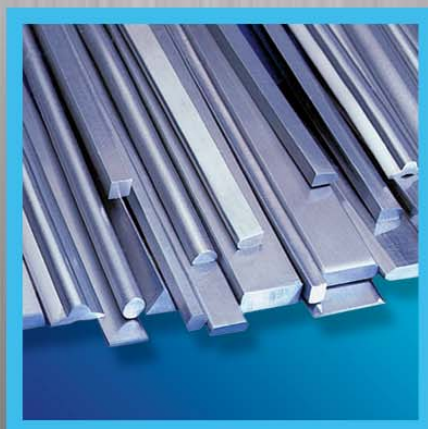


# *Ulbrich* SPECIALTY WIRE GROUP

**One Metal Supplier, Endless Solutions**



*We Deliver Precision*<sup>®</sup>





## Shaped Wire

Ulbrich Shaped Wire specializes in the manufacture of custom made shapes and flats for a wide variety of industries. Depending on the complexity of the profile, shapes may be either net or near net suitable for stamping, coining, forming, or machining. All tooling is custom manufactured in house by our state of the art tooling center. We also offer metallurgical and engineering support for all customers. Ulbrich Shaped Wire supplies a wide range alloys including Nitinol which can be provided as a flat, coiled wire product that is not readily available in the market place.

### Alloys:

- Stainless Steels
- Titanium Alloys
- Nickel Alloys
- Cobalt Alloys
- Nitinol Alloys
- Many Others

### Shaped Wire:

- Rectangle, Hexagonal, Octagonal, Triangle, Half-Round, Many Custom Profiles on Request

### Gauge Range:

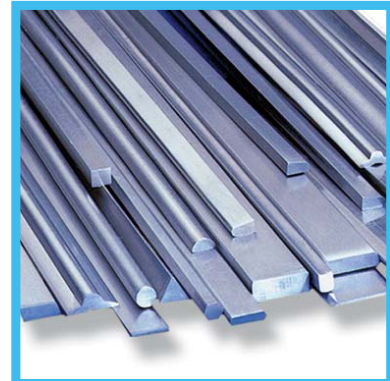
- .005 to .210 inch (.120 to 5.33 mm)

### Width Range:

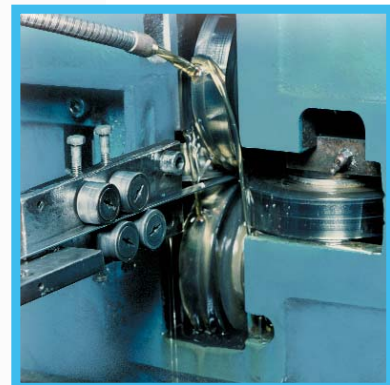
- .035 to 1.50 inches (.89 to 38.46 mm)



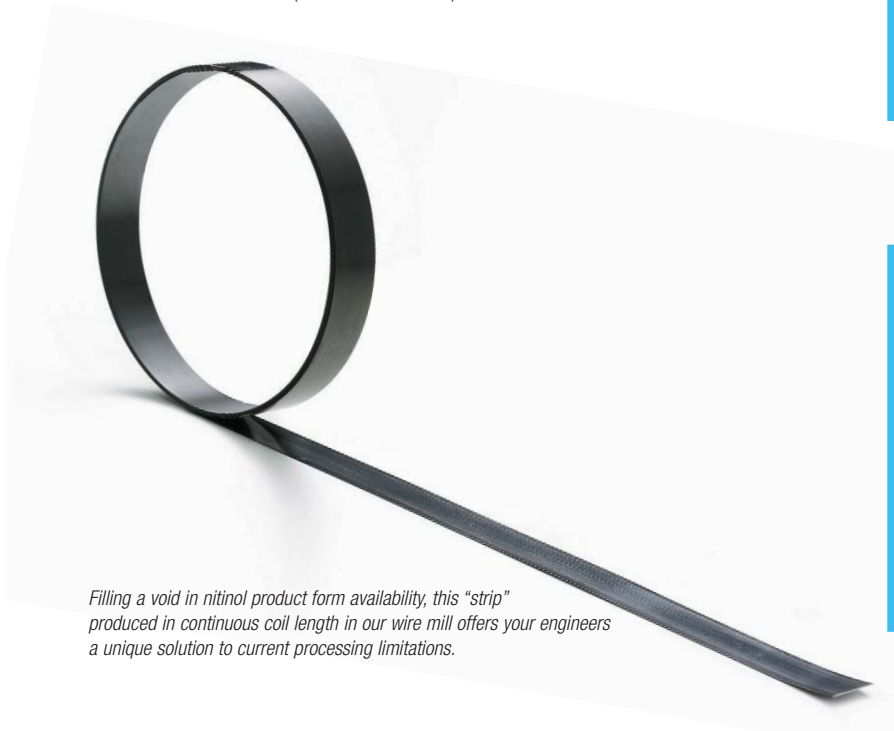
*Intermediate and final strand annealing is used to control mechanical properties.*



*Net or near-net custom cross-sectional shapes are used in a broad range of applications in a variety of industries.*



*Filling a void in nitinol product form availability, this "strip" produced in continuous coil length in our wire mill offers your engineers a unique solution to current processing limitations.*





## Precision Flat & Fine Wire

Our Precision Flat Wire facilities are capable of producing gauges for many demanding applications serving a variety of industries. Our "Focus Factory" approach dedicates managers and engineers along with state of the art equipment to produce and manage industry specific requirements.

Our production equipment uses the latest in "on-line" gauging and data acquisition technology that generates full statistical summaries with each production run, enabling us to control our process and offer tolerances as tight as +/- .0025mm (.0001") on our lightest gauges. Precision spooling of fine wires onto a variety of spools or bobbins using CNC winders enables trouble-free performance in the most demanding applications. We offer a wide range of finishes for photovoltaic applications, saw blades, as well as for certain medical applications.

### Alloys:

- Stainless Steels
- Aluminum Alloys
- Copper & Brass Alloys
- Nickel Alloys
- Carbon Steel
- Nitinol

### Gauge Range:

- .0003 to .210 inch (.0076 to 5.33 mm)

### Width Range:

- .002 to 1.50 inches (.0508 to 38.1 mm)

### Rounds:

- .001 to .400 inches (.0254 to 10.16 mm)

### Squares:

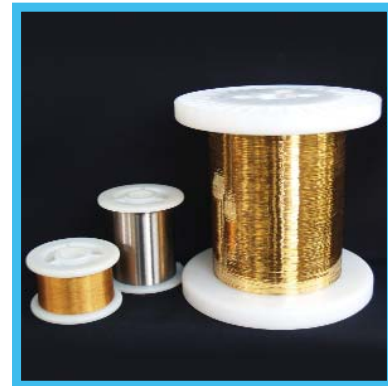
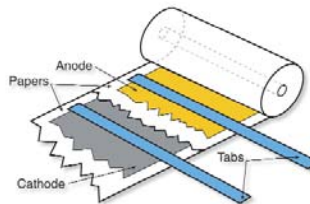
- .030 to .250 inches (.762 to 6.35 mm)

### Surface Finishes:

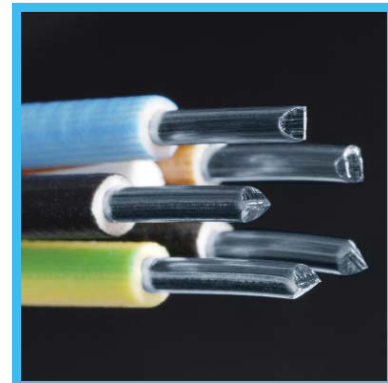
- Tin and Lead Coated
- Heat Treated and Tempered
- Bright Polish

### Applications:

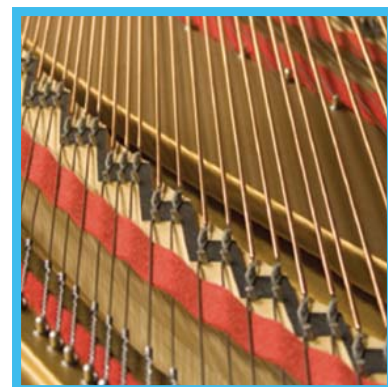
- Tinned copper and aluminum tabs for capacitors
- Aluminum and nickel tabs for batteries
- Gold plated products for a variety of applications in the electronics, medical and aerospace markets
- Silver plated copper flat shield wires for telecom cables
- Silver plated copper wires for applications in music strings and medical devices



*Plated products for a variety of industries.*



*Telecommunications products.*



*Engineered music wire products.*



## One Metal Supplier, Endless Solutions

### Precision Flat & Fine Wire

Ulbrich Precision Flat Wire and Ulbrich Precision Metals are your perfect source for your ultra-fine wire requirements. Precision plated or bare in various geometries including rounds, squares, and flats. All to extremely close tolerances.

We process a vast amount of materials for various markets that include: Medical, Electronics, Telecommunications and Energy Materials.

Ulbrich supplies materials in spools, cut to length, pancake coils, precision layer wound and other custom packages. Traverse spools, flanges, various barrels and bore sizes available to satisfy all your requirements.

#### Alloys:

- Copper
- Brass
- Kovar
- Invar
- Phosphorus Bronze
- Monel400
- Dumet
- Alloy 52
- Beryllium Copper
- Copper Nickel Alloys
- Pure Nickel 200/205
- Other Resistant Alloys

#### Specialty Alloys:

- Copper Clad
- Aluminum
- Tantalum
- MP35
- FeChrome
- Copper Aluminum Clad
- Nickel Plated Steel
- Tungsten
- 300 Series VM
- Nickel Alloys
- Aluminum Clad
- Molybdenum
- Titanium Alloys
- 430

#### Plating:

- Gold type I, II, III per MIL-G-45204 Solder per MIL-P-81728\*
- Silver per QQ-S-365 and ASTM B-298 Military Standard -1276\*
- Copper per MIL-C-14550
- Nickel per QQ-N-290\*
- Tin per MIL-T-10727 Solder-ability per MIL-STD-202

\* ASTM Specifications



Ultra-fine wire is braided on specialized braiding equipment. (Steeger machine shown above)



Close up of multiple bobbins wound on Steeger machine.



Global Representation with Service and Distribution Centers Worldwide.



*We Deliver Precision®*



***We Deliver Precision®***

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