BASE PLATES for the next power generation

Strong metals for micro-, power- and opto-electronics. Plansee delivers tungsten and molybdenum semiconductor base plates used as carrier and contact plates for silicon wafers in thyristors (GTOs), transistors and silicon-controlled rectifier diodes.

With their high purity as well as their high electrical and thermal conductivity, our materials reliably dissipate heat away from the active device. An ideal coefficient of thermal expansion similar to this of the semiconductor material avoids critical mechanical stresses causing premature device failure and ensures a particularly long lifetime of the modules.

Additional benefits:

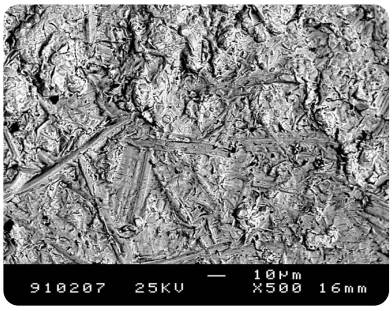
- Full service: from prototyping to mass production
- Flexibility: customised design and dimensions
- High quality: complete in-house production
- Advanced coatings for your application: PVD or galvanic process
- Advanced production techniques: from near net shape production to serial production (for ex. stamping and laser jet cutting), outstanding tolerances to meet customers' requirements

	Molybdenum	Tungsten
Purity	99.97 %	99.99 %
Linear coefficient of thermal expansion (at 20°C)	$5.2 \cdot 10^{-6}$ [m/(m·K)]	$4.2 \cdot 10^{-6}$ [m/(m·K)]
Electrical conductivity (at 20°C)	$17.9 \cdot 10^{-6}$ [1/(Ω·m)]	$18.0 \cdot 10^{-6}$ [1/(Ω·m)]
Specific electrical resistivity (at 20°C)	0.056 [(Ω·mm²)/m]	0.050 [(Ω·mm²)/m]
Thermal conductivity (at 20°C)	140 W/(m·K)	164 W/(m·K)

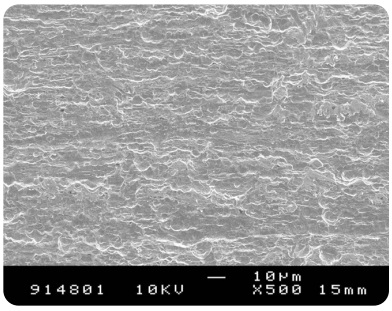
Advanced coatings

Plansee offers semiconductor base plates coated with ruthenium, nickel, chromium, silver or gold. Advanced coatings protect against oxidation and improve the electrical contact. Due to their good adhesion they build a firm compound with the semiconductor.

We apply our coatings by means of physical vapour deposition. This process ensures a higher purity and more homogeneous layers than the conventional electroplating process.



Electroplated ruthenium



Excellent homogeneity: PVD coated ruthenium

Various geometries and sizes for squares and rectangles according to your requirements:

Molybdenum
Thickness: 0.1 mm - 5.0 mm
Length: 1.0 mm - 70.0 mm
Width: 0.2 mm - 10.0 mm

Tungsten
Thickness: 0.4 mm - 5.0 mm
Length: 1.0 mm - 70.0 mm
Width: 0.2 mm - 10.0 mm

Contact us!

Our team will be happy to find the ideal design and coating solution for your application.

www.plansee.com

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