



ArmorLite™ is an ultra-lightweight microfilament stainless steel EMI/RFI braided shielding. Available as tubular sleeving as well as direct factory overbraiding for point-to-point and multi-branch interconnect assemblies.

LIGHTWEIGHT

ARMORLITE™

Microfilament nickel-clad expandable stainless steel EMI/RFI braided shielding

Save weight and money every time you fly! All-Up-Weight (AUW) has met its match: ArmorLite™ microfilament stainless steel braid saves pounds compared to standard QQ-B-575/A-A-59569 EMI/RFI shielding. ArmorLite™ is an expandable, flexible, high-strength, conductive stainless steel microfilament braid material designed for use as EMI/RFI shielding in high-performance wire interconnect systems. The principal benefit of ArmorLite™ is its extreme light weight compared to conventional nickel/copper shielding. By way of comparison, 100 feet of 5/8 inch ArmorLite™ is more than four pounds lighter than standard 575 A-A-59569 shielding. Plus, ArmorLite™ offers superior temperature tolerance compared to other lightweight tubular braided shielding including microfilament composite technologies.

- Ultra-lightweight EMI/RFI braided sleeving for high-temperature applications -80°C to +260°C
- Microfilament stainless steel: 70% lighter than NiCu A-A-59569/QQB575
- Outstanding EMI/RFI shielding and conductivity
- Aerospace environment qualified
- Superior flexibility and “windowing” resistance: 90 to 95% optical coverage
- 70,000 psi (min.) tensile strength
- Best performing metallic braid during lightning tests (IAW ANSI/EIA-364-75-1997 Waveform 5B)

LIGHTWEIGHT, FLEXIBLE ArmorLite™ Microfilament Braid for EMI/RFI Shielding Applications



ARMORLITE™ AIRCRAFT UTILIZATION ANALYSIS COMPARED TO STANDARD A-A-59569 Ni/Cu BRAID



ArmorLite™ lightweight EMI/RFI braided shielding is ideally suited for weight reduction efforts in Electrical Wire Interconnect Systems



Length and Weight of NiCu Braid in Typical Commercial Aircraft			
Diameter (in)	Weight (Lb/ft)	Length (in)	weight (Lb)
0 - 0.25	0.02	12564.8	21.08
0.25 - 0.5	0.05	5259.3	21.17
0.5 - 0.75	0.07	1212.6	7.12
0.75 - 1.0	0.14	1437.4	16.88
1.0 - 1.5	0.18	467	7.05
Total weight			73.3

Weight Savings Using ArmorLite™ (Equivalent Lengths)				
Diameter (in)	Weight (Lb/ft)	Length (in)	Length in feet	weight (Lb)
0 - 0.25	.00507	12564.8	1047.07	5.309
0.25 - 0.5	.0097	5259.3	438.28	4.251
0.5 - 0.75	.0178	1212.6	101.05	1.737
0.75 - 1.0	.0256	1437.4	119.78	3.063
1.0 - 1.5	.0368	467	38.92	1.434
Total weight				15.794

Using ArmorLite™ in place of standard nickel-copper braid saves 54.6 pounds per system—up to 78% weight savings!

ArmorLite™ Performance Test Matrix			
DESCRIPTION	REQUIREMENT	PROCEDURE	REPORT
Altitude test 27,000 ft (5 PSIA nom.)	2.5% min.	RTCA DO-160F, Table 4-1, Table 4-2 Category C temp. spec	ARM-103
Operating Temperature	-80°C to +260°C	(Shielding effectiveness 1000 hours)	ARM-103
Braid Resistivity test, Pre and Post	Test pre/post-5 cycles—minimal disparity per spec.	EIA-364-32D IAW AS85049	ARM-110/1
Surface Transfer Impedance	Transfer Impedance (10.0 kHz ~ 1.0 GHz)	IEC 62153-4-3 min. 90% optical coverage	GT-17-263
Shield Effectiveness test, Pre and Post	Screening Attenuation (0 ~ 4.00 GHz)	IEC 62153-4-4 min. 90% optical coverage	GT-17-263
Tensile/ Pull Strength	220 lbs. (min.). No anomalies within 8% - 10% of pre test for variable sizes	Glenair ATP- 183. 0 lbs. to 90 lbs, to 150 lbs, to 220lbs @ speed of 0.25 inches/min	ARM-105
Specific Gravity Test	8.2 (max) per ISO-1183	ASTM A580 (ref 316L Stainless Steel)	ARM-109
Lightning Current Test	Glenair Qual. Test Plan 191/ DC resistance/ voltage criteria per DO-160F Level for 3 sizes up to 30Ka.	ANSI/EIA-364-75-1977 Wave Form 5B SAE/ARP5416 Section 6.3 Waveform 1, 3 (1, 10MHz) and 5A	ARM-110 ARM-112
Vertical Flammability	Self extinguishing ≤ 2 sec. Burn length 0.1 inch. max. Dripping 0.0 seconds.	14 CFR part 25.853 (a) AMdT25-116 Appendix F Part I (a) (1) (ii)	ARM-101
Mass Loss and Collected Volatile Condensable Materials	Total Mass Loss (TML) ≤1.0% Collected Volatile Condensable Matl.(CVCM) ≤.1%	ASTM E-595	ARM-102
Salt Spray Test	DC Resistance IAW AS85049 .5 milliohm. No evidence of base metal on braid	ASTM B117-09 Sodium Chloride 5% 500 hrs.	ARM-100
Vibration Resistance	EAI Test Report 33247. DO160 section 8 Cat. R Vib. Curves E1	DO-160F RTCA/DO-160F, Section 9, Fig. 8-4. Curve E1. - 3 sizes - 3 hours on each axis.	ARM-111
Thermal Shock Cycling test and Resistivity	No adverse effects in visual inspection or resistance after 50 cycles	EIA-364-32D, Table 3 Test condition V -65°C to +175°C	ARM-113
Abrasion and Plating test	DC Resistance IAW AS 85049. Glenair internal QTR-003	ATP 180 20 continuous @ 6 cycles/min. over 3 arms with .030 radiused edges	ARM-107
Fluid Immersion Test	Material compatibility - see table below	Customer/AS4373D method 601 Mod	ARM-106
Flex Test	2 Cycles: starting 0° over vertical ctr. line across to 180° cycle. Total cycles of 25633	Glenair ATP 179	ARM-112