



Luma Gold Plated Tungsten Wire alloyed with 3% Rhenium

For some applications tungsten rhenium wire has to be plated to meet special requirements. This may be for instance to protect the wire from corrosion or to solder it to other metals.



Example of applications

-  Antennas
-  Printing
-  Technical research

Properties of Tungsten wire alloyed with 3% Rhenium

Purity of Tungsten before Rhenium addition	99.95% W
Melting point	3380 °C
Density	19.22 g/cm ³
Specific electrical resistance at 20 °C	0.092 Ohm x mm ² /m
Modulus of elasticity at 20 °C	430 kN/mm ²

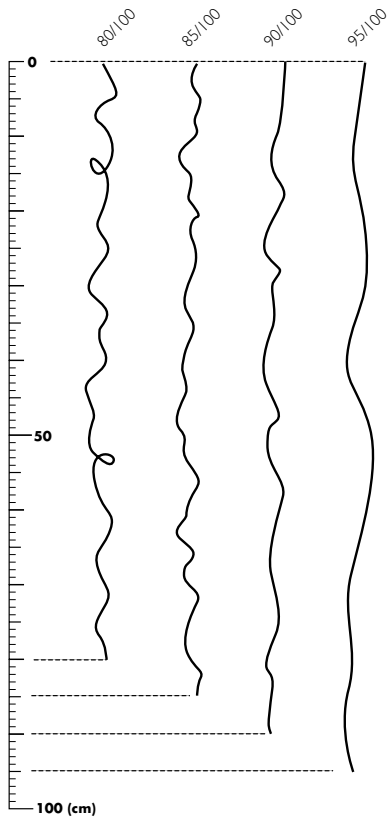
Wire qualities Description

861/60	Treatment before plating: Etched. Type of strike: Gold
861/66	Treatment before plating: Ultra polished. Type of strike: Gold
861/67	Treatment before plating: Ultra polished. Type of strike: Nickel

Examples of wire dimensions with coat thickness as per Luma standard

Wire Dimension (microns)	Wire Dimension (mils)	Au coat thickness (microns)	Au coat by weight %
25	0.984	0.25 +/- 0.07	3.0 - 5.0
50	1.97	0.5 +/- 0.1	3.0 - 5.0
75	2.95	0.5 +/- 0.1	2.2 - 3.2
100	3.94	0.5 +/- 0.1	1.6 - 2.4
150	5.91	0.5 +/- 0.1	1.0 - 1.6

Straightness



Wire dimensions	5 - 200 microns 0.2 - 7.87 mils
Diameter tolerance	+/- 4% by weight as standard. Minimum +/- 1.5% available on request
Gold coat thickness	For wire dimensions below 50 microns, the coat thickness corresponds to 3 – 5% by weight as standard. For wire dimensions from 50 microns the coat thickness is 0.5 micron as standard. The coat thickness can be adjusted to meet your requirements.

Ovality (out of roundness)

Ø Microns	Standard	Available on request
< 15	Max 6%	Max 3%
≥ 15	Max 5%	Max 2%

Elongation	1 – 3%
-------------------	--------

Straightness

Straightness grade	Ø Microns < 15	Ø Microns ≥ 15
4 (80/100)	standard	-
3 (85/100)	on request	standard
2 (90/100)	on request	on request
1 (95/100)	not available	on request

Standard tensile strength of Gold Plated Tungsten alloyed with 3% Rhenium

