

MarkeTech WCu20 Tungsten Copper Alloy

Category : Metal , Nonferrous Metal , Refractory Metal , Tungsten Alloy

Material Notes:

Used to fabricate parts to near net size and several processes to produce high quality tungsten based materials. Tungsten heavy alloys have very high melting point and have a density twice that of steel and are more than 50% heavier than lead. Due to their high density, tungsten alloys offer greater radiation shielding than lead and are non-toxic. Tungsten alloys are electrically and thermal conductive and offer good corrosion resistance. They also have a low coefficient of expansion and have a high modulus of elasticity. Because of these unique properties tungsten alloys are used extensively in military applications, balance weights, aircraft components, nuclear and medical shields, fishing and sport tackle, rocket components, tool vibration dampers, electrical contacts, etc. Applications: Nuclear and medical radiation shielding for x-ray and shields for radiation therapy and industrial applications. Aircraft and helicopter rotor balance weights Instrument balance weights Weights for sport equipment Tool damping cutter bars High voltage contacts Information provided by US representative, MarkeTech International.

Order this product through the following link:

http://www.lookpolymers.com/polymer_MarkeTech-WCu20-Tungsten-Copper-Alloy.php

| Physical Properties | Metric | English | Comments |
|---------------------|------------------|----------------------------------|----------|
| Density | 15.2 - 15.6 g/cc | 0.549 - 0.564 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|---------|---------|----------|
| Hardness, Brinell | >= 2160 | >= 2160 | HB (MPa) |

| Thermal Properties | Metric | English | Comments |
|----------------------|--|--|----------|
| CTE, linear | 8.30 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 4.61 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 20.0 $\text{Å}^\circ\text{C}$ | @Temperature 68.0 $\text{Å}^\circ\text{F}$ | |
| Thermal Conductivity | 200 - 220 W/m-K | 1390 - 1530 BTU-in/hr-ft ² · $\text{Å}^\circ\text{F}$ | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|--------|---------|----------|
| Copper, Cu | 20 % | 20 % | |
| Tungsten, W | 80 % | 80 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|----------------------|----------------------|----------|
| Electrical Resistivity | <= 0.00000510 ohm-cm | <= 0.00000510 ohm-cm | |

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