PRODUCT DATA SHEET	TUNGSTEN PRODCUTS
LATEST REVISION	**Date: 01-05-2022**

Product Name	TUNGSTEN PRODUCTS
Description	Tungsten (W) generally segment into Pure Tungsten (for extreme temperature environments) and Tungsten Heavy Alloys (WHA) (where machinability, high density, and radiation shielding are required). Tungsten is a heavy, steel-gray refractory metal that boasts the highest melting point, lowest vapor pressure, and highest tensile strength at elevated temperatures of all discovered elements. • Chemical Symbol: W • Atomic Number: 74 • CAS Number: 7440-33-7 • Standard Forms Available: Sheet, plate, foil, rod, wire, heavy-alloy blanks, machined parts, and powder. • Standard Specifications: ASTM B760 (Pure Plate, Sheet, Foil), ASTM F288 (Wire), ASTM B777 (Heavy Alloys), UNS R07005.
Application	Extreme Heat Environments: Vacuum furnace heating elements, structural support rods, and heat shields exceeding 1500℃. Medical & Nuclear: X-ray targets, CT scanner collimators, and radioactive isotope transportation containers (due to its exceptional gamma and X-ray absorption capabilities). Aerospace & Defense: Kinematic weights, dynamic balancing counterweights for helicopter blades/rudders, and kinetic energy penetrators. Electrical & Lighting: TIG welding electrodes, electrical switch contacts, and classical lamp filaments.

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Chemical Analysis	For standard commercially pure TUNGSTEN products, trace elements are tightly controlled: • Tungsten (W): 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	Pure Tungsten (Metric)
Density	19.25 g/cm3
Melting Point	3422℃
Boiling Point	5900℃
Thermal Conductivity (20℃)	164
Coeff. of Thermal Expansion (20℃)	4.2 *10-6/k
Electrical Resistivity (20℃)	5.5 uΩ.cm
Modulus of Elasticity (25℃)	405GPa
Typical Hardness	460 HV

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