

FIBERSETM
METALLIZED
SOLUTIONS

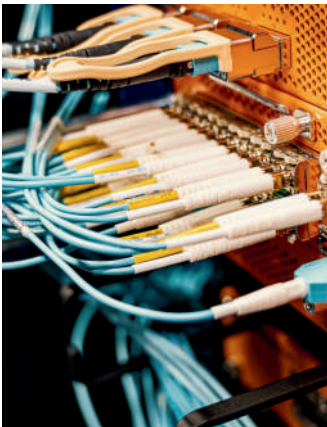
NEXT
GENERATION
EMI-ESD
SHIELDING



EMI SHIELDING FOR A CONNECTED WORLD



As electronic systems become denser and more signal-intensive, the challenge of managing electromagnetic interference (EMI) has become critical. In today's compact, high-frequency environments, EMI is not just an external threat—it often arises within the system, where adjacent components, cables, and modules begin to interfere with each other's signals. This interference can disrupt performance, affect reliability, and compromise safety across a wide range of applications.



- In an electric vehicle, for example, high-voltage power lines, inverters, and battery packs generate EMI that can couple into unshielded data cables, disrupting the operation of nearby sensors, modules, or control units. Without proper shielding, signal integrity issues can lead to system misfires, latency, or degraded performance in safety-critical functions such as braking or autonomous navigation.
- In industrial control cabinets, EMI can pass through panel gaps or poorly shielded gaskets, disrupting communication between PLCs and sensors, leading to errors and equipment downtime.
- Even in consumer electronics like smartphones and wearables, internal EMI can lead to dropped connections, reduced data throughput, or erratic touchscreen behavior.
- And in medical and aerospace environments, where reliability is non-negotiable, even low levels of EMI can compromise navigation systems, imaging accuracy, or trigger false alarms in life-critical or mission-critical systems.

EMI SHIELDING FOR A CONNECTED WORLD (CONT.)



This growing threat is amplified by the trend toward miniaturization—where denser electronics and tighter layouts make internal EMI nearly unavoidable. Components begin to interfere with each other, and without proper shielding, systems become vulnerable to noise that’s hard to detect but costly to ignore.



Yet, conventional EMI shielding approaches are increasingly unable to meet the demands of today’s electronics for several key reasons such as:

- **Lack of Conformability:** Rigid or brittle shielding materials do not adapt well to the complex, compact, or flexible geometries found in modern electronics—leading to gaps, poor coverage, and leakage paths.
- **Weight Penalties:** The added mass of shielding materials poses significant challenges in applications such as aerospace, EVs, wearables, and portable medical devices, where minimizing weight is critical.
- **Narrowband Protection:** Many traditional materials are optimized for a specific frequency range. However, real-world EMI spans a wide range of frequencies, which challenges current shielding solutions.



INTRODUCING FIBERSE™ THE NEXT GENERATION EMI SHIELDING SOLUTION

Fiberse™ is our breakthrough technology in advanced metallization processes, delivering high-performance yarns, fabrics, foams, and more that can surpass the limitations of traditional EMI shielding solutions.

Our proprietary technology forms a strong covalent bond between the substrate and 99.9% pure silver. We also offer Copper- and Nickel- based products, delivering enhanced shielding performance across the frequency spectrum. This precise integration of conductive metals ensures consistent and reliable EMI protection across diverse material forms.

We offer the power of silver, the most electrically and thermally conductive metal, for EMI shielding applications at an affordable price. With complementary properties such as nickel's magnetic shielding, we enhance overall effectiveness—allowing us to tailor conductivity, durability, and mechanical strength for specific application needs.

PRODUCT PORTFOLIO



FILAMENT YARN

SILVER



FABRICS

SILVER
COPPER-NICKEL
NICKEL



FOAMS

SILVER
COPPER-NICKEL



PARTICLES

SILVER OVER NICKEL
SILVER OVER COPPER
NICKEL OVER GRAPHITE
SILVER OVER ALUMINIUM

COMING SOON

COMING SOON

COMING SOON



FILMS



CHOPPED FIBRES



SILVER NITRATE

PdCl_2

PALLADIUM CHLORIDE

COMING SOON

FEATURES & BENEFITS

FEATURES	BENEFITS
Multi-Mechanism Shielding	Performs EMI shielding through reflection and/or absorption across a wide range of frequencies
Infrared Shielding	Significantly reduces or eliminates infrared transmission—enhancing thermal camouflage
Long-term Performance	Uniform metallization minimizes surface degradation and ensures long-term conductivity.
Antistatic	Provides faster dissipation of static charges in sensitive environments.
Thermal Regulation & Temperature Resilience	Ensures efficient heat distribution while maintaining stable conductivity across a wide range of temperatures.
Mechanical Durability	Maintains conductivity in operation after repeated cycling.
Integration with Body Sensors	Seamlessly integrates with wearable body sensors to monitor vitals and stress, without noise interference.



PERFORMANCE SNAPSHOT

These results reflect customers' specific requirements, but the products can be customized to suit your unique application needs.

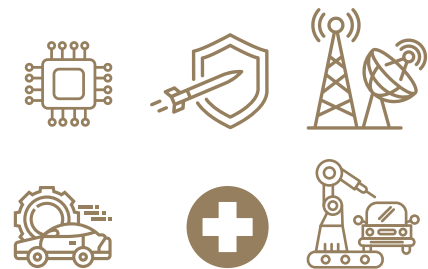
- **Conductive Fabrics** demonstrated high shielding effectiveness up to 110 dB across 200 MHz to 18 GHz, and over 70 dB for frequencies greater than 18 GHz. These fabrics can be further enhanced from a shielding performance point of view, if the need arises.
- **Copper-Nickel-metallized Conductive Foams** achieved 110-120 dB shielding up to 10 GHz, with sustained performance of 70-80 dB at 18 GHz and higher.
- **Silver-metallized Conductive Foams** delivered exceptional results at high frequencies of 18-110 GHz.
- **Product robustness** was showcased when exposed to extreme temperature variations and they are also highly durable.
- **Thermal regulation properties** enabled enhanced heat distribution and stable conductivity at elevated temperatures.

THE FIBERSE™ RANGE

	FIBERSE™ AM SERIES SURFACE RESISTANCE ANTI- MICROBIAL	FIBERSE™ SD SERIES SURFACE RESISTANCE STATIC DISSIPATION	FIBERSE™ PRO SERIES SURFACE RESISTANCE EMI SHIELDING	METACOTE™ SURFACE RESISTANCE HIGH PERFORMANCE SHIELDING
Staple Fibers	≥ 10000Ω/cm	1000Ω/cm to 100Ω/cm	≤ 2Ω/cm to 0.01Ω/cm	≤ 0.01Ω/cm
Fabric	≥ 5000Ω/□	5000Ω/□ to 500Ω/□	~2Ω/ □ to 0.05Ω/ □	≤ 0.05 Ω/□
Filament Yarn (30 Denier)	≥ 5000Ω/10cm	≤7500Ω/50cm to ≤2000Ω/50cm	≤ 2500Ω/50cm to ≤ 1500Ω/50cm	≤ 1200Ω/50cm
Filament Yarn (70 Denier)	≥ 5000Ω/10cm	≤5000Ω/50cm to ≤1000Ω/50cm	≤ 400Ω/50cm to ≤ 125Ω/50cm	≤ 80Ω/50cm
Filament Yarn (100 Denier)	≥ 5000Ω/10cm	≤5000Ω/50cm to ≤1000Ω/10cm	≤ 400Ω/50cm to ≤ 125Ω/50cm	≤ 90Ω/50cm

APPLICATIONS

- Electronics
- Defense & Aerospace
- Telecommunications
- Automotive
- Medical
- Industrial Automation



ENGAGEMENT MODEL



STEP 1

Share Your Needs

Share your shielding requirements
– frequency range, form factor,
integration constraints.



STEP 2

Receive Sample Kit

Purchase an appropriate shielding
samples suited to your application
needs.



STEP 5

Approve & Order

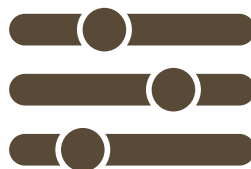
Move to production with solutions
proven in your context.



STEP 3

Performance Evaluation

Evaluate performance on your
equipment or in your environment
–real data, real results.



STEP 4

Refine The Design

Based on feedback, we iterate to
deliver the product to your
specifications

*SLA-BACKED REFUND OR REWORK IF SHIELDING FAILS TO MEET PERFORMANCE CRITERIA.

READY TO SOLVE YOUR EMI CHALLENGE?

Reach out to discover the perfect shielding solution for your specific needs.