



Materials and coatings for extreme environments

DST provides cutting edge material solutions for the ADF's current air fleet and develops new fit-for-purpose materials for future aerospace programs. DST researchers are investigating ways to enhance lightweight materials so they sustain their physical properties when operating under extreme environmental conditions (-50 °C to above 2000 °C).

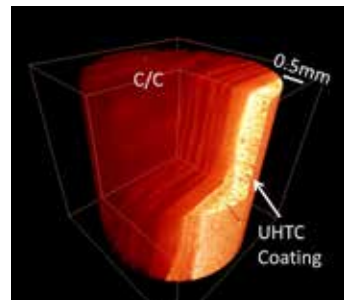
Research focus

- Low coefficient of thermal expansion materials
- Erosion resistant coatings for titanium components
- Polymer based resins: operate up to 600 °C
- Alternative coating technologies
- Advanced thermal insulators
- Calcium magnesium aluminium silica (CMAS) resistant thermal barrier coatings
- High entropy alloys
- Advanced processing technologies
- Carbon-carbon (C/C) joining technologies
- Ceramic-metallic alloys
- C/C coatings
- Ultra high temperature ceramics.

Partnering opportunities

DST is seeking potential partners to collaborate in:

- Development of coatings for ultra-high temperatures
- Predictive modelling capabilities
- Lightweight extreme environment materials.



For more information contact:

PartnerWithDST@dst.defence.gov.au

