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钨合金产品

TUNGSTEN ALLOY PRODUCTS

● TUNGSTEN COPPER ALLOY

钨铜合金产品

◇ Products properties (性能):

钨铜合金 (WCu) 是钨和铜的复合金属, 结合了金属钨和铜的诸多优良特性

Tungsten Copper Alloy (Copper Tungsten, CuW, or WCu) is a pseudo-alloy of copper and tungsten.

—钨 Tungsten: 钨熔点高(钨熔点为 3410°C, 铜的熔点 1083°C)

—铜 Copper: 铜导电导热性能优越

High melting point(W-3410°C, Cu-1083°C)

Thermal conductivity of superior performance

密度大(钨密度为 19.3g/cm³, 铜的密度为 8.92g/cm³)

High-density(W-19.3g/cm³, Cu-8.92g/cm³)

—微观组织均匀

Homogeneous microstructure

—耐高温

High temperature resistant

—强度高

High strength

—耐电弧烧蚀

Arc ablation resistance

—高密度

High-density

—导电、导热性能适中

Electrical conductivity, thermal conductivity suitable

性能 Properties	密度 Density g/cm ³	热膨胀系数 Thermal Expansion Coefficient 10 ⁻⁶ /°C	热导率 Thermal Conductivity w/(m·k)	热容 Hot melts J/(kg·°C)	熔点 Point °C	强度 TRS MPa
W 钨	19.3	4.5	174	136	3410	550
Cu 铜	8.92	16.6	403	385	1083	120

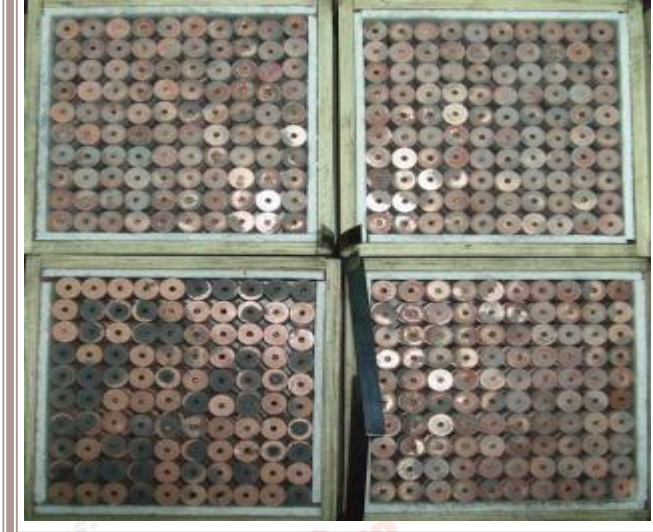
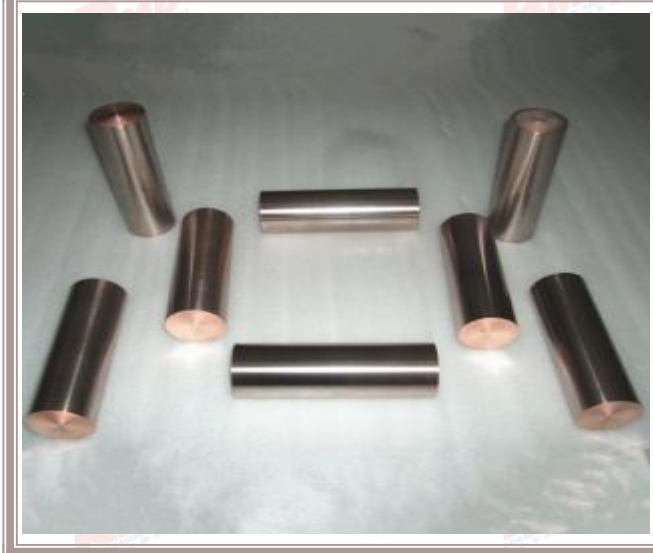
◇ Range of use (用途):

牌号 Grade	密度 Density /g·cm ⁻³	抗拉强度 UTS/Mpa		硬度 Hardness HB	电导率 Electrical Conductivity /MS·m ⁻¹	主要用途 Used
		20℃	1600℃			
WCu7	17.3~17.8	400~750	50~120		1	喷管、燃气舵 Nozzle, gas rudder
WCu10	16.8~17.3	400~700	60~100	180~220		喷管、燃气舵 Nozzle, gas rudder
WCu15	16.0~16.5	300~600		170~200		端头、构件、渗钨盐电子阴极 Tip, component, Infiltration of barium salt electron cathode
WCu20	15.1~15.5			140~160	20	触头、电极 contact, Electrode
WCu30	13.7~14.2			110~130	25	触头、电极、药型罩 contact, Electrode, liner
WCu40	12.7~13.2				29	触头、电极 contact, Electrode
WCu50	11.7~12.2				33	触头、电极 contact, Electrode

◇ Chemical Composition(成分):

牌号 Grade	化学成分 Chemical Composition %			机械性能 Mechanical properties			
	铜 Cu	杂质含量 Impurity	钨 W	密度 Density (g/cm ³)	硬度 Hardness HB	电导率 Conductivity IACS/ %	强度 TRS Mpa
CuW(50)	50+2.0	0.5	余量 Balance	11.85	115	54	
CuW(55)	45+2.0	0.5	余量 Balance	12.30	125	49	
CuW(60)	40+2.0	0.5	余量 Balance	12.75	140	47	
CuW(65)	35+2.0	0.5	余量 Balance	13.30	155	44	
CuW(70)	30+2.0	0.5	余量 Balance	13.80	175	42	790
CuW(75)	25+2.0	0.5	余量 Balance	14.50	195	38	885
CuW(80)	20+2.0	0.5	余量 Balance	15.15	220	34	980
CuW(85)	15+2.0	0.5	余量 Balance	15.90	240	30	1080
CuW(90)	10+2.0	0.5	余量 Balance	16.75	260	27	1160

❖ Products Show(产品展示):



● Tungsten Heavy Alloy 钨合金

◇ Products properties (性能) :

—由 W-Ni-Fe (钨-镍-铁) 或 W-Ni-Cu (钨-镍-铜) 或 W-Ni-Cu-Fe (钨-镍-铜-铁)构成, 有些钨合金还有添加 Co (钴)、Mo (钼)、Cr (铬)等。

Tungsten heavy alloys have two-phase composites consisting of W-Ni- Fe or W-Ni- Cu or even W-Ni-Cu-Fe, some tungsten alloy are added Co、Mo、Cr, etc.

—高熔点, 密度是钢铁的 2 倍, 并且重量比铅重 50%。钨的含量在合金中通常占 90%~98%,

They have very high melting point and have a density twice that of steel and are more than 50% heavier than lead.

Tungsten content in conventional heavy alloys varies from 90% to 98%

—延展性强, 易于加工。Ni-Fe 是作为添加剂使用。

Have good ductility ,easy to machine. Nickel-iron is the most popular additive.

◇ Range of use (用途) :

—运用于各方面的钨合金棒、块、盘等

Tungsten heavy rod, bar, cube, brick, block, plate for various applications

—主要用于生产飞镖的钨棒

Tungsten billet/barrel as main body of professional darts

—高尔夫球的螺母, 鱼坠

Screws/heads for golf club, flying fish sinker

—用于游艇、船, 潜艇或其他船种的配重

Counterweight used in yacht, sailboat, submarine and other vessels

—飞机, 赛车等零件

Ballast for aircraft, helicopter, F1 racing cars, and other vehicles

—用来穿甲的动能破甲弹

Kinetic energy penetrators for defeating heavy armor

—平衡块, 石油钻井设备

Governor balance weight, holders for Oil Well Logging

—子弹, 手枪以及炸弹的块, 球

Cubes/balls for bullet, rifle, missile and bomb

—屏蔽件, X 射线, 医疗设备等的电源架

Radiation shield, source holder for nuclear U-power, X-ray, and medical instruments parts etc

—手机, 钟表

Bobs/vibrators for mobile phone, clock

—钨合金喷嘴

Tungsten-thoria guide nozzles

✧ **Chemical Composition(成分):**

成分 Chemical Composition	密度 Density (g/cm ³)	硬度 Hardness(RC)	延展率 Ductility(%)
90W6Ni4Cu	17	24	6
90W7Ni3Fe	17	25	10
92.5W5.25Ni2.25Fe	17.5	26	7
95W3.5Ni1.5Cu	18	27	7
95W3.5Ni1.5Fe	18	27	7
97W2.1Ni0.9Fe	18.5	28	5

✧ **Products Show (展示):**

