

SELF-REPAIRING CERAMIC MATRIX COMPOSITE

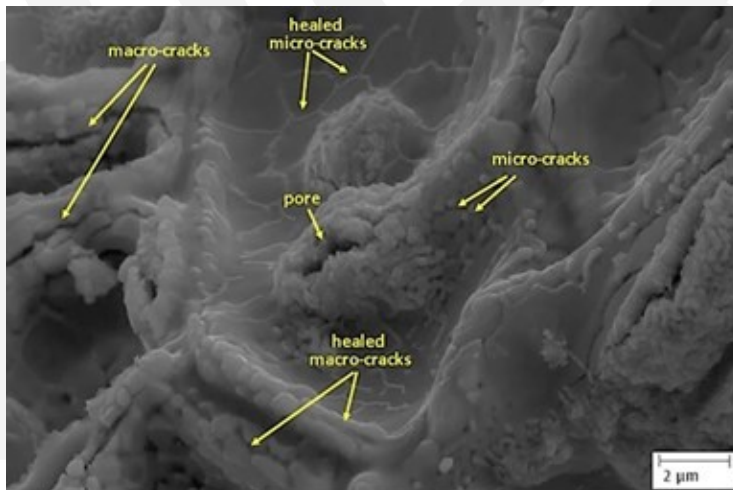
Key Benefits:

Self-repairing

Can operate at temperatures in excess of 3000 °C.

This technology is a high temperature self-repairing carbide ceramic matrix composite. It is produced using titanium and a porous CfC composite preform matrix. Titanium and the composite preform matrix are placed in a crucible and spark plasma sintering is used to melt titanium so that it infiltrates the preform until a uniform composite material is formed.

This resultant material is capable of initiating a self-repairing mechanism in application environments with temperatures exceeding 3000 °C.



PRINCIPAL RESEARCHER



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STAGE OF DEVELOPMENT

The composited has been produced at small scale

APPLICATIONS

Applications in ultra-high temperature and aggressive environments, suitable for components of hypersonic flight

PARTNERSHIP OPPORTUNITY

A licensee or potential development partner are being sought to undertake technology evaluation and upscaling for production.

CONTACT

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His research interests are in Hard and Ultra hard materials, ultrahigh temperature ceramics, biocompatible ceramics. He has special interest in Polycrystalline Diamond, Polycrystalline cubic boron nitride, Carbon fibre-reinforced Ultrahigh Temperature ceramics, cutting tool materials. He's a member of South African Institute of Physics and has 93 publications and 31 Patents under his name.