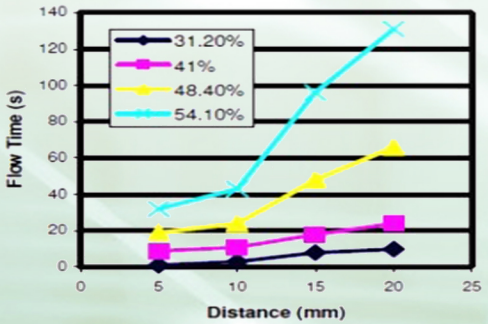
SMT 158D offers high flowability into small gaps (down to 10μm) without void formation or phase separation. Through testing, SMT 158D has demonstrated high reliability.

TYPICAL PHYSICAL PROPERTIES

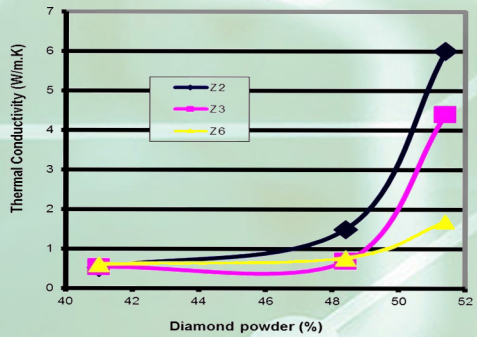
Product Name	SMT 158D Underfill
PROPERTIES OF UNCURED MATERIAL	
Appearance	Gray
Specific Gravity (ASTM D 1475-60)	1.8 g/cc
Viscosity (Brookfield, 0.5 rpm)	8.0 – 12.0 kcp
PROPERTIES OF CURED MATERIAL	
Glass Transition Temperature (Tg) Via TMA (ASTM D3418-82)	149 °C
C.T. E (ASTM E 831), PPM /°C	α1 = 28 – 30; α2 = 110
Thermal Conductivity (W/mK)	5
Lap Shear Strength (FR4/FR4)	2600 psi
Extractable ions (MIL-STD-883E)	
Na+	<5ppm
K+	<5ppm
F-	<5ppm
Cl-	<10ppm
Surface insulation resistance (J-STD-004)	Pass



SMT 158D shows thermocycling improvement over competitors underfills (Thermocycling conditions: -65°C ~ 150°C, 1h/cycle)



SMT 158D flow time versus particle load



SMT 158D thermal conductivity changes with particle size and load

Contact YINCAE at info@yincae.com for detailed specifications & customization for your specific product requirements.