



# 宝鸡难熔金属开发公司

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## TUNGSTEN PRODUCTS

### ● TUNGSTEN PARTS

#### ✧ Chemical Composition:

Tungsten content	The sum of other elements	Content of each element
≥99.95%	≤0.05%	≤0.01%

#### ✧ Properties of the products:

- High melting point—3410℃
- High boiling Point—5927℃
- High-density —19.3 g/cm<sup>3</sup>
- Internal stable structure
- Outstanding thermal conductivity
- Excellent resistance to electrochemical corrosion
- Excellent resistance to oxidation at high temperatures

#### ✧ Products Description:

Description	Used
Tungsten tube	used for light, electric device,etc
Tungsten boat/box	used for the evaporation
Tungsten crucible	applied in high temperature vacuum furnace melting environment such as sapphire growing furnace,etc
Other tungsten parts	Surface decoration,Glass coating,micro-electronics,Miniature components,Optical communication,Medical devices,etc

Note:All the products can be supplied in according to customer's requirement.

## ● TUNGSTEN PARTS——Boat/Box

### ✧ Range of use:

- Widely used in Metalizing, Electron-beam Spraying as well as sintering annealing in reducing atmosphere in electronics, military and light industries
- Used to evaporate small lengths of wire or to evaporate materials which would not properly "wet" the surface of an evaporation filament.
- Ideal for use in small evaporation systems, such as bell jars, for experimental and prototype work.
- Used for the vacuum evaporation of materials that are in granular or pellet form.

### ✧ Products show:



## ● TUNGSTEN PARTS—Crucible

### ✧ Range of use:

- Tungsten crucible is widely applied in high temperature vacuum furnace melting environment such as sapphire growing furnace, quartz glass melting furnace, and rare earth melting furnace. The working temperature of tungsten crucible is above 2000°C.
- For sapphire crystal growing furnace, high-purity, high-density, no crack tungsten crucible with other features of exact measurement and smooth surface has decisive influence on the success of crystal growth, quality control of pulling crystal, discharging and service life during sapphire growing process.

### ✧ Specification:

Delivery condition	Specification		Tolerance		Thickness (mm)	Roughness (μm)
	Diameter (mm)	Height (mm)	Diameter (mm)	Height (mm)		
Sintering	10~500	10~750	±3.0	±3.0	8~20	
Final Finished	10~450	10~550	±0.5	±1.0	7~18	<3.2

Note: Special sizes can be manufactured based on customers' requirements

### ✧ Manufacturing process and equipment:

Item	Process	Equipment	Quality Check
1	Powder purified	Purified furnace	GDMS
2	Isostatic pressing	Isostatic pressing machine	Measurement of rough-processed
3	IF forging	High-accuracy forging machine	Dimension measurements for product
4	IF sintering	High temperature vacuum sintering furnace	Dimension measurements for product
5	Final machining	High-accuracy turning machine	Surface quality/ roughness and density
6	Package		Quality Test Report



❖ **Advantage of Tungsten crucibles:**

- Specially precise forming technology for tungsten crucible body
- Uniform grain with densified microstructure ensures longer life time
- Ready for use parts with precise machining tolerance1.

❖ **Products show:**



● TUNGSTEN PARTS——Other tungsten parts

✧ Products show:

