



## k-Core® Radiator Panels — Ensuring Performance in Space



**For critical thermal management needs, including heat dissipation requirements of  $\geq 40^{\circ}\text{C}$  reduction, communications satellite and spacecraft engineers turn to k-Core passive thermal radiators. They offer a versatile, specialty engineered material, annealed pyrolytic graphite (APG) for reliable performance.**

Efficient heat dissipation to protect critical electronic components in space, under increasingly tight space requirements, is performed by k Technology's k-Core passive thermal radiators, an example of the many Thermacore [satellite thermal solutions](#).

k Technology thermal radiators incorporate a proprietary concept featuring APG, a highly ordered crystalline material with a thermal conductivity of  $>1,500 \text{ W/m-K}$ , within a high-strength structural shell material such as aluminium or carbon polymer composite. The thermal performance of each material is kept separate, with no shear force transferred across the encapsulant/APG interface.

### Radiator Panel Benefits

- Reliable performance under a extreme temperatures ( $-40^{\circ}\text{C}$  to  $+72^{\circ}\text{C}$ )
- Thermal performance without the need for heat pipes (which require difficult semiconductor-heat spreader CTE matching)
- Rugged construction stands up to vibration launch loads and other stresses/pressures
- Reduced product cost, increased reproducibility
- Reduced size and weight, appropriate for the increasing density of electronic equipment and more limited space for thermal solutions
- Ability to dissipate high heat fluxes produced by next-generation spacecraft electronics