

# Mo-47.5 Re

## Molybdenum-Rhenium Alloy, Annealed | MECHANICAL AND PHYSICAL PROPERTIES

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