

# ELMET TECHNOLOGIES' HIGH TEMPERATURE FURNACE PRODUCTS



Elmet Technologies 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
- > Tantalum
- > Niobium
- > TZM
- > MHC
- > MoLa (molybdenum-lanthanum)
- > MoW (molybdenum-tungsten)

### Applications

- > Annealing
- > Brazing
- > Heat Treating
- > HIPing
- > Melting
- > Pre-heating for Metalworking
- > Powder Processing
- > Sintering
- > Tempering
- > MIM (Sintering/Debonding)

### Forms Available

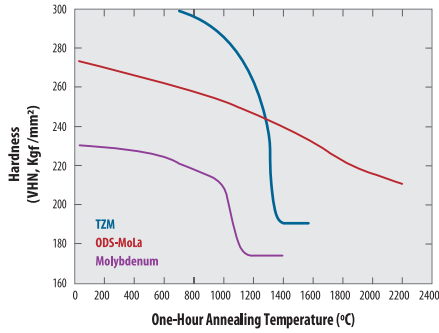
- > Furnace Assemblies
- > Boats & Trays
- > Furnace Racks
- > Flat Ribbed Heating Elements
- > Hot Zones
- > Heat Shields
- > Rolled and Bent Formed Product
- > Brackets and Furnace Fixture

### Furnaces Served

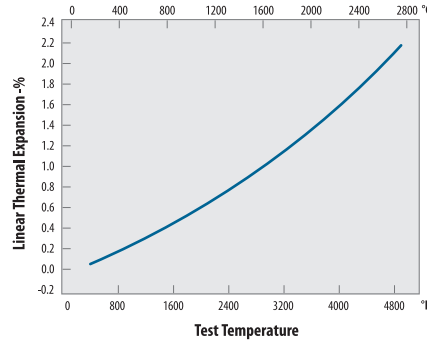
- > High temperature furnaces in vacuum, reducing or inert atmospheres
- > Chemical reaction furnaces in vacuum, air, or various atmospheres

## SUPERIOR MECHANICAL PROPERTIES WITH MOLYBDENUM ALLOYS

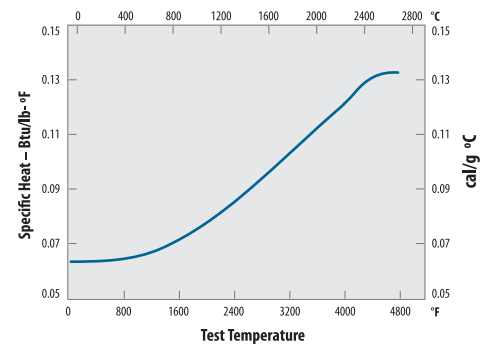
### HARDNESS VERSUS ANNEAL TEMPERATURE



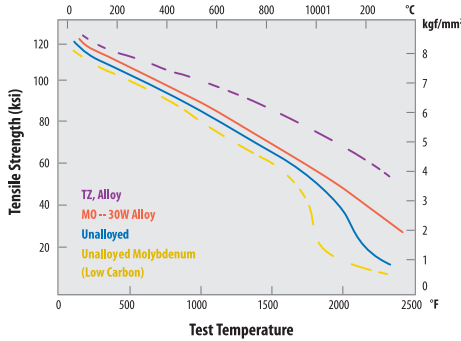
### THERMAL EXPANSION VERSUS TEMPERATURE



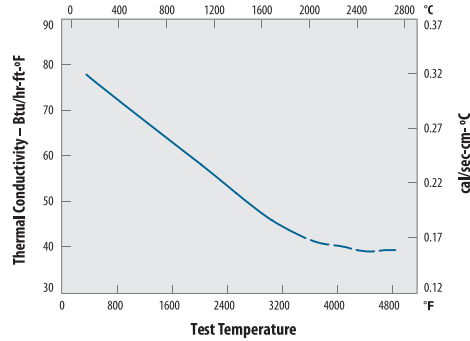
### SPECIFIC HEAT VERSUS TEMPERATURE



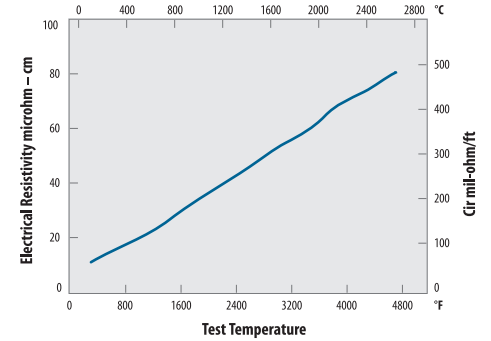
### TENSILE STRENGTH VERSUS TEMPERATURE



### THERMAL CONDUCTIVITY VERSUS TEMPERATURE



### ELECTRICAL RESISTIVITY VERSUS TEMPERATURE



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

High melting temperature refractory, lower cost than Tungsten, creep resistance, and high temperature mechanical properties.

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