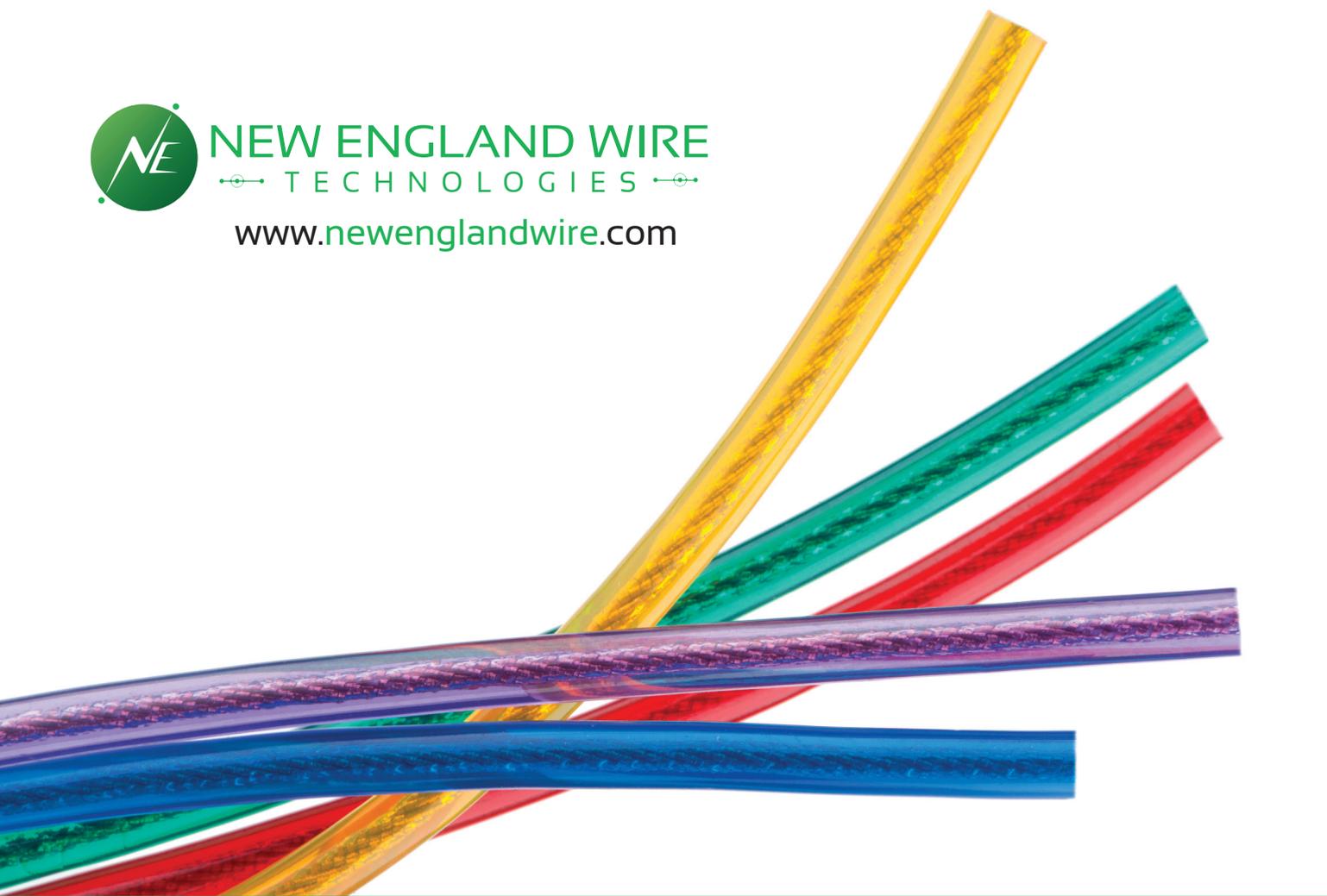




NEW ENGLAND WIRE
TECHNOLOGIES

www.newenglandwire.com



GENERAL CAPABILITIES



WHO WE ARE

New England Wire Technologies is a privately held, employee owned company with a rich history dating back to 1898. Our Lisbon, NH facilities consist of over 385,000 square feet of manufacturing, quality/testing, tooling/machine fabrication, and office space. We are an ISO9001:2015 registered company with more than 400 employees operating three shifts, five days a week.

New England Wire Technologies in Lisbon, NH is the primary and largest corporation in the MJM Holdings Group manufacturing all of the wire and cable sold under the New England Wire Technologies name. Other subsidiaries include New England Tubing Technologies (Lisbon, NH), Bay Associates Wire Technologies (Fremont, CA) and New England Interconnect Systems (Santa Ana, Mexico).

We are one team with one vision. The first responsibility of our employees is the satisfaction of our customers who buy and use our products. We strive to be the most trusted, reliable, and technically advanced supplier of wire, cable, cable assemblies, and extruded tubing solutions. NEWT and its subsidiaries provide quality and excellence in everything we do.



Why accept a standard product for your custom application? The most immediate benefit of a custom solution is the knowledge and design assistance that the staff at New England Wire can provide for your project. Rather than spending days or weeks researching material, electrical and mechanical properties to understand your design options and then pouring through catalogs or calling vendors to try to find a part number close to what you actually need, you can simply contact us to upload a document, describe your requirements, or send an image of an existing cable. Our engineering staff will use their knowledge and experience to design an ideal solution optimized for your exact application. When new requirements, additional options, or added capabilities become necessary, a custom option is quickly adaptable to your changing needs.

We will work with you to determine appropriate conductor stranding for the level of flexibility needed and the ideal conductor material or plating option to balance conductivity, flex life, temperature rating, etc. New England Wire stocks over one hundred extrusion compounds for use as insulation and cable jacketing, combined with a variety of film and textile options to support an incredible range of product requirements. These include the specific temperature and voltage ratings required for your application, flame resistance, flexibility, biocompatibility, low smoke, chemical resistance, toughness, UV resistance, and many more. Shielding is also customizable with the proper selection of braided, spiral, foil, or a combination to balance electrical shielding effectiveness with mechanical or diameter requirements.

Why a custom cable? Perhaps that is a question best answered by the thousands of satisfied customers around the world using New England Wire products. Whether it is the right option for you; that is a question we would love to help you figure out.

INDUSTRIES SERVED



Medical Electronics

Advancements in medical technology over the past century have changed the way we practice medicine and saved countless lives. We are committed to helping the world's leading medical device manufacturers create the next generation of life saving technology.

Robotics & Automation

The evolution of robotics and automation have transformed the modern manufacturing process. The intelligent factory of the future requires a level of flexibility and sophistication never before seen. From advanced sensors to autonomous motion control, components that can withstand ever increasing extremes in environment and performance will be imperative to remain productive.



Alternative Energy

As the global energy landscape evolves, suppliers face complex challenges in order to meet customer demand and government regulation. From alternative power solutions to advanced battery storage systems, we will continue to support the development of the energy infrastructure of tomorrow.

Military & Defense

Advancements in defense technology have helped to reduce casualties and increase intelligence to levels never before thought possible. We are committed to working with agencies to continue this advancement and provide intelligent defense solutions.





Industrial Manufacturing

As industrial manufacturing evolves from assembly lines to high-tech automation, the need for robust products to perform well under increasingly harsh conditions is the key to improving productivity. From ultra flexible, micro-miniature interconnect cables to high frequency, high current or extreme temperature configurations, our custom and proprietary products are designed to perform in the most severe environments.

Coil Winding

Since 1898, New England Wire Technologies has designed and manufactured thousands of different Litz constructions across dozens of industries. While early windings were large and crude, with limited temperature ranges, proprietary advancements in technology have led to improved efficiencies and performance, resulting in reduced cost over the life of the product.



Communications & Control

At the dawn of the telecommunications age we pioneered key components of the early telephone and have helped transform the technology ever since. As the information age evolves, we continue to partner with those who revolutionize the way we communicate.

Audio & Video

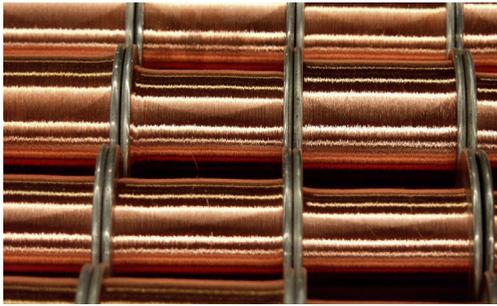
How we consume music and video may have changed throughout the years, but our love for it hasn't. We partner with the most technologically advanced entertainment companies to deliver world-class experiences for today's discriminating audiences.



Science & Research

A famous scientist once said "Logic will get you from A to B. Imagination will take you everywhere." Through our scholarship and outreach initiatives, we hope to inspire the next generation of scientists to dream beyond today's technology and achieve the impossible.

SERVICES WE OFFER



Drawing & Plating

The foundation of our vertically integrated manufacturing structure is our ability to draw and plate our own conductor material.

- Tin Plating, Silver Plating
- Bare, Tin, Nickel, Silver, High Strength Alloys
- In-house drawing down to 52 AWG

Cabling & Stranding

We manufacture a broad range of flexible cables and strands which are used primarily in our specialty single and multi-conductor cables, however uninsulated products are also sold—usually for motor brush leads, circuit breaker shunts, and flexible bus bar.

- Ultra Flexible Strands
- Ropelay Cables
- Extended Flex Life Cables
- Custom Options



Braiding

We produce braids for diverse applications such as ground strap, motor brush leads, circuit breaker shunts and for mechanical and electrical protection of single or multi-conductor cables as well as flat-wire braids, braid reinforced tubing, scope braids, and insulated braids.

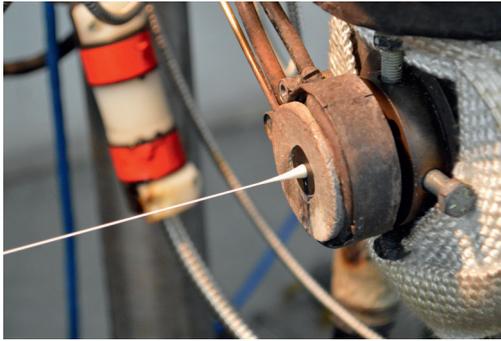
- Shielding Braids
- Flat and Wide Braids
- AA59569 Braids
- Custom Braids

Taping & Servicing

Used primarily for binders, barriers, and insulating, we offer a wide range of textile and tape options to be added to your project.

- Tapes include: Paper, Mylar®, Aluminum/Mylar®, Kapton®, Aluminum/Kapton®, Nomex®, PTFE, and more
- Textiles include: Cotton, Polyester, Aramid, Fiberglass, and more





Extrusion

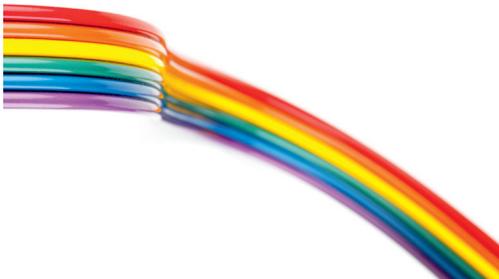
From primary insulations applied directly onto conductors to overall cable jacket insulations, we offer a wide variety of materials including PVC, PU, PE, TPE, Fluoropolymers, and Silicone Rubber and with OD ranges from <.001" to >4.5".

- Multi-Conductor Cables
- Hybrid Cable Configurations
- Coaxial and Twinaxial Cables, Miniature and Micro-Miniature Coaxial Cables
- Extreme Temperature Cables
- Low Noise Cables
- Flexible Interconnects
- Power Leads
- Custom options

Litz Wire

A hallmark of NEWT's technical capabilities, Litz wire consists of a number of individually insulated magnet wires twisted or braided into a uniform pattern with the primary benefit of reducing AC losses in high frequency windings.

- Round – Types 1 through 6
- Formed/Shaped – Type 8
- Custom Options
- Braided Rectangular – Type 7
- NEWind® Specialty Winding Wire



Custom Profiles & Forming

Whether you're looking for shaped cable, zip cord, woven cable, extruded or bonded ribbon cable, oval, rectangular or square, our huge inventory of tooling and in-house fabrication capabilities take your concept from ideation to realization.

- Ribbon Cables & Zip Cords
- Hybrid Cable Configurations
- Custom Coil Cords
- Shaped Compacted Litz Wire
- Other Custom Options





SERVICES WE OFFER



Superconductor Cabling

With the widely diversified stranding and cabling processes utilized at NEWT, we are able to offer a broad range of special application items including round, rectangular and trapezoidal configurations of superconducting cables.

- High/Low Temperature Conductors
- Rutherford Cabling
- Insulating Available

Custom Tubing & Specialty Extrusions

Building upon our 50+ years of extrusion experience, our subsidiary company, New England Tubing Technologies specializes in custom extrusions featuring small diameter, thin-wall, tight tolerance extruded tubing.

- Braid/Spiral Reinforcement
- Single/Multi-Lumen
- Multi-Layer/Material/Durometer
- eTubing®
- Paratubing
- High Pressure Tubing
- Value Added Service
- Medical Braiding



Testing

Our experienced technicians perform a diverse array of on-site testing in the lab as well as on the manufacturing floor. Equipped for metals and polymer testing, mechanical, electrical and environmental testing, our lab tests conductors, insulation and jacket materials, cable components, or finished wire and cable according to MIL-Spec, federal, automotive, or even specialized custom cable test specifications—tensile and elongation, flexibility, torque, capacitance, hipot, extreme hot and cold, etc. We are an ISO 9001:2015 certified manufacturing facility and have both UL and CSA certifications.

Utilizing state-of-the-art equipment and instrumentation to ensure compliance and provide the highest quality products, we work closely with our customers to co-develop test methods for validation programs and first article production.





Research & Development

Innovative solutions start with an experienced team of engineers, armed with the latest design tools and technology. Our focus on understanding the individual, complex challenges of our customers and designing solutions that fit is why we have been trusted as the industry leader for over 120 years.

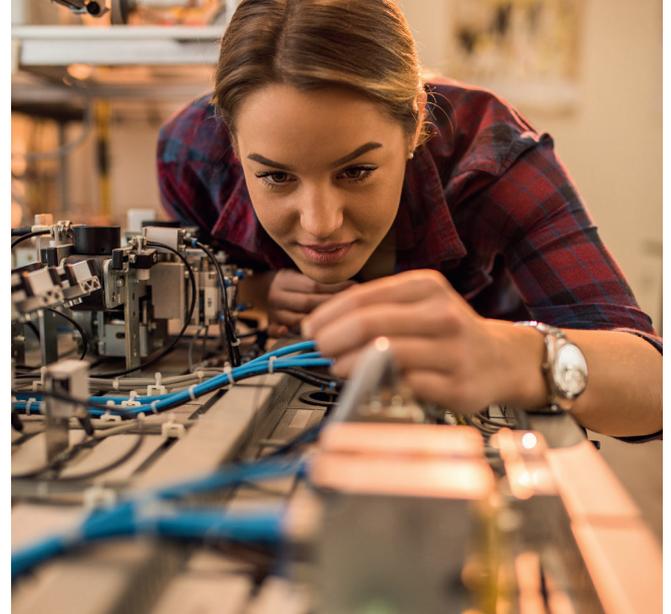
New England Wire has invested in advanced analytical tools, dynamic mechanical analysis, rheometer, chemical identification instrumentation, and other equipment that is used to help expand the operating space of extruded materials.

These instruments and tools are enabling us to strengthen technical partnerships with our customers by helping them advance their product solutions. Supporting our customers is an Applications Laboratory staff with decades of experience in engineering disciplines ranging from Polymer Science to Operations. NEWT is excited to offer these expanded capabilities and work closely with our customers in developing custom products.

Design Assistance

Our team loves to show off their engineering skills, and with good reason – they're the best in the business! With decades of research, testing and development under our belt, New England Wire Technologies is uniquely qualified to offer custom design, development, testing and manufacture of specialty wire products using a wide variety of materials and processes.

Every innovative solution our team devises – whether custom cables, Litz wire, multi-conductor cable, hybrid cable, microminature coax or high/low temperature wire – is developed working side by side with customers from industrial, medical, scientific, robotics, or audio companies until the right custom solution to their complex technical design challenge is met. Want to challenge our engineers with your latest project? Reach out to us anytime – we're here to help!



Proprietary Products

- **NEWtuf®** - Silicone rubber is the material of choice for ultra-flexible, autoclave sterilizable medical device cables. Silicone on its own, however, has a physical weakness that can lead to stretching, distortion or breakage after repeated wiping or physical cleaning. NEWtuf® reinforced silicone jackets overcome this concern without impacting biocompatibility, flexibility, heat resistance, sterilization, dimensional requirements or strippability.
- **NEWcel®** - This is a closed-cell foamed dielectric material specifically designed to reduce dielectric constant and dissipation factor yielding low-capacitance, low loss, high V.O.P. ultra-miniature coaxial, triaxial, and twinaxial offerings.
- **NEWtral®** - In small-signal applications, noise-free transmission lines are necessary to maintain signal integrity. Simply flexing or twisting a traditional cable can generate voltage spikes with magnitudes in the tens of millivolts. This noise is due to triboelectric charging of the insulator materials, which act as capacitors and store the charge. The addition of conductive low noise layers reduces the noise to the microvolt range.
- **NEWind®** - This solves the problem of insulation loss in windings. Cable insulation layers are extruded in either two layers (Supplementary) or three layers (Reinforced). This design ensures that defects in any one layer will not reduce the overall insulating ability. The result is motors and transformers that can be manufactured without additional insulation, thus reducing their cost and size.

- **COLDflex Ground Cable™** - This is specifically designed for flexible, low-temperature ground cable applications. Tested for cold weather flexibility down to -40°C, COLDflex Ground Cables™ are UV resistant and have operating voltages up to 5kV. Ultra flexible stranded conductors are also available in a variety of conductor materials.
- **HYflex™** - These power distribution cables are specifically engineered to handle the high voltage and temperatures inherent with today's diesel hybrid vehicles. Independently tested to meet the requirements of SAE J 1654 and 1127, the HYflex™ line of cables is rated for use at 125°C and up to 600 volts. We manufacture extra flexible conductors to produce cables ideally suited for applications where flexibility, long life and performance are critical.
- **SLEEK™** - This is a cost effective alternative to parylene and is ideal for situations where ease of use, cleanliness, overmolding, and long continuous lengths are a priority. A silicone-based material, SLEEK™ is applied in a continuous process and provides smooth, slick surfaces to silicone rubber insulated cables while adding less than 1 mil (20 microns nominally, depending on application) to the overall cable diameter.

fusion energy cinema sets animatronics
patient monitoring mining induction heating welding equipment
video display robotics guidance systems
motors
space rovers autonomous vehicles
linear control aircraft
transformers neurology cardiology
satellites sensors imaging
colliders
medical solar power speaker systems
unmanned vehicles wireless charging systems electric vehicles
endoscopy drones marine
converters wearable technologies
surgical equipment maglev trains
lighting analyzers battery storage
electrosurgery spacecraft
inverters military diagnostics power supply
vehicle safety
nerve stimulation pulse-oximetry micro wind turbines logic control

Our Family of Custom Cable, Tubing and Assembly Solutions

New England Wire Technologies (Lisbon, NH)

NEWT provides custom wire and cable for a wide range of industries including medical electronics, robotics and automation, military and defense, industrial manufacturing, communications and control, audio/video, science and research, and alternative energy. We manufacture all types of custom Litz wire, multi-conductor cables, coaxial cables, hybrid designs, flexible interconnects, power leads, ribbon cables and specialty profiles, braid configurations, and numerous proprietary design options.

New England Tubing Technologies (Lisbon, NH)

NETT provides an array of custom products including medical braid, spiral and braid reinforced tubing, lubricious lined catheter shafts, multi-lumen and multi-durometer tubing, and eTubing®. A wide range of value-added and post-processing services such as tipping, hubbing/flaring, shaping/forming, and radiopaque striping are available to further enhance your design.

Bay Associates Wire Technologies (Fremont, CA)

Commonly known as BAYCABLE, Bay designs and manufactures custom cable, coil cords, cable assemblies and electro-mechanical assemblies. Bay's specialty is working with clients to design application specific solutions to complex interconnection problems. Customers include OEM's in the medical, audio, defense and industrial markets.

New England Interconnect Systems (Santa Ana, Mexico)

Innovative interconnect solutions can be manufactured in a state-of-the-art facility designed for high volume specialty applications. NEI Systems' fully certified plant can deliver custom full turnkey over-molded cable assemblies and custom coil cords built to your exacting standards.

Contact us today to get started on your project!

New England Wire Technologies

603.838.6624

www.newenglandwire.com



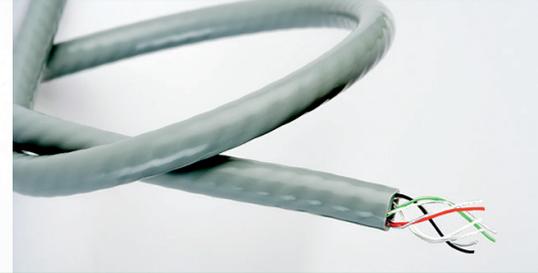
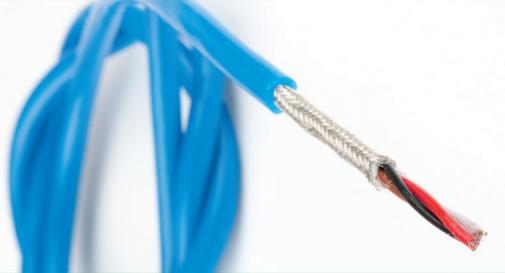




ADVANCING INNOVATION FOR OVER 100 YEARS

A famous scientist once said "Logic will get you from A to B. Imagination will take you everywhere."

Through our creative design and development expertise, we help our customers dream beyond today's technology and achieve the impossible.



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