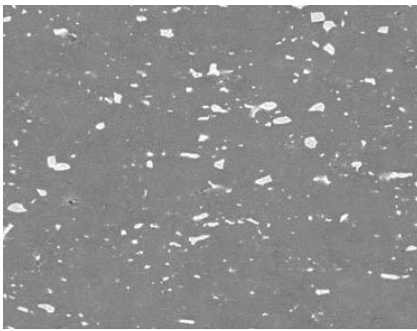




KTM650

Carbon based composite - Heat Spreader



Typical microstructure

Main properties

- High thermal conductivity
- Low density
- Excellend machinability
- CTE matching with silicon
- Suitable for complex geometrics machining

Applications

- Diode lasers
- Power tansistor substrate
- LED substrate
- Wireless communication
- Electrical drives
- Aerospace power supplies
- Medical electronic systems
- Avionics systems

Physical properties

Parameters	Units	X,Y Z ^{*1}
Density	g/cm ³	2.57
Flexural Strength	MPa	102.1 16.9
Flexural Strain to rupture	µm/m	2580 5900
Young Modulus	GPa	69.7 5.5
Thermal conductivity (@20°C/300°C)	W/m·k	650/310 45/23
Thermal Diffusivity (@20°C/300°C)	mm ² /s	390/110 27/8
Volumetric CTE (20-1000°C)	10 ⁻⁶ K ⁻¹	6.5
CTE ^{*2} (20-1000°C)	10 ⁻⁶ K ⁻¹	2.4 14.7
Specific heat	J/g·K	0.65
Electrical conductivity	MS/m	0.8
Dimensional stability	%	0 0.1

All properties measured at 20°C unless otherwise stated

^{*1} XY - Parallel to the grain direction; Z - Perpendicular to the grain direction

^{*2} CTE adjustability according to chemical composition