

# TECHNICAL DATA

## Molybdenum

For high temperature, vacuum applications, Molybdenum fasteners provide strength and mechanical stability. Molybdenum has a low coefficient of thermal expansion and can withstand extremely high heat without changing shape, expanding or softening. Exposing molybdenum bolts to oxygen over 600°C will cause them to readily oxidize. Therefore, they are primarily used in vacuum applications. (In addition to pure molybdenum, we also offer alloyed molybdenum TZM for extreme high strength.

### Properties

Ultimate Tensile Strength	94 ksi Molybdenum 158 ksi TZM
Yield Strength at 0.2%	90 ksi Molybdenum 130 ksi TZM
Elongation %	N/A
Usable Temperature Limit	2912°F / 1600°C Vacuum 1112°F / 600°C Air

### Key Benefits

- Excellent high temperature stability and mechanical properties
- Primarily used in vacuum and inert gas (oxygen free) environments
- Will readily oxidize in air/oxygen greater than 600°C.
- Alloyed Molybdenum TZM offers extreme high strength for hot vacuum environments

### Chemistry & Specifications

Molybdenum (CP)	Mo
Typical %	>99.95

Moly TZM Alloy	Mo	Ti	Zr
Typical %	Bal	0.5	0.08

SPECIFICATIONS: ASTM B386, ASTM B387, Type 361

### Material Data

