Tungsten Alloy Radiation Cover

The radiation cover has been used for several decades now. The early radiation cover was not very efficient and very expensive due to technological reasons. It was used by the people who worked on radar and microwave transmission. As the development of the technology, the efficiency of the radiation cover has been highly enhanced; it can efficiently resist and refract the X-ray, UV, microwave radiation and so on. As radiation level rise and becomes a problem, it is crucial to protect body from it. Tungsten alloy radiation cover for plasma accelerator is necessary. Because of high density and smallest capacity, tungsten alloy material is gaining popularity as body protection, tungsten radiation cover against plasma accelerator radiation. Compared with lead, tungsten is much smaller but with higher density, which is very helpful for high radiation absorption. It is more than 60% denser than lead with excellent machinability and good corrosion resistance. And more important, tungsten ally is environmentally friendly and non-toxic.

Advantages of Tungsten Alloy Radiation Cover

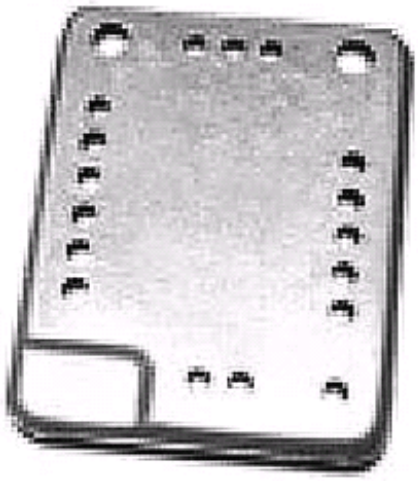
Experts find that radiation exposure could be reduced by maxing shielding. The density of a material is related to its radiation stopping ability. Higher density means better stopping power and shielding. Due to a higher density, tungsten heavy alloy has a much higher stopping power than lead. Its greater linear attenuation of gamma radiations means that less is required for equal shielding. Alternatively equal amounts of tungsten shielding provide diminished exposure risks than equivalent lead shielding.

Tungsten heavy alloy is a suitable raw material for tungsten alloy radiation cover to radiation protection, as its combination of radiographic density (more than 60% denser than lead), mach inability, good corrosion resistance, high radiation absorption (superior to lead), simplified life cycle and high strength. Tungsten alloy radiation cover can provide the same degree of protection as lead whilst significantly reducing the overall volume and thickness of shields and containers. Besides, compared with lead or depleted uranium in the past, tungsten heavy alloy is more acceptable in tungsten alloy radiation cover, for they are non-toxic.

Why Use Tungsten Alloy Radiation Cover?

Compared to traditional radiation shielding materials such as lead and boron carbide, tungsten alloy radiation cover provide excellent density with small capacity. At the same weights high density alloy can provide the same energy absorption as lead using 1/3 less material. When the weight is certain, more density, and the thickness would be thinner. Tungsten alloy material could be made with thinner thickness but high absorption of radiation in high density. That is why tungsten alloy material is suitable for radiation shielding.

Tungsten alloy radiation cover for syringe



Tungsten alloy radiation cover plate

Medical Application Series of Tungsten Alloy Radiation Cover Shielding Materials in Medical:

1 .Tungsten alloy (tungsten heavy alloy) Multi-leaf Collimator(MLC)

Nuclear Technology Application Series of Tungsten Alloy Radiation Cover Shielding:

1. 60Co and tungsten alloy containers of other radiation shielding;

The Application of Tungsten Alloy Radiation over Shielding Parts:

• Radioactive source containers
• Shielding in cancer therapy equipments

During design of shielding, it is calculated according to requirements of shield to abate the multiple shielding materials' thickness.

Formula: K = e0.693 d / 1/2
K: Shield weakened multiple
1/2: The shielding material of the half-value layer values
d: Shielding thickness, with the half-value layer thickness of their units, you need to half-value layer thickness of the quality of translation into the thickness of the material, divided by the density of the material can be obtained.

The usage of tungsten alloy radiation cover is not subject to NRC, EPA, or special OSHA regulations, so it has been widely used, such as:

- Radioactive source containers
- Gamma radiography shields
- Shielding block
- Source holders for oil well logging and industrial instrumentation
- X-ray