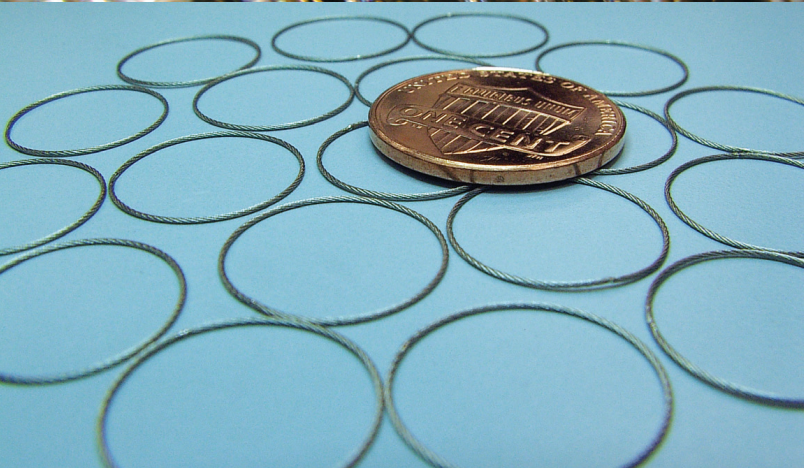




STRAND

PRODUCTS
Incorporated

Custom Mechanical
Wire & Cable Assemblies
For Medical Devices



+1.800.343.7985



STRAND
PRODUCTS
Incorporated

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Ventura, CA 93003
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FACILITIES

State-of-the-art engineering, manufacturing, testing, and QC facilities all directly influence the superior and efficient mode of operations at Strand Products:

ISO CLASS 7 CLEAN ROOM

- **Cable Termination** – Strand utilizes automated and manual wire and cable cutting equipment to terminate to length, while controlling end weld diameters. Cut methods include shear, laser, plasma, and resistive welding.
- **Laser Welding** – Fiber and YAG systems for welding of Nitinol, Tungsten, Titanium, Stainless, joining of dissimilar materials, process controlled.
- **Assembly** – Full Line of process controlled pneumatic presses for crimping and swaging. Contract device assembly.
- **Inspection** – Microscopes, Video Inspection Systems, Digital Comparators
- Sterile packaging environment
- Tensile proof loading of cables in production
- Fully controlled impulse sealing
- Barcoding

ISO CLASS 8 CLEAN ROOM

- Cleaning & Passivation per QQ-P-35 & ASTM A967
- Precise Polishing & Grinding of Terminations
- Ultrasonic Cleaning
- Cross Sectioning

Tensile Testing

- Destructive and non-destructive testing. All testing and measurement equipment is certified and calibrated utilizing reference standards traceable to NIST.

*"Strand always goes the extra mile to help keep us on schedule.
-No effort was too great for them to meet our project demands."*

Bob Elson

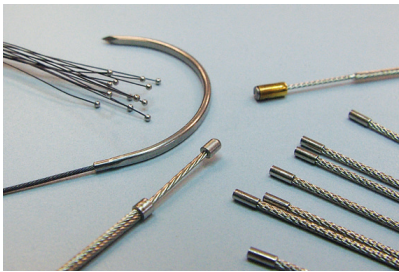
V.P. of Engineering, Coapt Systems, Inc.



Typical Medical Assembly, SurgiWire™ by MicroAire. Manufactured per ISO-13485.

Strand Products, Inc. is a world leader in the design and manufacturing of high tolerance precise mechanical wire and cable assemblies for the Medical Device industry. Established in 1972, Strand has focused on the needs of the Medical Device community with special dedicated facilities and procedures that are qualified under AS9100 and ISO-13485. Whether you have a functional product, or only a vague concept, our engineering staff will support you with design, prototyping, and testing assistance to help you push towards production in a timely and cost efficient manner.

CAPABILITIES

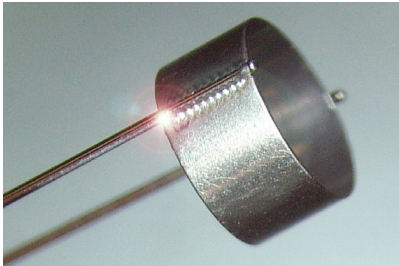


PRODUCTS

At Strand, we pride ourselves in our niche abilities to meet difficult assembly tolerances and configurations that our competitors are not capable of achieving. We specialize in manufacturing mechanical wire and cable assemblies that may incorporate any of the following:

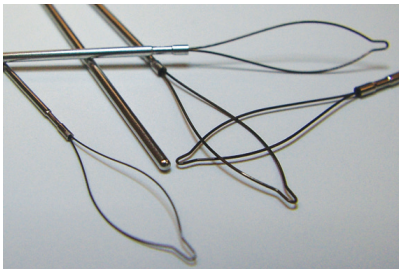
WIRE, CABLE & FITTING MATERIALS

Stainless Steels, Nitinol, Titanium, Tungsten, MP35N, Inconel, Platinum, Phosphorus Bronze, Vectran, Plastics & Polymers.



ASSEMBLY

Swaging & Crimping, Laser Welding of dissimilar materials, Nitinol Shape Setting, Clean room Assembly, Ultrasonic Cleaning & Passivation.

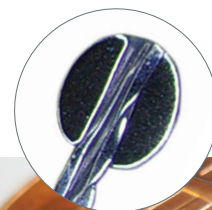


TOOLING

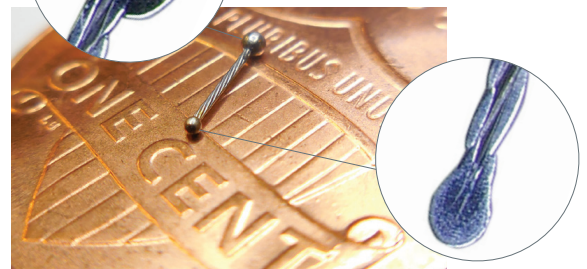
In house 3-D printing allows us to drive down assembly cost and lead time.



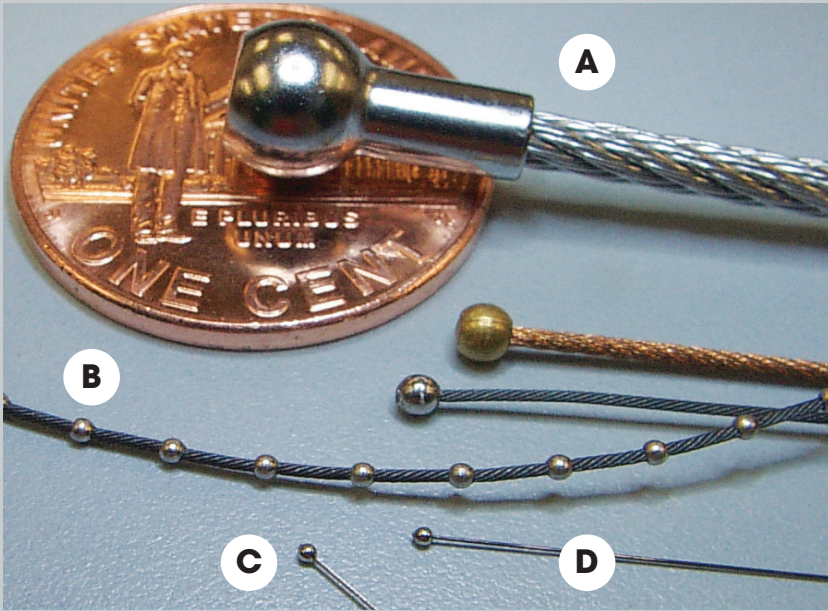
Tungsten Cable
Ball Weld



Titanium Ball
Swage



TYPICAL BALL SWAGE ASSEMBLY CONFIGURATION



A
0.090" Dia. 7x7 304sst Cable With Se 1x7 Nitinol Core. 0.250" Dia. Sst Ball Swage. Medcoat 2000 Coated. 900 lb Uts.

B
0.018" Dia. 8x19 Tungsten Cable With 0.034" Dia. Sst Ball Swage Chain. Spacing is 0.125" \pm 0.005". Ball Tensile Strength 45 lbs.

C
0.006" Dia. 316lvm 1x19 Cable with 0.026" Dia. Sst Ball Swage. Assembly Tensile Strength 7 lbs.

D
0.006" Dia. Se Nitinol Wire With 0.026" Dia. Sst Ball Swage. Assembly Tensile Strength 5 lbs.

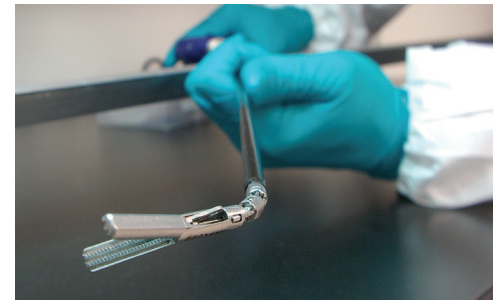
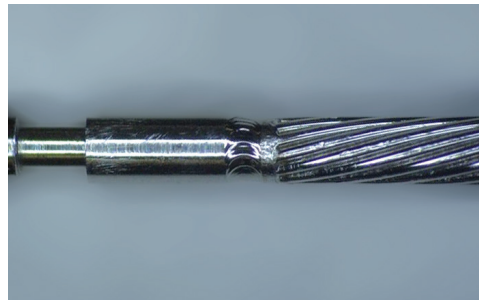
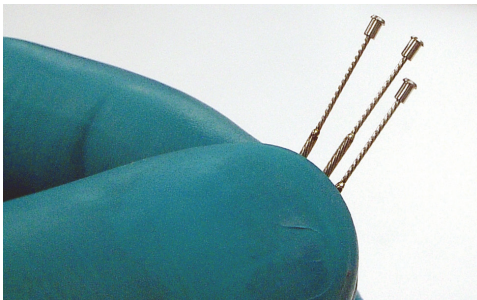
QUALITY

We know the quality and workmanship you expect when you place your first order with Strand. Our ability to inspect and test everything we manufacture in-house, ensures we exceed your quality standards every time. The core of the Strand Products quality program is training, discipline, and above all, pride in workmanship. Strand utilizes sophisticated MRP software to ensure procedures are rigorously followed, with traceability maintained throughout permitting verification at every level.

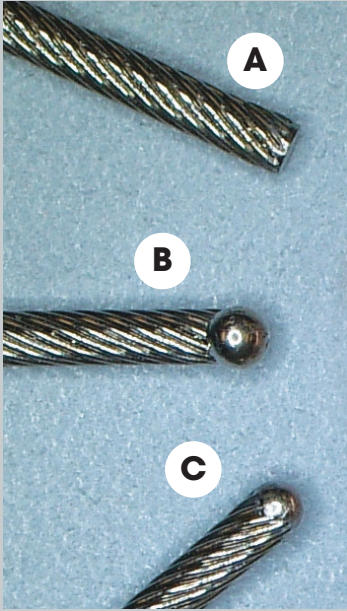
Quality Certifications held by Strand Products, Inc. include AS9100, and ISO9001:2008. ISO13485 for select products. FDA Registered #3004869378.

COST

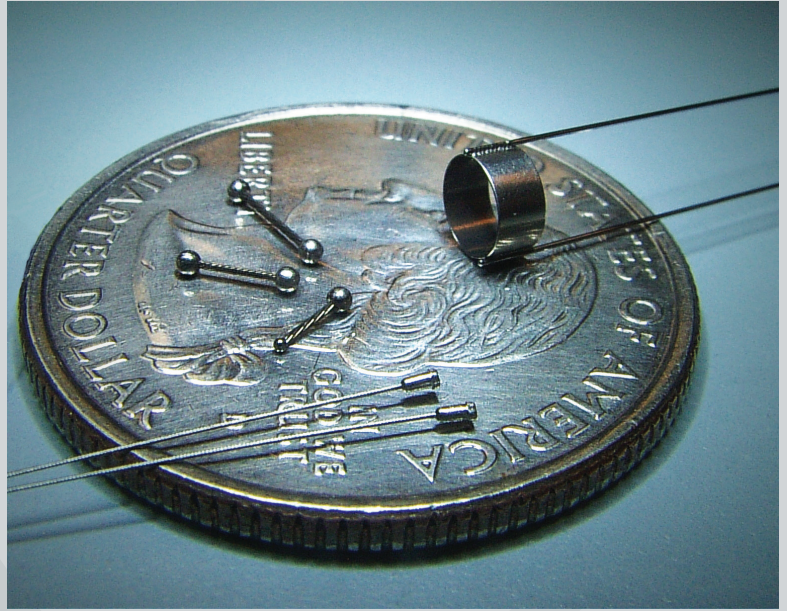
At Strand we apply sophisticated work order tracking to allow us to track each assembly every step of the way and ensure that all process requirements are met through the production cycle. Our accurate assessments of costs allow us to make necessary changes and respond to the needs of our customers, ensuring exceptional quality, on time delivery, at lower prices.



CABLE FUSE-CUT END OPTIONS



- A**
Square End
- B**
Ball End
- C**
Dome End



DELIVERY

We Practice “Just in Time” inventory management, and supply to many customers implementing JIT Kanban systems. We can stock your parts to minimize lead times, address production schedule changes, and answer all your manufacturing requirements. Should an unexpected need arise, we have the ability to deliver parts, quickly.

KNOWLEDGE

For more than 40 years, our dedication to precision wire and cable assemblies has built an in-depth experience and knowledge base of cable assembly manufacturing. Perhaps your need is a critical $\text{\O}0.006$ ” cable assembly requiring machining, laser welding, extensive documentation, process validation, testing, and design support. Strand has the tooling, experience, and engineering know-how to support the specific requirements of each and every customer from concept through production regardless of the quantity.

“Strand’s flexibility and attention to customer service has been instrumental in developing a great partnership with Estech in Medical Device Manufacturing.”

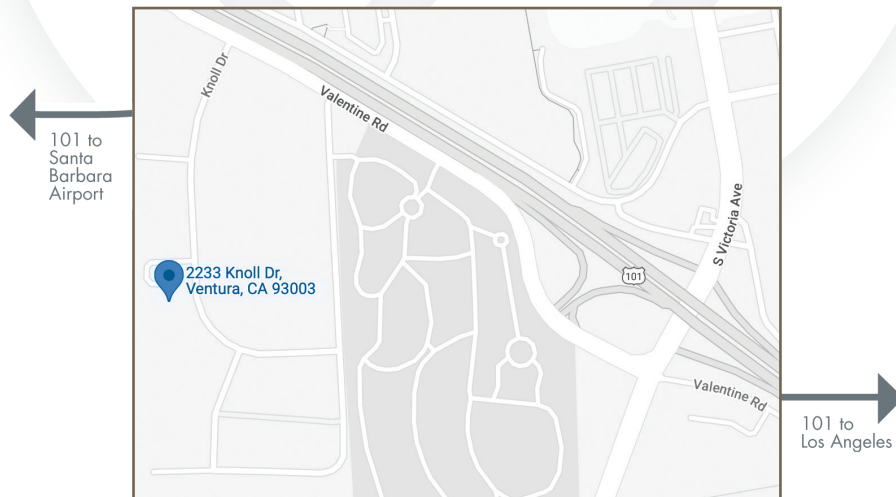
Mike Banchieri
R&D Manager, Estech



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"The expertise and capabilities at Strand are excellent. The quality of their products and services has helped us continue to innovate our products."

Brian Placek

R&D Engineer, Sadra Medical, Inc.

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Mission: To be the most innovative, highest quality mechanical wire and cable assembly partner.
To advance social and scientific progress through medical device, aerospace and other technologies.