High Tech Material Solutions

High Tech Material Solutions (HTMS) is a supplier of advanced materials and a manufacturer of custom machined ceramic components.

Capabilities

HTMS offers advanced materials, including: ceramic materials and components, single / scintillation crystals, sapphires, optical materials, aerogel, powders, aerospace hardware, sealants, and adhesives, and a variety of other advanced materials. HTMS Services include: CNC machining and custom ceramic fabrication, including ceramic bearings.

Differentiators

HTMS provides a single point of access to high quality, advanced materials used across aerospace, defense, homeland security, energy, medical, oil and gas, and other industries. HTMS can extend its capabilities and services by offering full manufacturing through its Defense and Aerospace Business Solutions (DABS) division, which provides a significant advantage to customers for faster service and lower costs. DABS specializes in complete manufacturing of components across the same industries. Together, HTMS and DABS provide a vertically integrated solution for one-stop shopping.
### Advanced Materials Category

**Advanced Ceramics**
HTMS offers a wide variety of advanced ceramic materials and custom machined ceramic components for mechanical, wear resistant, electronic, and thermal applications.

- Aluminum Oxide (Alumina) & Alumina Products
- Ceramic Bearings
- Nitrides / Carbides
- Ceraflex (YSZ) - Ultra thin zirconia ceramics
- Machined Ceramic Materials
- Ceramic Substrates
- Oil Field Parts—Ceramic sleeves, etc.
- Zirconia/Zirconium Oxide Ceramics
- Sapphire Ceramics
- Honeycomb Ceramics
- Special Materials
- Reptile Setter Tiles
- Silica
- Semiconductor Equipment—Gel cast shapes

### Detailed Materials Types

**Titanium, Refractory and Hard Metals**
HTMS is a premium supplier of titanium, refractory and other metals. We supply only the highest quality titanium, refractory metals and alloys at competitive pricing. HTMS also specializes in the machining of refractory metals.

- Titanium & Ti-Alloys
- Tungsten & W-Alloys
- Bearing Steel
- Stainless - HT to Spec

**Single Crystals & Optical Materials**
HTMS offers over 150 single crystals and optical materials. These include semiconductors, oxides, fluorides, chlorides, glasses, and metals. They are available as wafers, substrates, optics, windows, and laser rods. Sapphire is also offered as an engineered material.

- Single Crystal Sapphires
- Single Crystal Superconductors
- Single Crystal Substrates
- Compound Semiconductor
- Infrared Crystals
- Laser Crystals
- Electro Optical Crystal
- Non-Linear Crystals
- Metallic Crystal Materials
- III-V Nitride
- Ferroelectric
- SAW Device
- Optical Materials
- Fiber Optic
- Acousto-Optical
- Special Purpose

**High Temperature Superconducting Current Leads**
Our High Temperature Superconducting Current (HTSC) Leads are designed to bring high power currents between ambient temperatures and/or liquid nitrogen temperatures and liquid helium superconducting temperatures with minimal heating.

Advantages of HTSC Leads:
- Low Heat Conduction
- Low Heat Dissipation
- Reduced Helium Consumption
- Remarkably Low Coolant Costs
- Useful Cold End Temperature 25 - 4°K or below

**Aerospace Hardware, Sealants and Adhesives**

- Rivets
- Bushings
- Bearings
- Nutplates
- Sealants
- Adhesives
- Aerogels—silica, organic, carbon, including powders