

HIGH TEMPERATURE / CORROSION RESISTANT ALLOYS

MOLYBDENUM

ASTM B 387 TYPE 361

TYPICAL NOMINAL CHEMISTRY

MOLYBDENUM (MO)	99.9 (MINIMUM)
POTASSIUM (K)	0.0007
ALUMINUM (AL)	0.0005
SILICON (SI)	0.0050
IRON (FE)	0.0040
NICKEL (NI)	0.0030
COPPER (CU)	0.0001
CHROMIUM (CR)	0.0001
SODIUM (NA)	0.0001
TUNGSTEN (W)	0.0020

MOLYBDENUM TYPICAL PROPERTIES

ATOMIC WEIGHT	95.94
DENSITY	10.14 gm/cm ³
MELTING POINT	2610 +/- 10 C
RECRYSTALLIZATION TEMP	100%
RECRYSTALLIZATION	1000 to 1100 C

THERMAL CONDUCTIVITY

20 C	0.34 CAL/CM/S/ c
1000 C	0.25 cal/cm/s/ C
1500 C	0.22 cal/cm/s/ C
2200 C	0.17 cal/cm/s/ C

TRANSITION POINT

BRITTLE/DUCTILE	-100 TO 100 C
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SPECIFIC HEAT

20 C	6.2 X 10 ⁻² CAL/GM/ C
1000 C	7.4 x 10 ⁻² cal/gm/ C
2000 C	10.0 x 10 ⁻² cal/gm/ C

VAPOR PRESSURE

1500 C	6.4 X 10 ⁻⁹ MM HG
2000 C	4.0 x 10 ⁻⁵ mm Hg
2500 C	1.0 x 10 ⁻² mm Hg

COEFFICIENT OF LINEAR EXPANSION

20 C	5.3 X 10 ⁻⁶ C ⁻¹
20 – 1000 C	5.8 x 10 ⁻⁶ C ⁻¹
20 – 1500 C	1.0 x 10 ⁻⁶ C ⁻¹

TENSILE STRENGTH

SHEET	50 KPSI – 115 KPSI
ROD	60 kpsi – 110 kpsi
WIRE	90 kpsi – 350 kpsi

YIELD STRENGTH

(0.2% OFFSET)

SHEET	40 KPSI – 95 KPSI
ROD 55	kpsi – 90 kpsi
WIRE	75 kpsi – 300 kpsi

RESTIVITY



20 C	5.3 X 10 ⁻⁶ OHM-CM
1000 C	3.2 x 10 ⁻⁵ ohm-cm
2000 C	6.1 x 10 ⁻⁵ ohm-cm

TEMPERATURE COEFFICIENT OF THE RESTIVITY

(20 – 100 c)	4.5 X 10 ⁻³ C ⁻¹
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HARDNESS

SHEET	220 – 240 DPH
ROD	200 – 220 DPH
WIRE	250 – 300 DPH