POWDERMET INC.

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HYBRITHERM™ Thermally Engineered Structures for Hypersonics

The advanced materials solution for thermal management in extreme conditions

OBJECTIVE:

To get next generation materials qualified for use in hypersonics and other advanced aircraft

Next generation hypersonic and advanced aeronautics require novel materials designed for highly engineered multipurpose thermal-mechanical performance properties. To achieve technological and weapon superiority for our nation a trifecta of key supply-processing-production in the advance manufacturing chain need to be invested in to realize these advanced materials and vehicle components.

PROBLEM:

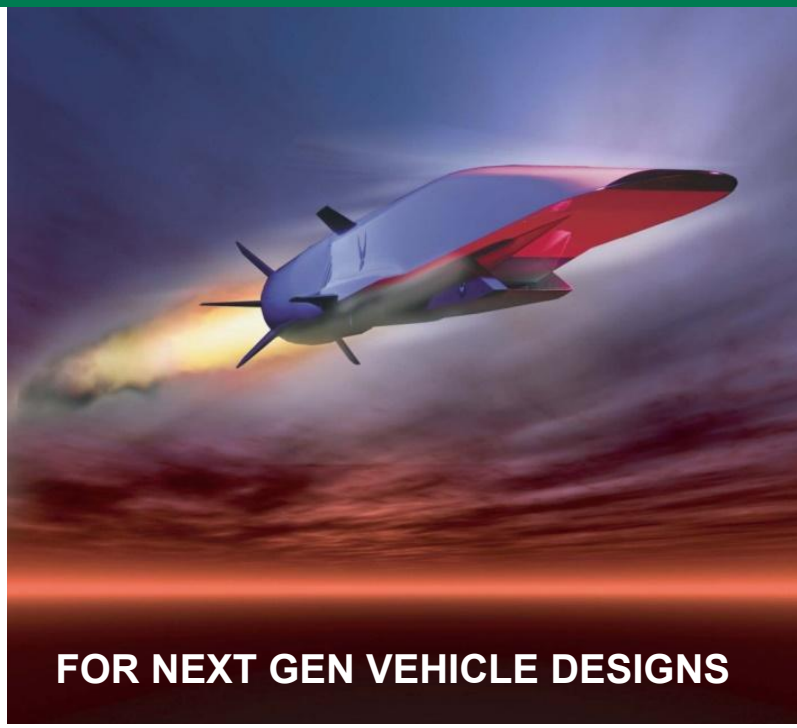
Next generation of materials for advance weapons defense will require engineered vehicle components to address the high temperatures and structural strains experienced at high speeds and rapid maneuverability. Additionally, these materials will require a secure reliable domestic supply chain – from mining, processing to part manufacturing.

SOLUTION:

Powdermet's patented HybriTherm™ Metal Matrix Composites address the needs for high temperature performance materials that resolve both the extreme thermal and mechanical stresses experienced at hypersonic speeds – engineered thermal response/performance.

Core Competencies

- Refractory Metal Powder Production
- Nano- & Micro-Powder Processing
- Engineered Metal Matrix Composites
- Powder Metallurgy
- Hybritherm™
  - High Thermal Conductivity
  - Heat Management
  - Low CTE
  - Low Thermal Strains
  - No Buckling



REALIZATION:

Powdermet has recognized the need to secure a domestic supply of refractory metal powders, and has invested and established a non-conflict supply and process to meet our nation's needs. With investments in powder production and part manufacturing Powdermet will be a key part of the supply chain in materials for our nation's superior hypersonic vehicles. Powdermet is a leader in advance powder metallurgy powder, composite, and parts manufacturing.

Customers, Agencies & Partners

DEPARTMENT OF DEFENSE · DEPARTMENT OF THE AIR FORCE · DEPARTMENT OF ENERGY · NASA · DARPA · BOEING · FLOWSERVE

TECHNOLOGY READINESS LEVEL: TRL-5
Ready to move into scale up manufacturing, repeatability production for qualification testing.

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