

Mo-47.5 Re

Molybdenum-Rhenium Alloy, Annealed

MECHANICAL AND PHYSICAL PROPERTIES

	Metric	English
Physical Properties		
Density	13.5 g/cc	0.488 lb/in ³
Mechanical Properties		
Tensile Strength, Ultimate	1180 MPa	171000 psi
	240 MPa	34800 psi
	@Temperature 1200 °C	@Temperature 2190 °F
	620 MPa	89900 psi
	@Temperature 800 °C	@Temperature 1470 °F
Tensile Strength, Yield	845 MPa	123000 psi
	210 MPa	30500 psi
	@Temperature 1200 °C	@Temperature 2190 °F
	415 MPa	60200 psi
	@Temperature 800 °C	@Temperature 1470 °F
Elongation at Break	22%	22%
Modulus of Elasticity	365 GPa	52900 ksi
Poissons Ratio	0.285	0.285
Shear Modulus	132 GPa	19100 ksi
Electrical Properties		
Electrical Resistivity	0.0000220 ohm-cm	0.0000220 ohm-cm
Critical Superconducting Temperature	10.9 K	10.9 K
Thermal Properties		
CTE, linear	5.72 µm/m-°C	3.18 µin/in-°F
	@Temperature 500 °C	@Temperature 932 °F
	6.45 µm/m-°C	3.58 µin/in-°F
	@Temperature 1000 °C	@Temperature 1830 °F
Thermal Conductivity	36.8 W/m-K	255 BTU-in/hr-ft ² -°F
Melting Point	2450 °C	4440 °F
Maximum Service Temperature, Air	725 °C	1340 °F
Component Elements Properties		
Molybdenum, Mo	52.50%	52.50%
Rhenium, Re	47.50%	47.50%