

Shielding the warfighter with **EMI suppression and heat transfer solutions** for the campaigns of today—and tomorrow



RADAR



UNMANNED AERIAL
VEHICLES (UAV)



DRONES



ANTENNAS



SENSORS



FUSELAGE



COCKPIT

We're in the small spaces that **enhance survivability** in desert battlefields, rocky seas, and rough airspace



Aboard a fighter jet, something as seemingly minor as a *worn gasket* can easily lead to something significant as critical equipment failure or even enemy detection.

Transferring heat and reducing EMI crosstalk with more reliable components means a safer, high-survivability mission.

But the space to do so is more limited than ever.

Design and system engineers are squeezing smarter and more complex components into *tighter footprints than ever before*. Communication systems, surveillance equipment, and sensors churn out more heat in close quarters. Tightly positioned components are at higher risk of interfering with other functions.

To get the job done, EMI and heat management are no longer independent considerations. **EMI and heat management solutions must work hand in hand** to support today's high-performing, feature-rich warfighters.

THERMAL & POWER

Heat, system noise, and crosstalk reduction solutions

ELECTROMAGNETIC

EMI shielding and sealing solutions to prevent signals from interfering with other electronic devices

Thermal Interface Material
Tflex/Tpcm/Tgrease/Tputty

Magnetic Ceramic Products (MCP)

Precision Metals
Fingerstock/
Spring Contacts

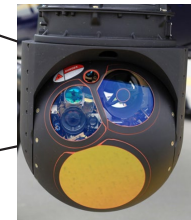


Multi-Tier PCB Assembly in UAV

Radomes and other
outer casing material



Outer Casing



UAV Sensor



Not just today's warfare, but always thinking towards the future

SURVIVABILITY IS OUR PRIME TARGET

Reliable, durable, and fit for unpredictable combat.

- Avoid detection
- Stand up against temperature extremes
- Defend against shock, corrosion, and chemical ingress
- Protecting and ensuring operation of key electronic systems

ADDING VALUE TO EVERY MILE OF THE ENGINEERING JOURNEY

Our military and aerospace expertise are bolstered by a network of heat and EMI management experts.

We bring together many competencies to find new multifunctional solutions in areas others are not looking.

MULTIFUNCTIONAL SOLUTIONS THAT GET MORE DONE

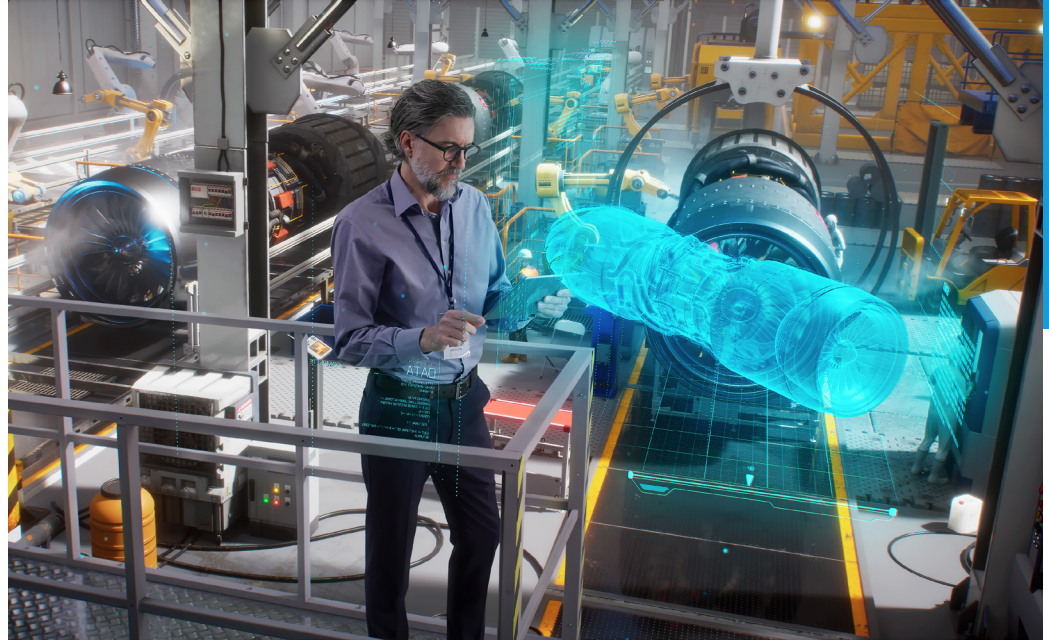
We're not only making components smaller, but ***we're building more functions into a single package***. From EMI metals that double as a thermal gap pad or absorber, many of our space-saving solutions can solve signal conflicts and thermal issues.

UNMATCHED TEST SITES WITH A RICH HISTORY IN MILITARY AND AEROSPACE DESIGN

When you're operating equipment in global hotspots, you need to know it's ready to take on the challenge. For over 25 years, we've pitted mission-critical components against the harshest elements.

Our Carlsbad, California engineering and manufacturing facility has **in-house tools** to take your designs to task across a wide range of conditions and frequencies. **Our one-stop shop for design testing, measurement, and engineering** is backed by the full power of DuPont.

Here, we ensure equipment will perform reliably across frequencies from 10 MHz up to 90GHz, and in the face of extreme temperatures, weather conditions, and harsh substances.



Laird R&F Products has consistently provided quality, cost effective, and innovative multi-functional electromagnetic materials to Leidos Inc. over the years, which have been critical to our support of our customers' everchanging needs. As one of the leading systems integrators in science, technology, and engineering we highly value Laird's robust engineering testing capabilities and wide product selection of custom EMI, thermal, and structural solutions. Laird has proven time and again to be up to the task of protecting and furthering the capabilities of the warfighter as a reliable and trusted partner.

LAIRD PROVIDES ALL THE ELECTRICAL PROPERTY DATA NEEDED TO DESIGN-IN LAIRD SEAL AND GASKETS:

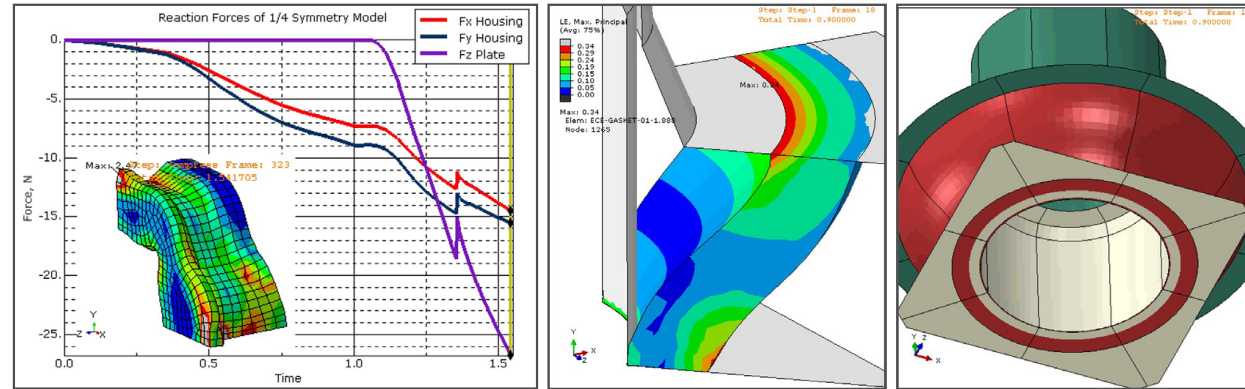
- Volume Resistivity
- Shielding Effectiveness
- Density
- Hardness
- Max/Min Operating Temperatures
- Compression / Deflection
- Tensile Strength
- Elongation
- Compression Set
- Electrical Stability
- Fluid Immersion
- Resistance

DESIGN TOOLS:

- Abacus for FEA mechanical analysis
- MCST and FHSS or FEA electromagnetic analysis

ENGINEERING BEYOND PART NUMBERS

Our consultative approach helps you go far beyond an “off-the-shelf” design. We work with you to find an innovative, even unexpected, solution you won’t find in a catalog. Take advantage of our full-scope, value-added engineering mindset that makes it **easy for you to transition from an existing manufacturer**.



IN MILITARY APPLICATIONS, EVERY SECOND COUNTS—AND NOT JUST ON THE BATTLEFIELD

We help you beat the clock from start to finish, from early design phases to a reliable sourcing strategy. Don't let supply chain delays disrupt your mission plan:

- Customize your sourcing plan to suit your budget and schedule
- De-risk your supply chain by tapping into our extensive global network
- Keep your program stateside with our U.S.-based manufacturing options
- Broadest product line in the industry to enable manufacturers to reduce vendor lists

Together, engineering products that win

Materials science expertise. Advanced particle research. Combine our knowledge with yours.

Together, we get your equipment ready to take on the toughest structural, electromagnetic, and thermal conditions.

ELECTROMAGNETIC MATERIALS

- Broadband foam absorbers
- Magnetically loaded parasitic sheet materials
- Molded components
- Treated honeycomb core and structural absorbers
- Electrically conductive gaskets
- Rugged, fluorosilicone-based absorbers
- Low dielectric radome materials

Multi-Function Solutions:

- Custom magnetic & dielectric components

THERMAL MANAGEMENT SOLUTIONS

- Thermal greases and gap fillers
- Electrically conductive materials
- Thermally conductive circuit board and insulators

Multi-Function Solutions:

- Coolzorb- combination thermal & emi material
- Silicone free thermal solutions

PRECISION METALS

EMI shielding products:

- Board-level shields
- Grounding/battery contacts
- Fingerstock/enclosure shielding
- Vent panels

Precision structural metals:

- Deep drawn covers
- Component housings
- Camera brackets/housings
- Midplates
- Battery contacts
- Custom contacts and springs
- Brackets



About Laird Performance Materials (Laird)

Laird Performance Materials, integrated into DuPont Electronics & Industrial's Interconnect Solutions (ICS) business, solves signal integrity and power transmission issues. We enable high-performance electronics by creating protection solutions for advanced interconnects and systems. World-leading technology brands rely on Laird for improved protection and helping accelerate their products' time-to-market. A global brand, Laird solves design issues by providing Laird™ branded innovative products such as EMI suppression or absorption materials, thermal interface materials, structural and precision metals, magnetic ceramic products, and multi-functional solutions (MFS). The Laird™ MFS product family solves multiple EMI, thermal and structural design issues simultaneously using a single process design. Visit Laird at <https://www.laird.com>.

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