Since 1960, Ken-tron Wire Division has provided high quality custom drawn wire for a range of applications from medical, industrial, and military to musical. Originally named Kentucky Electronics, our growth and diversification has provided us with the ability to meet your wire needs for high quality and rigid tolerances such as temper, straightness, bend and size to within +/-.0001 inch (one ten thousandth). We are dedicated to delivering the best service – Our Service is Our Strength.

We are conveniently located at 610 Industrial Drive in Owensboro, Kentucky, where we can easily and quickly ship to any national or international location of your choice. You can reach us by calling (270) 684-0431, by facsimile: (270) 684-0435, or email: wire@ken-tron.com. Our mailing address is Ken-tron Mfg., Inc., P.O. Box 21250, Owensboro, KY 42304-1250. Any way you contact us, our customer service representatives will quickly, courteously and enthusiastically answer your needs, whether it be a quote, an order or just an information request.

Ken-tron Wire Division purchases wire at large diameters and redraws these wires to smaller diameters (as small as .001” - less than half the thickness of a human hair). We can furnish you with wire from .001” to .150” in quantities as small as one pound. In order to provide you with the perfect product, our wire goes through various rigorous processes such as drawing, annealing, cleaning, spooling, testing and inspection.

**Customer Service**

Ken-tron is one of the most reliable companies with whom you will ever do business. Our delivery record is over 99% on-time shipments; it is very seldom that we ship even one day late, and we won’t do that without notifying you first. With our outstanding emphasis on service, you will receive prompt personal attention to your quote request or your order. The dedicated team we have assembled combines charm, wisdom and up-beat personalities with team work, willingness to try new ideas and the ability and enthusiasm to work with you to develop new products. We are working and growing together and we not only get the job done, we do it better.
Annealing

Annealing restores the elasticity to overworked, hardened metals by the application of heat. This process also cleans the wire by burning off any lubricant left from the drawing process. Your wire may be annealed in one of two ways.

In the first method, Batch Anneal, wire is placed in large furnaces. A shield is placed over the wire and the air is replaced with hydrogen to form an atmosphere which will prevent the wire from burning or changing colors. Then an electric heat jacket is placed over the shield and a precise amount of required heating is administered for the proper length of time to clean and soften the metal. The temperature and time is controlled by electronic instruments, and the maximum temperature in the batch anneal is 1,475 degrees Fahrenheit.

In Strand Annealing Furnaces, the second method, wire is pulled through tubes filled with hydrogen. These tubes, from 10 to 20 feet long, are surrounded by electric heat. The heat in this second method may reach temperatures up to 2,300 degrees Fahrenheit. From the heated tubes, the wire travels through a second set of tubes which are immersed in water to cool the wire. The temper or softness is determined in this operation by the heat inside the furnace and the speed at which the wire is pulled through the tubes. The wire is taken up on spools or in pay pack barrels as it exits the strand annealing furnace.
Die Shop

The Diamond Die Repair Shop at Ken-tron repairs wire dies as they are worn due to the heat and friction of wire drawing. Diamond dies have very complicated angles required to allow entry of the wire and reduction of the width of the wire. They must have the proper degree of angle and length of surface for the material of the wire to expand in length. The shop uses diamond powder and wire as the shaping tools in their equipment to repair the angles and restore the die to a consistent and usable size.

Wire EDM Machine

The Wire EDM Machine uses electrical current to precisely form die parts for stamping and/or forming. We can help you meet your special EDM Traveling Wire needs. Call us for information on special stamping dies.
Drawing

Drawing is the process by which the wire is stretched and shaped. Wire is threaded through a diamond die and then wrapped around a capstan (a vertical cylinder) in the drawing machine. This capstan turns, and stretches the wire with its pull. The capstan is designed to take up the 12 to 20% increase in footage after the wire passes through the die. The drawing machine may contain from one to twenty-one dies, depending upon the finished diameter of the wire and its hardness. Each subsequent die is followed by a capstan of greater size than the previous capstan. The final or finish die is the last in the sequence, so called because it produces the finished size of the wire. The friction and heat created by the passage of the wire through the die will wear or break the diamond eventually, so these wires and dies are submerged in a lubricant (oil or soap) or the lubricant is sprayed on the wire and die to reduce the damage or wear.

The wire has to meet exacting tolerances, so each batch is tested for consistency in diameter and any diamond die found to produce less than acceptable conformity is sent to the die shop for reworking. In order to reach the desired size, some wire may have to pass through several dies. If it becomes hard or brittle, it has to be annealed in order to restore its elasticity. This will vary depending upon the material of the wire, e.g. cobalt can only be drawn through a few dies before it becomes very hard, whereas copper, silver and nickel can go through several.
Uses

Wire processed by Ken-tron is currently being used in a wide variety of applications including:

- Specialty Wires for Aircraft Engines and Instruments
- NASA Space Equipment and Systems
- Automotive Electronic Equipment
- Televisions, Radios and Computers
- Medical Staples
- Hip Joint Replacements
- Needles for Eye Surgery
- Relay Switches (applications include Electronic Equipment and Airbags for Automobiles)
- Lighting
- Woven Screens for Marine, Medical and Food Industries
- Heating Elements
- EDM Wire Metal Cutting Machines
- Musical Strings
- Research
- Security Systems
- Home Appliances
Spooling

The wire is taken up into coils, spools or pay pack barrels (bulk orders). For those special applications which require special spooling, i.e. ultra fine wire, or batch annealed wire (which cannot be heated on spools), we have respooling machines which can precisely wind the wire for perfect feeding.

Testing

Our test equipment can verify the chemical composition of the wire (metal monitor), surface quality, roundness, tensile properties (Instron) and the weight required to stretch vs. the breaking weight of the wire. The breaking weight will vary from a few pounds to several thousand pounds depending on the size and composition of the wire. The size can be verified to the millionth of an inch by hand, bench, or laser micrometers. The straightness of the wire and the weight required to bend the wire to a determined degree can also be verified to meet exacting requirements.

Inspection

All wire goes through our final inspection for correct diameter, spooling, labeling, and all other customer specifications. All spools are then shrink-wrapped for their protection.

Our rigorous quality control checks allow us to qualify for ISO 9002 Certification #1016.
Materials Redrawn by Ken-tron Wire:
Phos Bronze
42 Alloy
52 Alloy
Kovar
Haynes 25
Haynes 188
Haynes 230
Haynes 214
Hastelloy B-2
Hastelloy C-276
Hastelloy C 22
Hastelloy G 30
Hastelloy X
Hastelloy W
Waspalloy
Monel 400
Inconel 718, 625, X750
Incoloy 825
Brass 230, 240, 270, 260, 340
OFHC Copper CDA 102 & 101
Nickel 200, 201, 205 & 270
Nickel Plated 2%, 4%, 8%, 12% & 16%
Nickel Plated Copper 27%
Nitronic 32
70/30 Nickel Iron
Precious Metal Plated Wires
17-4 Stainless Steel
17-7 Stainless Steel
300 Series Stainless 302, 304, 305, 316 L, 316 LVM & 347
400 Series Stainless 420 & 430

We have many popular sizes in stock and ready for immediate shipment. We are not limited to the above materials, Ken-tron will also draw customer consigned materials!

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*Ft. per pound is average. The length may vary depending on materials.
Ken-tron Wire Division is growing and improving to serve you better. Among the new acquisitions to improve our speed and quality, we have three new furnaces and furnace spoolers, six fine wire drawing machines, a new state-of-the-art Instron (to test wire strength), four new respoolers, two laser micrometers and one semi-automatic shrink wrap machine. We recently installed a new computer system and we have added manufacturing space to our current facility.

Through all these positive changes, we have increased our production, our quality, and our commitment to serving you. Our emphasis is on providing you with an excellent product, in a timely manner, and at a reasonable price. If you are not a customer, please contact our sales department and let us demonstrate how our quality, value, service and reliability can improve your bottom line. If you are currently one of our worldwide customers, thank you!

We look forward to hearing from you!

Ken-tron Mfg., Inc.
Wire Division
610 Industrial Drive
P.O. Box 21250
Owensboro, KY 42304-1250

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FAX: (270) 684-0435
Website//www.ken-tron.com
Email: wire@ken-tron.com

Our dedicated team is working and growing together. We not only get the job done, we do it better!