

PRODUCT DATA SHEET		MOLYBDENUM PRODCUTS	
LATEST REVISION		Date: 01-05-2022	
Product Name	MOLYBDENUM PRODUCTS		
Description	<p>Molybdenum is a refractory transition metal known for its extremely high melting point, low coefficient of thermal expansion, and exceptional strength at elevated temperatures.</p> <p>Chemical Symbol: Mo</p> <p>Atomic Number: 42</p> <p>CAS Number: 7439-98-7</p> <p>Standard Forms Available: Sheets, plates, foils, rods, wires, pellets, and powders.</p> <p>Common Grades: Pure Mo (99.95%), TZM Alloy (Mo-Titanium-Zirconium), and Mo-Re Alloys (Molybdenum-Rhenium for enhanced ductility).</p>		
Application	<p>High-Temperature Furnaces: Heating elements, heat shields, structural supports, and crucibles.</p> <p>Electronics & Semiconductors: Molybdenum sputtering targets for thin-film coatings (such as solar cells and flat panel displays), power semiconductor heat sinks, and glass-to-metal seals.</p> <p>Aerospace & Defense: Rocket nozzles, high-heat structural components, and missile parts.</p> <p>Alloying Agent: Added to steel and cast iron to boost hardenability, strength, and corrosion resistance.</p>		

Chemical Analysis	<p>For standard commercially pure molybdenum products, trace elements are tightly controlled:</p> <ul style="list-style-type: none"> • Molybdenum (Mo): 99.95% • Iron (Fe): 0.010% • Nickel (Ni): 0.005% • Silicon (Si): 0.005% • Oxygen (O): 0.005% • Carbon (C): 0.003%
Physical Properties	
Property	Value (Metric)
Density	10.22 g/cm ³
Melting Point	2623 °C
Boiling Point	4639 °C
Thermal Conductivity (20°C)	138W/m.K
Coeff. of Thermal Expansion (25°C)	5.0 *10 ⁻⁶ K