

Tungsten Titanium (WTi)

Product Introduction

As microelectronics technology continues to progress the requirements for barrier films is more prevalent than ever. A large number of studies have shown that barrier layers of Tungsten-titanium (WTi) alloy containing 10wt% to 30wt% (Ti) have been successfully applied to Al, Cu, and Ag wiring technologies. Tungsten (W) acts as a diffusion block, while Ti prevents the diffusion of grain boundaries, improves corrosion resistance and increases adhesion of the barrier layer. WTi alloy sputtering targets have also been widely used as materials for contact layers in semiconductor chip gate circuits.

| | Ti \leq 10wt% | >10wt% to \leq 30wt% | Ti > 30wt% |
|------------------------|-----------------------------|-----------------------------|-----------------------------|
| Purity | \geq 4N5 (99.995%) | \geq 4N5 (99.995%) | \geq 4N (99.99%) |
| Ti Content | \pm 0.5wt% | \pm 0.5wt% | \pm 0.5wt% |
| Density | \geq 99.5% of th. density | \geq 99.5% of th. density | \geq 99.5% of th. density |
| Average Grain Size | \leq 50 μ m | \leq 50 μ m | \leq 50 μ m |
| O ₂ Content | \leq 1000ppm | \leq 2000ppm | \leq 2000ppm |
| Max Size | \varnothing 340mm | \varnothing 340mm | \varnothing 340mm |

*Dimensions are available on request

Recycling

Vital' s inhouse recycling and refining services guarantee stable WTi supply with consistent quality due to tight control over the starting raw materials. This creates a unique position for VTfM to support customers with a closed-loop recycling service of spent WTi targets, thereby reducing cost of ownership. VTfM has established a WTi target 'leasing' program based on utilization rates or crediting accounts for the returned value according to daily prices less recycling fees.

VTfM is ISO9001, ISO14001, ISO14021 and OHSAS18001 certified.

