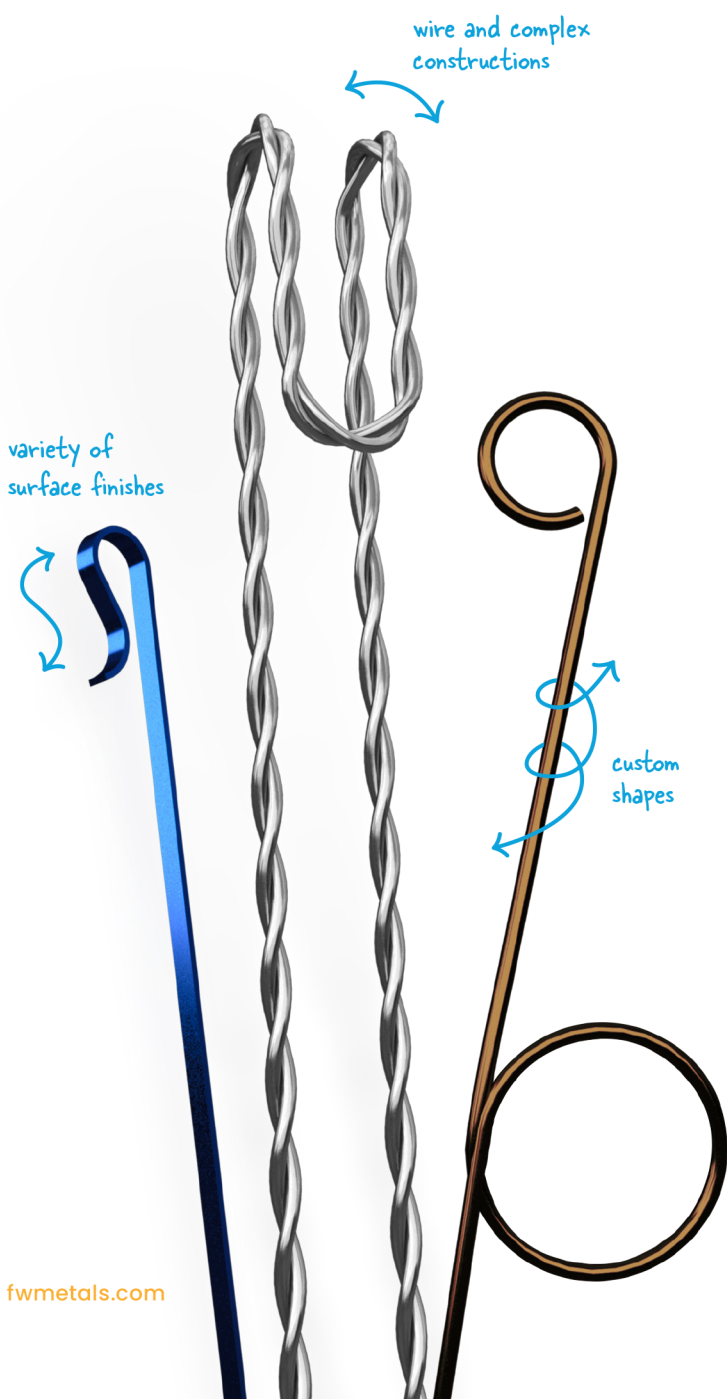




Shape-set Nitinol

Complex parts set to custom specifications



Custom shape-set parts

Shape-set parts are Nitinol wire shapes that can flex and return to their original form. Using a number of different product forms, such as round or shaped wire, or strand and cable configurations, shape-set parts can perform work in hard to reach places and open up new possibilities for device performance.

Typical end uses

Customizing the specifications of your shape-set part means the possibilities are practically limitless. We've seen our customers utilize shape-set Nitinol for:

- › Suture retrievers
- › Iris expanders
- › Shaped needles
- › Surgical clips
- › Retrieval baskets

Superelastic and shape memory Nitinol

SUPERELASTIC NITINOL commonly used in medical devices. Active austenite finish (A_f) transformation temperatures for superelastic grades are between -20°C to 22°C [-4°F to 71.6°F].

SHAPE MEMORY NITINOL commonly used for actuators and other industrial applications. Active austenite finish (A_f) transformation temperatures for shape memory grades are between 22°C and 80°C [71.6°F and 176°F], with some grades offering temperatures greater than 85°C [185°F].

Testing capabilities

- › Finish A_f testing using Differential Scanning Calorimetry (DSC) per ASTM F2004, Bend and Free Recovery (BFR), per ASTM F2082
- › Mechanical testing per ASTM F2516
- › Dimensional analysis of validation runs and First Article Inspection (FAI)
- › Surface roughness testing by non-contact surface profilometer
- › Corrosion testing per ASTM F2129



Additional end treatments

COINING/FLATTENING for end stops or location-specific widening
EDM CUTTING for tight tolerances, burr-free cuts, and square cut ends

WELD BEADS in full radius or large beads greater than wire diameter

MECHANICAL ASSEMBLY for custom crimps and fittings

Design specifications

SIZE RANGE

- › **Wire diameter:** 0.0762 mm to 2.000 mm
[0.003 in to 0.0787 in]

PRODUCT FORMS AVAILABLE FOR SHAPE SETTING

- › **Round wire:** wire with a circular cross section
- › **Flat wire:** wire with a rectangular cross section
- › **Shaped wire:** wire with specialty shaped cross sections
- › **DFT® composite wire:** two dissimilar materials in a single wire construction
- › **HHS® tube:** improved torqueability and kink resistance, plus an open working channel
- › **Strands and cables:** complex constructions for advanced applications

SURFACE FINISHES

- › Natural forming oxide
- › Dark oxide
- › Etched
- › Electropolished
- › Surface conditioned

Examples of shape-set parts

Double diamond strand



Flat wire with folded ends



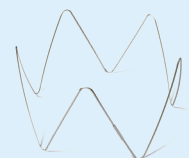
U-shaped with beaded end



Twisted loop with hypotube



Crown with crimp





Scan to visit our website
for additional information
on this topic and more.

LOCATIONS AROUND THE WORLD

Global Headquarters
Fort Wayne, Indiana, U.S.A.

European Headquarters
Castlebar, Co. Mayo, Ireland

Advanced Materials Development
Columbia City, Indiana, U.S.A.

International Sales Support
Shanghai, China
Augsburg, Germany
Potheri Chennai, India
Savyon, Israel
Kobe, Japan
Seoul, Korea

U.S.A. Sales Support
San Mateo, California
Ridgefield, Connecticut
Chanhassen, Minnesota

Find your Sales Representative
at fwmetals.com/find-your-rep



FORT WAYNE METALS

Turning knowledge into solutions.®

9609 Ardmore Avenue
Fort Wayne, Indiana 46809
PHN 260.747.4154
FAX 260.747.0398
EMAIL info@fwmetals.com