H.C. Starck’s High Temperature MIM Furnace Products

H.C. Starck offers nearly 100 years of experience with a trusted supply chain of superior refractory pure and alloyed materials for heat treating medical, aerospace, defense and automotive products.

**Materials**
- Molybdenum
- Tungsten
- TZM
- MoLa (molybdenum-lanthana)

**Atmosphere Furnaces Served**
- Continuous feeding
- Chamber high temperature vacuum

**MIM Applications**
- Sintering
- Debonding
- Annealing
- Heat Treating

**Benefits of Refractory Components**
- Maintain temperature uniformity
- Quality products made in a clean environment
- Reduced production cost compared to graphite and ceramics
  - Improved cycle times
  - No carbon contamination
  - Fewer component rejections

**Forms Available**
- Boats & Trays
- Hot Zones
- Furnace Racks
- Heat Shields
Superior Mechanical Properties with Molybdenum Alloys

Molybdenum alloys - high melting temperature refractory, lower cost than tungsten, good creep resistance and high temperature mechanical properties.

HARDNESS VERSUS ANNEAL TEMPERATURE

THERMAL EXPANSION VERSUS TEMPERATURE

MOLYBDENUM YIELD STRENGTH VERSUS TEMPERATURE

TENSILE STRENGTH VERSUS TEMPERATURE

THERMAL CONDUCTIVITY VERSUS TEMPERATURE

ELECTRICAL RESISTIVITY VERSUS TEMPERATURE

Typical Tensile Properties for indicated Products (5/8 inch Diameter bars)

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