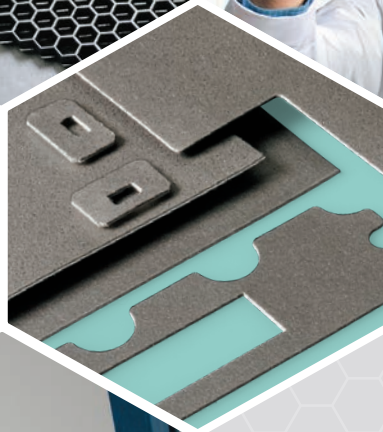
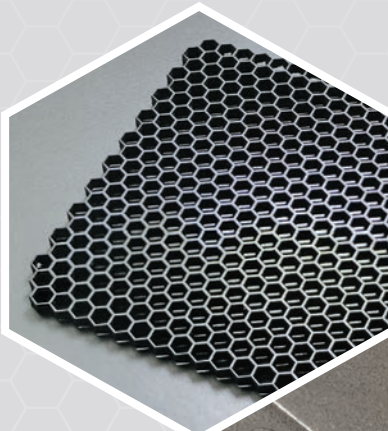
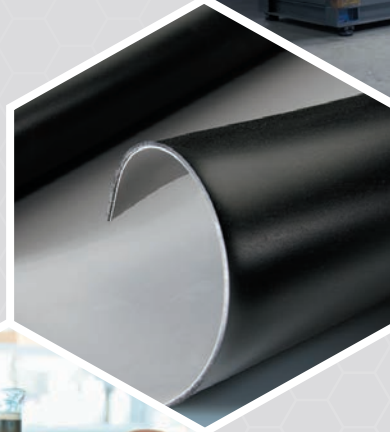


There's a material difference.



RF/Microwave Interference | Radar Absorption | EMI Control

There's a material difference.

ARC Technologies, a Hexcel Company, has developed an unrivaled range of capabilities to solve your microwave and RF interference, radar absorbing, and EMI control problems. We know what it takes to find solutions using standard off-the-shelf products or custom designs specific to your unique application.

Our strategy is to understand and provide rapid response to customers' needs, deliver high-quality products on time, and engineer innovative, value-added solutions.

ARC Technologies was founded in 1989 and acquired by Hexcel Corporation in 2019. We have more than 200,000 square feet of research, design, manufacturing, and office space in Amesbury, Massachusetts. With a loyal customer base in aerospace, defense, and commercial markets, we are the leading supplier of microwave and RF interference, radar absorbing, and EMI control materials. Whether you are facing problems at 10 MHz or 110 GHz, near-field or far-field, narrow-band or broadband, the ARC Technologies team has a standard or custom solution that is right for you.





Aerospace



Automotive



Cable & Connectors



Cable TV



Ground Vehicles



Medical



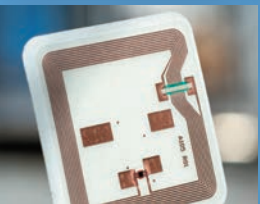
Missile & Guided Weapons



Naval Systems



Radar Systems



RFID / NFC / WPC



Satellite Communication



Smartphone & Tablet



Space and Satellite



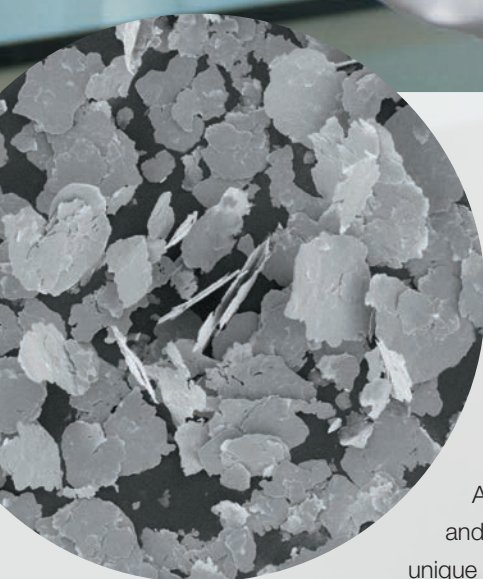
Test & Measurement



Unmanned Systems



Research and Development

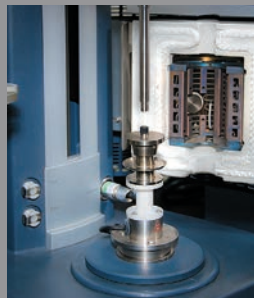
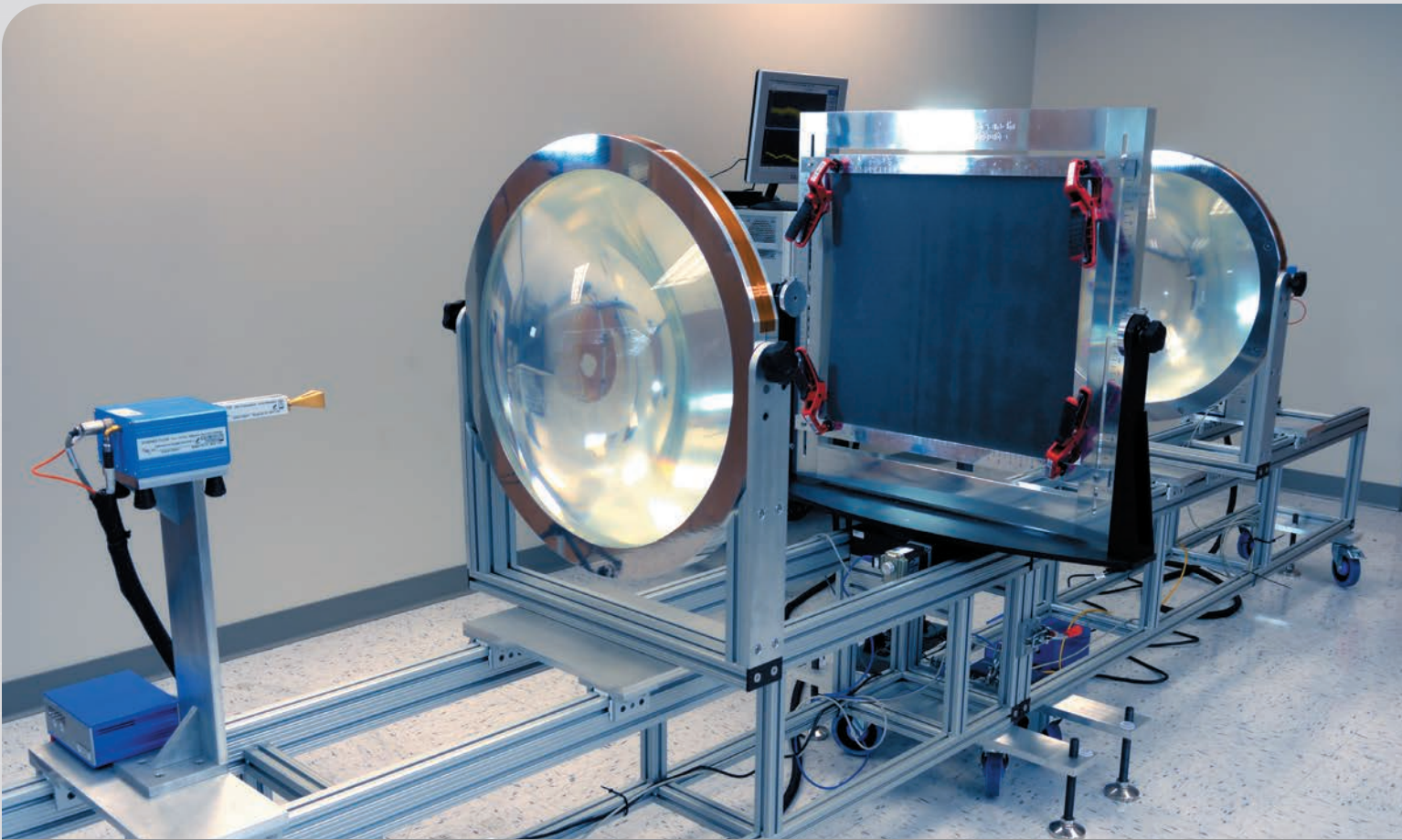


At ARC, we specialize in combining polymer science with our exclusive proprietary filler technology. Ten percent of ARC employees are devoted specifically to R&D. Our staff includes material science engineers, metallurgists, electrical engineers, mathematicians, physicists, and chemists. Our R&D team can tailor particle geometry for specific properties to create solutions for microwave, millimeter-wave, and RF energy management.

ARC produces proprietary fillers using specialized alloys and coating technologies. These fillers provide our customers unique solutions for EM energy management.



Testing Capabilities



ARC provides material testing and qualification services to many ASTM and MIL standards. Our extensive test capabilities include:

Electrical Characterization

- Permeability 1 MHz to 110 GHz
- Permittivity 500 MHz to 110 GHz
- Far-field reflection loss
- Insertion loss
- Resistivity
- Cavity measurements

Mechanical Properties

- Tensile/elongation
- Compression
- Flexural
- Peel

Analytical

- Dynamic mechanical analysis (DMA)
- Optical and SEM microscopy
- Skeletal density
- Particle size analysis
- BET surface area
- Color
- Durometer

Thermal Properties

- Coefficient of thermal expansion
- Dynamic viscosity
- Melt index

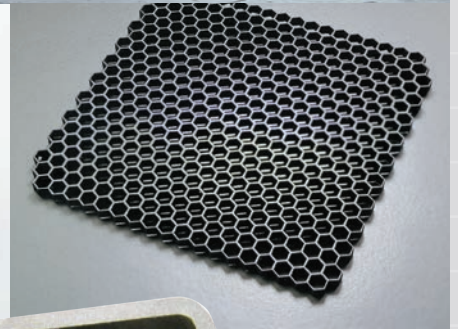
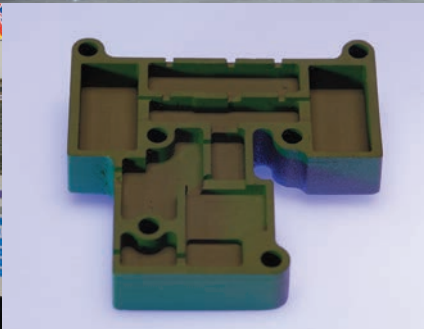
Focused Beam Testing

- Dielectric and magnetic characterization 2 to 40 GHz and 75 to 110 GHz
- Reflection and transmission loss
- Off-angle reflectivity

Environmental Compliance

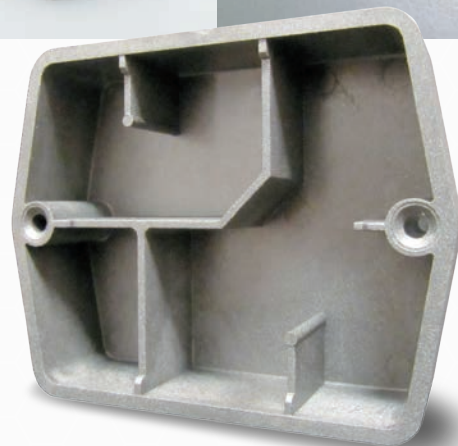
- Accelerated weathering (UV)
- Salt fog
- Fluid resistance
- Hydrostatic
- Temperature/humidity

Injection Molding



Thermoplastic Absorbers

- Lower-cost materials for energy management
- Engineered materials for the toughest environments
- Conformal shapes to reduce labor costs
- Single-piece cavity solutions for reduced handwork
- Preformed antenna loads to every specification





Tapes and Seals

- ARC materials can be extruded into complex geometries or continuous sheet goods.
- Extruded parts can then be thermoformed into complex 3D solutions.
- Dual-layer extrusions available to tune materials for specific applications
- Extruded rain erosion materials provide extra durability and protection for tough environments



Composites

ARC offers the most sophisticated, lightweight, high-strength structures in the interference control industry. Our knowledge, advanced manufacturing techniques, and commitment to added value result in unique solutions for several applications including:

- Radomes
- RADAR absorbing mast and periscope fairings
- RADAR camouflage units (RCUs)
- Conformal antenna structures (CASs)
- Integrated electronics masts (IEMs)

Hallmarks of This Department:

- Rapid prototype fabrication and characterization
- The selection and use of the most suitable base material
- Access to proprietary ARC fillers for custom-tuned performance
- Single or multilayer structures
- Protective coatings
- On-site production capacity
- Supply of the composite structure ready to be fitted to your subassembly

This unmatched range of capabilities is why major defense primes come to ARC Technologies for their most challenging composite requirements.





ETFE Radome



Low-Loss, Low Dielectric Materials

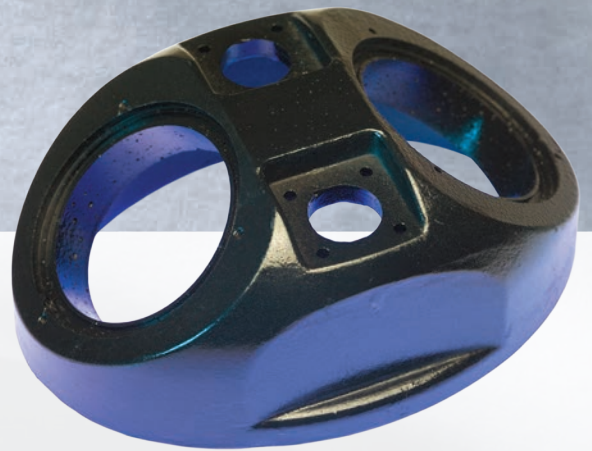


Composite Radome



Conformal Antenna Structure

Advanced Materials



Our advanced materials department specializes in blending absorptive fillers into various liquid thermoset resins such as silicones, urethanes, and epoxies. These formulas are the foundation for a variety of finished products and can be engineered to meet your exact electrical and mechanical requirements.

We have experience with absorptive coatings, primes, and topcoats to complex structures. Our spray systems combine liquid and resin, which are then injected with our advanced filler technology. This enables us to produce specialty paints with frequency specifications provided by our customer for sprayable application.

Advanced Materials



Our facility can cast and mold our material into complex geometries with the same high quality EMI and RF absorption. Our advanced fillers will give maximum performance to your specification.

With our vacuum assisted double planetary mixer we are able to blend super viscous materials while also making precise batch repeatability. Our blended and packaged varieties of liquid absorbing materials can be used as caulk or putty, moldable compounds or paint to satisfy our customers' needs.

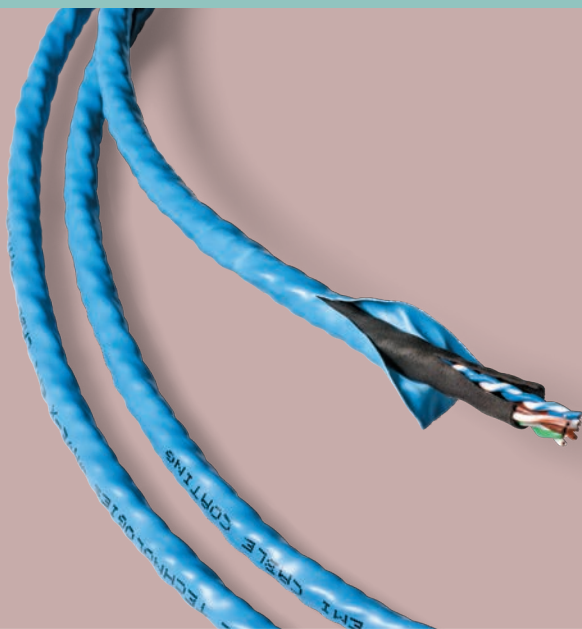
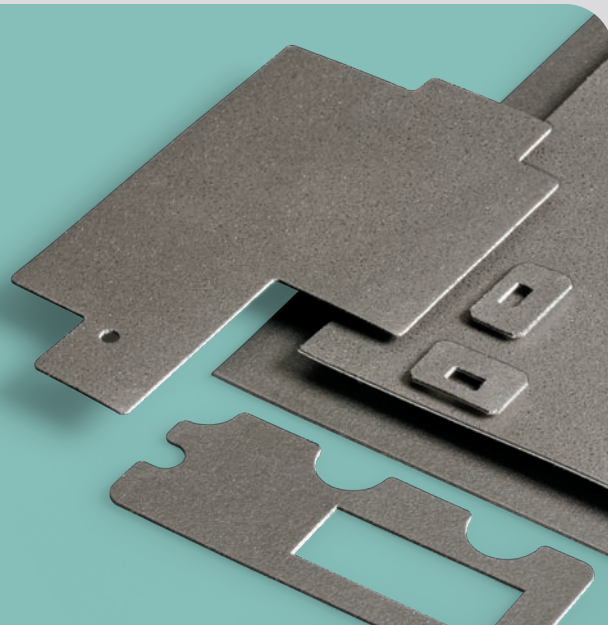
WAVE-X®

A wide variety of solutions for near-field applications from 5 MHz to 110 GHz

WX sheets are available in thicknesses of 0.005" to 0.040" and can be formed, cut, and stacked.

UL 94V-0 rated, RoHS compliant

WX



WZ

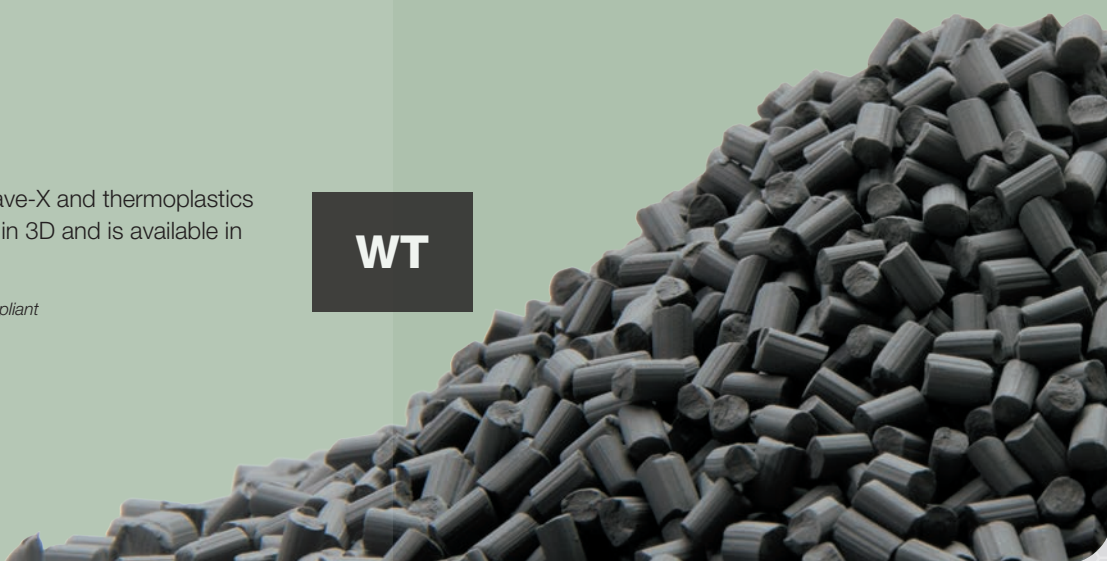
WZ cable coating consists of Wave-X extruded directly onto cable, eliminating the need for ferrite chokes.

UL 94V-0 rated, RoHS compliant

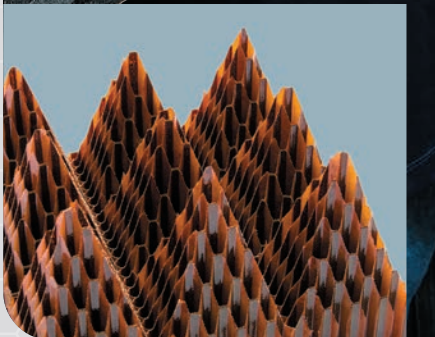
WT is a blend of Wave-X and thermoplastics that can be molded in 3D and is available in pellet form.

UL 94V-0 rated, RoHS compliant

WT



Foam and MAGRAM Products



Coated Honeycomb and Dielectric Foam Microwave Absorber Materials

For larger cavity and flat or layered military applications, ARC manufactures stock or COTS products in many configurations. When more advanced solutions are needed, we can adapt an existing product or create a new design to your specific RF absorption requirements.

Foam Series

- Multilayer foams
- Reticulated foams
- Convoluted foams
- Specialty foams
- Loaded honeycomb

Flexible, High-Performance MAGRAM Sheets

ARC Technologies proprietary high-loss fillers are available blended with one of a wide variety of elastomeric compounds. Each exhibits mechanical and chemical properties suited to different applications and requirements. The compounds in flexible-sheet form range from 0.010" to 0.250" thick and can be tuned for optimum performance over a wide range of frequencies.

MAGRAM Products

- Customized performance and thickness
- Up to 28" x 28" sheet size
- Multiband MAGRAM
- Custom-molded configurations
- Available in:
 - Silicone
 - Neoprene
 - Urethane
 - Hypalon
 - Nitrile
 - Viton

CNC Machining Capabilities

ARC Technologies is proud of our constant commitment to value-added diversity in our materials. With our team of machinists, programmers, and engineers we provide exceptional service at every phase of any precision CNC machining project. We focus on machining metal and non-metallic materials including composites, elastomers, and thermoplastics. Our machining capabilities include:

- 5-axis routing up to 120" x 60" x 16"
- 4-axis milling up to 53" x 22" x 14"
- 4-axis turning (live tooling) up to 11" x 23"
- 5-axis water-jet cutting
- 3D machining prototypes
- 5-axis wire EDM (19" x 14" x 11")
- Grinding (22" x 10" x 12")
- Reverse modeling
- Rapid prototyping
- Master cam programming (120" x 60" x 20")



Working together to provide superior solutions.



From sales, to research and development, to the factory floor, our team of professionals relies on each other to deliver outstanding products to our loyal customers. With this collaborative approach, ARC has grown and will continue to push the limits of innovation.

Value-Added Services:

- Laminating
- Kitting
- Stitching
- Painting
- Pressure sensitive adhesive (PSA)
- Die cutting
- Weather wrapping
- Assembly

Quality

At ARC, quality is not an expectation, it is a given. To ensure the highest quality, processes are defined and documented starting day one with your initial project inquiry. This includes accurate product data and continues through the order

clarification stage, order status reporting, and post-delivery follow-up. Process improvement is reinforced by the adoption of continuous improvement, and the adherence to the overarching quality management system. ARC maintains a state-of-the-art quality system through ANAB certification to ISO9001:2008, AS9100:2009 Rev. C. and compliance to ISO/TS16949:2009. Continuous improvement is based on the Plan-Do-Check-Act (PDCA) principle, which generates improvement focused on enhancing customer satisfaction, exceeding your expectations, and ultimately delivering the most superior products.

Experience the material difference by
visiting our website and sending us
your application requirements today.

www.arc-tech.com



37 South Hunt Road, Amesbury MA 01913 • 978.388.2993