



Flectron® metallized fabric combines highly conductive metals with lightweight fabric to meet a diverse range of EMI/RFI shielding requirements.

Manufactured with Laird patented technology, Flectron metallized fabric is available in various woven and non-woven substrate configurations.

Whether used as an architectural shielding product to shield complete rooms, or as the shielding material in EMI gaskets, tapes, and shield laminates, Flectron fabrics provide a highly effective shielding system that is cost-effective and easily applied.

Laird uses a patented technology for applying thin metal coatings of copper and nickel to woven and nonwoven fabrics. As a result, Flectron metallized materials have the flexibility, conformability and breathability of a fabric with the electrical properties of a metal. This means low surface and through resistivity and excellent shielding effectiveness.

For specific material properties, see data summary chart

NA = Not Applicable

¹ Product Specifications

² Measured per Typical values

³ Typical values for unplated fabric.

⁴ CD = cross machine direction, MD = machine direction

[†] Nominal Value

* Modified

FLECTRON® PRODUCTS DATA SUMMARY

	Product No.	Nominal Thickness Inches (mm)	Surface Resistivity ¹ (Ohms / square) (ASTM F390*)	Shielding ² at 100 MHz/1GHz (dB)	Tensile Strength ³ CD/MD4 (lb/in) (ASTM D5035*)	Weight (oz / yd ²) (LT 500)	Max. Short Duration Temperature (°C)
Ni/Cu Polyester Nonwoven	3027-217	0.016 (0.4)	< 0.07	105/90	7.5/18.5	2.8 – 4.5	210
Ni/Cu Polyester Nonwoven UL94 VTM-0	3027-235	0.016 (0.4)	< 0.07	100/100	7.5/18.5	3.6 - 5.7	210
Ni/Cu Polyester Taffeta	3035-535	0.0045 (0.114)	< 0.07	80/80	50/75	2.2 – 3.1	210
Ni/Cu Polyester Taffeta UL94 V0	3035-216	0.008 (0.2)	< 0.07	80/70	50/75	6†	100
Ni/Cu Polyester Mesh	3070-500	0.007 (0.178)	< 0.1	70/60	20/20	1.3 – 2.3	210
Ni/Cu Nylon Ripstop	3050-525	0.005 (0.1)	< 0.07	85/75	25/50	2.1 – 2.7	200
Ni/Cu Nylon Ripstop UL94 V0	3050-517	0.008 (0.2)	< 0.07	85/75	25/50	5.0 – 6.0	100
Ni/Cu Nylon Nonwoven	3078-500	0.024 (0.6)	< 0.07	60/65	280/805	7 – 10	185

Product No.	Material	Description	Application
3027-217	Ni/Cu Polyester Nonwoven	The base layer is the highly conductive copper, with an outer layer of nickel for corrosion resistance. Combines the properties of these metals with the lightweight, flexibility and breathability of a nonwoven material. Offers excellent surface conductivity, shielding effectiveness, and corrosion resistance.	Protects against EMI/RFI and ESD for a variety of applications and environments: architectural shielding, gaskets, tapes, shielding materials and ribbon.
3027-235	Ni/Cu Polyester Nonwoven UL94 VTM-0	Combines highly conductive copper and corrosion resistant nickel with the lightweight, flexibility and breathability of a nonwoven material. Offers excellent surface conductivity, shielding effectiveness and corrosion resistance. This product achieves the UL94 VTM-0 flammability rating.	Protects against EMI/RFI and ESD for a variety of applications and environments: architectural shielding, gaskets, tapes, shielding laminates, and grounding.
3035-535	Ni/Cu Polyester Taffeta	Combines highly conductive copper and corrosion resistant nickel with the lightweight, flexibility, conformability, strength and uniform appearance of a woven. Nickel/Copper Polyester Taffeta offers excellent surface conductivity, shielding effectiveness, and reflectivity.	Protects against EMI/RFI for a variety of applications and environments: enclosures, curtains, gaskets, cable wrap, tapes, shielding laminates, and grounding.
3035-216	Ni/Cu Polyester Taffeta UL94 V0	Combines highly conductive copper and corrosion resistant nickel with the lightweight, flexibility, conformability, strength and uniform appearance of a woven material. Provides excellent surface conductivity, shielding effectiveness and a UL94 V0 rating.	Protects against EMI/RFI for a variety of applications and environments: enclosures, curtains, gaskets, cable wrap, tapes, shielding laminates, and grounding.
3070-500	Ni/Cu Polyester Mesh	Combines highly conductive copper and corrosion resistant nickel with the lightweight, flexibility, conformability, breathability and uniform appearance of a knitted mesh. Mesh offers excellent surface conductivity, shielding effectiveness, and reflectivity for a variety of applications.	Protects against EMI/RFI for a variety of applications and environments: enclosures, curtains, gaskets, cable wrap, tapes, shielding laminates, and grounding.
3050-525	Ni/Cu Nylon Ripstop	This technology combines highly conductive copper and corrosion resistant nickel with the lightweight, drapability, strength, flexibility, conformability, and attractive appearance of a Nylon Ripstop. Nickel/Copper Nylon Ripstop offers excellent surface conductivity, shielding effectiveness, and reflectivity.	Protects against EMI/RFI: enclosures, curtains, gaskets, tapes, shielded laminates, infrared camouflage, and radar reflector.
3050-517	Ni/Cu Nylon Ripstop UL94 V0	This technology combines highly conductive copper and corrosive resistant nickel with the drapability, strength, flexibility, and attractive appearance of a Nylon Ripstop fabric. Provides excellent surface conductivity, shielding effectiveness, and UL94 V0 rating.	Protects against EMI/RFI: enclosures, cables, tapes, and grounding.
3078-500	Ni/Cu Nylon Nonwoven UL94 V0	Combines highly conductive copper and corrosion resistant nickel with the light weight, flexibility and breathability of a nonwoven material. Offers excellent surface conductivity, shielding effectiveness and corrosion resistance. This product achieves the UL94 V0 flammability rating.	Protects against EMI/RFI and ESD for a variety of applications and environments: architectural shielding, gaskets, tapes, shielding laminates, and grounding.

MRI "A" FABRIC



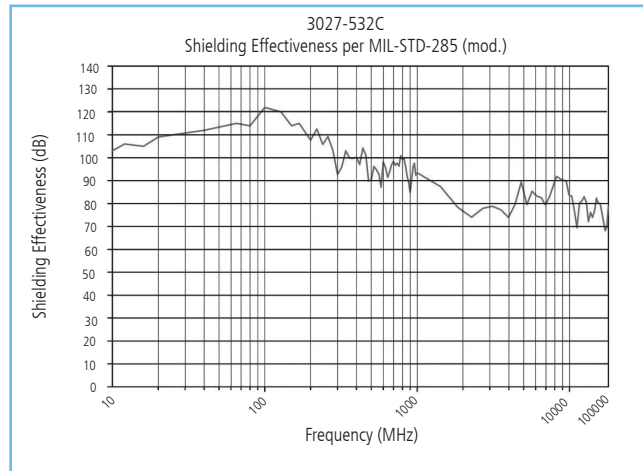
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MRI "A" FABRIC

Laird MRI "A" Fabric is an EMI/RFI shielding product that is manufactured using a patented, proprietary technology. The base layer is a metallized non-woven fabric plated with highly conductive copper and nickel for corrosion resistance. This is bonded to a thin layer of solid aluminum. The resulting material is a lightweight architectural material with superior shielding effectiveness and outstanding resilience. Specifically, this product provides superior shielding effectiveness well in excess of industry standards throughout the MRI frequency range. The product can be applied using several standard construction techniques depending upon the installation requirements or specifications. Because of the relative ease of installation with this product, construction time and therefore, the time to get the MRI facility on-line is greatly reduced.

- Flexible and lightweight
- Corrosion resistant and highly conductive
- Provides excellent shielding
- Excellent electrical properties
- Fewer seams required
- NFPA Class A Flame rating



PHYSICAL PROPERTIES

Substrate	Metal	Thickness (ASTM D1777)	Total Weight oz./yd ²	Max. Short Duration Temp. (g/m ²)	Standard Roll Width inches (cm)
Composite Polyester Non-woven Fabric and Foil	Fabric: Nickel/Copper Foil: Aluminum	0.016 +/- 0.002 (406 +/- 51)	7.5 +/- 1.3 (254 +/- 44)	194°F (90°C)	51 (130)

ELECTRICAL PROPERTIES

Surface Resistivity ASTM F390 ohms/square	Shielding Effectiveness dB (typical)				
	25.4 MHz	64 MHz	100 MHz	168 MHz	400 MHz
< 0.07	>108*	>115*	>122*	>115*	>107*

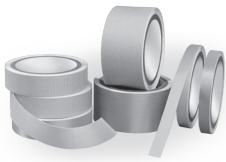
* Values exceed the dynamic range of the test equipment and were measured in actual MRI shielded enclosures.

MECHANICAL PROPERTIES

Tensile Strength CMD/MD (ASTM D5035) lb./in (N/100 mm)	Elongation, MD (ASTM D5035)
20/60 (350/1050)	8%

All dimensions shown are in inches (millimeters) unless otherwise specified.





CONDUCTIVE FABRIC SHIELDING TAPE

Laird conductive fabric shielding tapes offer exceptional conformability and conductivity for dynamic flex applications. Conductive tapes are constructed of nickel/copper metallized fabric with a conductive pressure sensitive adhesive (PSA). This reliable tape design provides outstanding shielding performance while offering superior abrasion and corrosion resistance under high dynamic flex conditions.

Significant advantages over other fabric and foil shielding tapes include:

- Available UL510 flame rating.
- Thinner design provides superior flexibility and durability.
- High conductivity and shielding effectiveness.
- Adhesive system provides high peel strength.
- Easy die-cutting and processing.
- Superb adhesion of nickel copper plating.
- Eliminates the potential of injury due to the sharp edges of metal foil tapes.

EMI shielding tape is available in standard roll widths from 0.394" (10 mm) to 3.937" (100 mm) in 0.197" (5 mm) increments and roll lengths of 65.62' (20 M). Master rolls are available in sizes up to 1.0 meter widths and 20 meter lengths. For your unique design requirements, custom die-cut parts are also available.

Some typical applications for EMI shielding tapes include:

- Shielding cables on notebook computers, copiers or other electronic equipment.
- "Fix-it" applications in test laboratories.
- Shielding over a component in which high conformability is essential.
- Shielding or grounding in weight sensitive applications.
- Shielding or grounding for electronic equipment where vibration may be present during operation.

TAPE CONSTRUCTION *	
Carrier	Nickel Copper Ripstop / Tafeta Fabric (1A)
Adhesive	Conductive Pressure Sensitive Acrylic Adhesive
Liner	Kraft Paper

PERFORMANCE CHARACTERISTICS *	
Conductive Tape Thickness	0.005 ± 0.0008 inches (0.13 ± 0.02 mm)
Tensile Strength (ASTM D5035)	50 lb / in.
Weight (LT 500)	2.9 oz./sq. yard (100 grams/sq. Meter)
XY Sheet Resistivity (ASTM F390)	< 0.03 ohms/sq.
Peel Strength	28 oz./in. (8.7 N/25 mm)
Abrasion Resistance (ASTM D3886)	> 750,000 Cycles
Temperature Range	32°F to 176°F (0°C to 80°C)
Max. Temperature (short term)	120°C
Shielding Effectiveness	100 MHz @ 70 dB 1 GHz @ 80 dB 3 GHz @ 90 dB
Z-Axis Resistivity	< 0.040 ohms
Shelf Life	6 months @ 23°C, 60% R.H.

ORDERING INFORMATION:

86-726	Standard Tape
86-785	Standard Tape
86-203	Black Tape
86-205	Black Tape
87-580	UL510 Rated
DS005	Double Sided Tape
D6-785FX	Double Sided Tape
76-750	Thin Tape

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* Properties for standard tapes. Other tape properties available upon request.