

MWS inventories bare pure gold, silver and platinum from AWG 16 and finer, in addition to ribbon and flat wire. These precious metals can also be insulated and produced in Multifilar®, Microsquare™ and Twistite™ constructions. Refractory metals, tungsten and niobium, are available from stock at .020" and finer.

## Properties of Specialty Metals

METAL	ATOMIC SYMBOL	MELTING POINT (°C)	DENSITY (lbs./in. <sup>3</sup> )	COEFFICIENT of LINEAR THERMAL EXPANSION @ 20°C (x 10 <sup>-6</sup> /K)	THERMAL CONDUCTIVITY @ 0°C (W/(m x K))	ELECTRICAL RESISTIVITY @ 20°C (Ω/circ. mil/foot)	TEMPERATURE COEFFICIENT of RESISTANCE (0-100°C)	ANNEALED TENSILE STRENGTH (ksi)
Gold	Au	1064	.698	14.2	317	13.31	.00372	30-32
Niobium	Nb	2468	.310	7.2	52	78.80	.0026	30-40
Platinum	Pt	1769	.775	8.9	71	63.91	.00393	18-24
Silver	Ag	962	.379	18.9	418	9.56	.00382	18-27
Tungsten	W	3410	.695	4.5	173	33.08	.0046	350-450

## Ribbon and Flat Products



*Precious metal rolling mill custom-built and specifically designed for fabrication of gold, silver, and platinum ribbon. Dimensional tolerances as tight as .00015".*

MWS supplies three basic types of flat conductors: ribbon (flat wire), strip, and foil or sheet. All three products are produced in a series of rolling processes, and are supplied with round, radial, or sharp-edge constructions.

### Ribbon

Normally produced from round wire in a single or multiple pass rolling process, ribbon products range in size from thicknesses as small as .0005", and widths as large as .100". Thickness tolerances are as tight as  $\pm .00015"$ , and width tolerances are as tight as  $\pm .0005"$ . Ribbon products usually are supplied with rounded edges, on spools that are paper sectioned to enhance despooling.

### Strip

Generally speaking, strip products range from thicknesses of .005", with widths from .125" to 2". Radial or sharp edges are available, with material packaged in coils or on spools.

### Foil or Sheet

Produced after rolling, by a shearing or slitting process, foil or sheet is supplied in widths from 2" to 12". Thicknesses can range from .001" to .020". The slit edge is sharp and may require deburring for certain applications.