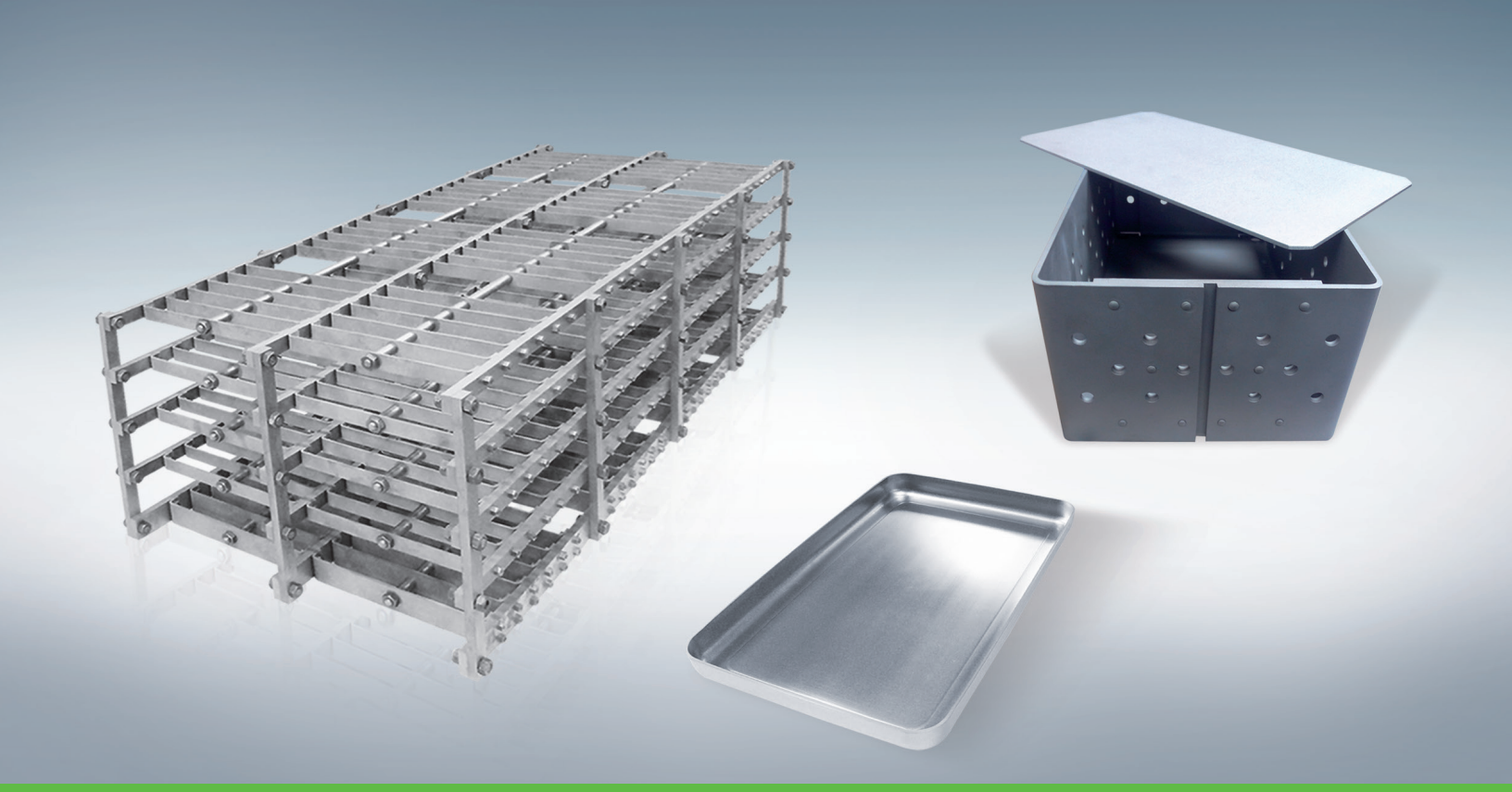


High Performance Metal Solutions

H.C. Starck Solutions' High Temperature MIM Furnace Products

H.C. Starck Solutions 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

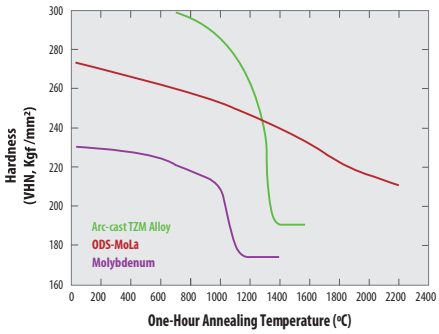
- Boats & Trays
- Hot Zones
- Furnace Racks
- Heat Shields

H.C.Starck

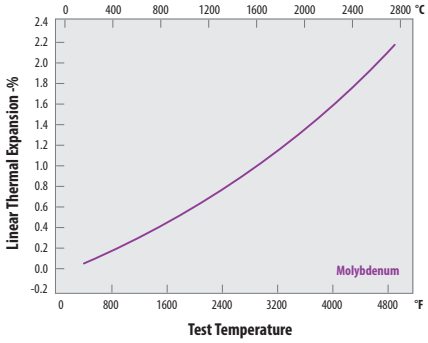
High Performance Metal Solutions

Superior Mechanical Properties with Molybdenum Alloys

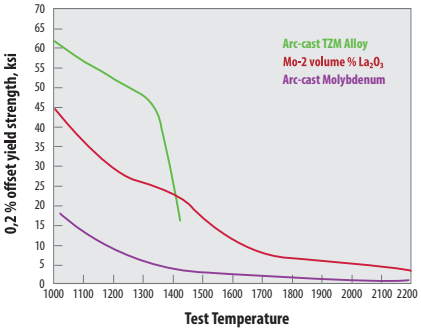
HARDNESS VERSUS ANNEAL TEMPERATURE



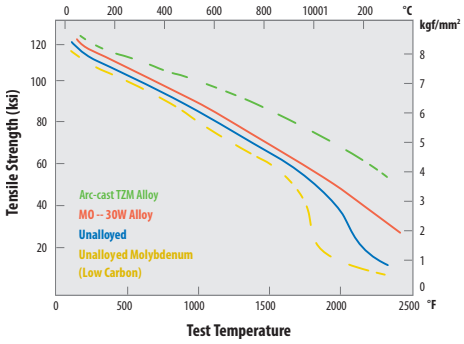
THERMAL EXPANSION VERSUS TEMPERATURE



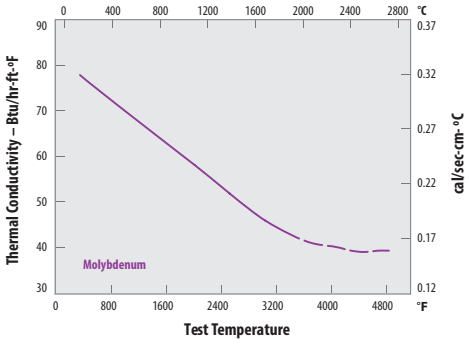
MOLYBDENUM YIELD STRENGTH VERSUS TEMPERATURE



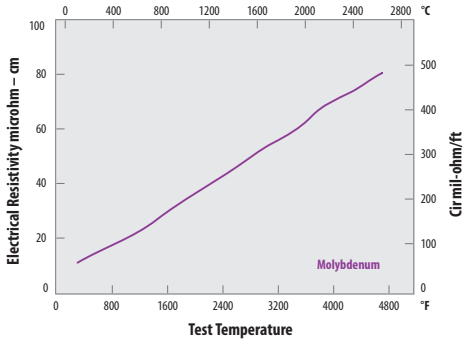
TENSILE STRENGTH VERSUS TEMPERATURE



THERMAL CONDUCTIVITY VERSUS TEMPERATURE



ELECTRICAL RESISTIVITY VERSUS TEMPERATURE



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

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

For additional info please contact:

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