GORE-FLIGHT™ Microwave Assemblies

Reduce Life Cycle Costs With Durable, Reliable Performance

Specifically designed to meet the requirements of current and future generation aircraft, GORE-FLIGHT™ Microwave Assemblies have been specified worldwide. The vapor-sealed, durable construction of these assemblies (figure 1) delivers reliable performance with longer service life and reduced system downtime, resulting in lower life cycle costs for the aircraft operator.

The internally ruggedized construction of GORE-FLIGHT™ Microwave Assemblies withstands concentrated loads well in excess of those specified by MIL-T-81490; reducing the likelihood of inadvertent crush damage during installation and throughout service life. The flexibility of the cable, coupled with an inherent resistance to overbending, provides a cable assembly that is easier to install within the confines of an aircraft.

Vapor and liquid barriers prevent any ingress of oils, fuels, coolants or cleaning fluids, ensuring continued electrical performance even in the harshest of environments.

Features for GORE-FLIGHT™ Microwave Assemblies include:

- SMA, TNCA and N-type connectors to MIL-C-39012 and MIL-T-81490
- Fully qualified #8 contacts
- Replaceable connector options
- Connector polarization
- Self-Locking connectors - SMA, TNC, TK and N series
- Optional lock-wire holes on coupling nuts
- Profile options for 90/45 degree connectors

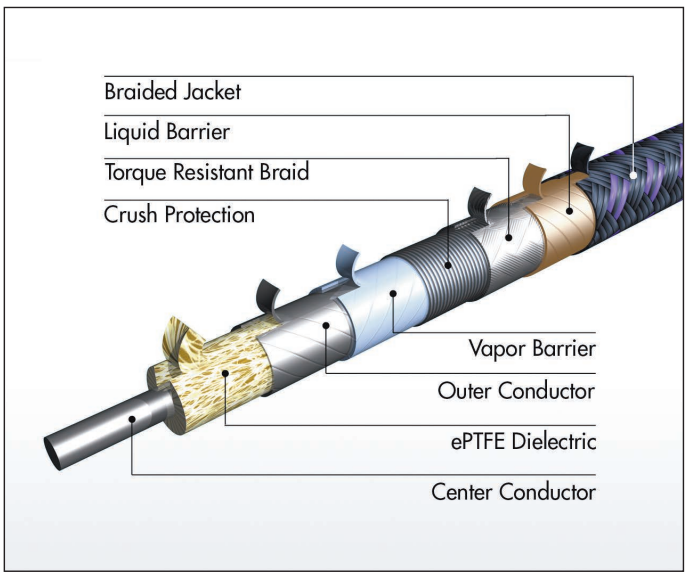
Typical Applications

- Airborne Electronic Surveillance/Counter Measures
- Radar Warning (electronic defense) systems
- Missile Approach Warning systems
- Radar interconnects
- Electronic/Signal Intelligence
- Navigation/Communication systems

Benefits Of Gore-Flight™ Microwave Assemblies

- Easier handling and routing during installation
- No degradation of electrical performance during or after install
- High crush resistance extends service life and so reduces life cycle costs
- Durable vapor sealing prevents ingress of aircraft contaminants
- Comprehensive qualification data available to support product claims

Figure 1 - Cable Construction



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Performance Specification

	GORE Cable Type	04	02	08	05	0B	06	0E	0L
Electrical Properties	Maximum Frequency GHz	18	18	18	18	18	18	18	7
	Characteristic Impedance Ohms	50							
	Typical Insertion Loss dB/m (dB/ft) @ Max Frequency	2.03 (0.62)	1.33 (0.41)	1.33 (0.41)	1.15 (0.35)	0.95 (0.29)	0.75 (0.23)	0.69 (0.21)	0.33 (0.10)
	Velocity of Propagation %	85							
	Time Delay ns/cm (ns/in)	0.04 (0.103)							
	Dielectric Constant	1.4							
	Shielding Effectiveness dB to 18GHz	›100							
Mechanical/Environmental Properties	Centre Conductor	Solid	Stranded	Stranded	Solid	Solid	Solid	Solid	Stranded
	Overall Diameter mm (in)	4.55 (0.18)	6.96 (0.27)	7.25 (0.29)	6.96 (0.27)	7.50 (0.29)	9.50 (0.37)	9.93 (0.39)	12.7 (0.50)
	Nominal Weight g/m (oz/ft)	41 (0.43)	105 (1.13)	137 (1.47)	105 (1.13)	128 (1.37)	190 (2.04)	204 (2.19)	345 (3.70)
	Minimum Bend Radius mm (in)	12.5 (0.49)	25.0 (0.98)	25.0 (0.98)	25.0 (0.98)	38.0 (1.49)	50.0 (1.97)	55.0 (2.16)	62.5 (2.46)
	Temperature Range °C (°F)	-58 to 105* (-72 to 221*)	-58 to 105* (-72 to 221*)	-58 to 200 (-72 to 392)	-58 to 105* (-72 to 221*)	-58 to 105* (-72 to 221*)	-58 to 105* (-72 to 221*)	-58 to 105* (-72 to 221*)	-58 to 105* (-72 to 221*)
	Crush Resistance kgf/cm (lb/in)	›31.3 (›175)							

*200˚C versions are available, upon request. Please contact Gore for further details

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Qualification Summary

Designed to meet the stringent specification requirements of military aircraft, these assemblies have undergone substantial qualification testing to provide user confidence in their capabilities and performance.

Examination or Test	Applicable Standards	Status
Design and Construction	MIL-T-81490 paragraph 4.7.1	Compliant
Marking	MIL-T-81490 paragraph 4.7.1	Compliant
Workmanship	MIL-T-81490 paragraph 4.7.2	Compliant
RF Insertion Loss	MIL-T-81490 paragraph 4.7.3	Compliant
Voltage Standing Wave Ratio	MIL-T-81490 paragraph 4.7.4	Compliant
Impedance	MIL-T-81490 paragraph 4.7.5	Compliant
Vapour leakage	MIL-STD-202F, notice 9, method 112E paragraph 5, condition C, procedure IV	Compliant
Velocity of Propagation	MIL-T-81490 paragraph 4.7.7	Compliant
RF Leakage	MIL-STD-1344, method 3008	Compliant
Thermal Shock	MIL-STD-810D, method 503.2	Compliant
Power Handling Capability	MIL-T-81490 paragraph 4.7.13	Compliant
Flexure	MIL-T-81490 paragraph 4.7.15	Compliant
Torque	MIL-T-81490 paragraph 4.7.16, torque requirement of 50 in/lbs replaced by ±90° angular displacement	Compliant
Tensile Load	MIL-T-81490 paragraph 4.7.17	Compliant
Concentrated Load	MIL-T-81490 paragraph 4.7.18, 100±2 lbs force	Compliant. Achieved ≥ 400lbs
Abrasion	MIL-T-81490 paragraph 4.7.19	Compliant
Sand and Dust	MIL-STD-810D, method 510.2, procedure 1	Compliant
High Potential Withstanding Voltage	MIL-STD-202, method 301	Compliant
Explosive Atmosphere	MIL-STD-810, method 511	Compliant
Temperature / Humidity / Altitude / Vibration	MIL-STD-810D, method 520.0, procedure III with vibration as per MIL-STD-810D, method 514.3, procedure 1	Compliant
Humidity	MIL-STD-810, method 507	Compliant
Vibration	MIL-STD-810D, method 514.3, procedure 1	Compliant
Gunfire Vibration	MIL-STD-810D, method 519.3 procedure 1, test spectra fig. 519.3-1	Compliant
Salt Fog	MIL-STD-810D, method 509, exposure ≥ 96 hours	Compliant. Achieved ≥ 500 hours

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Examination or Test	Applicable Standards	Status
Chemical Resistance	BS3G100, part 2, section 3, subsection 3.12, for class A Fluids tested: 1. Avtag F.40 (JP-4) 2. Avtur F.34 (JP-8) 3. Hydraulic fluid OM 15 4. Cabin seal compound 5. Engine and gearbox oil 156.000 6. De-icing fluid S737 7. De-icing fluid (windscreen) 8. De-icing fluid (aircraft) S1746 9. De-icing fluid (runway) 10. Sea water 11. Heat transfer liquid 12. Engine corrosion inhibiting fluid OM 13 13. Aircraft washing agent(s) 14. Corrosion prevention compound 15. Aircraft cleaning compound	 Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant
Icing freezing rain	MIL-STD-810D, method 521.0	Compliant
Fungus resistance	MIL-STD-810D, method 508.3	Compliant
Acoustic noise	MIL-STD-810D, method 513.3, procedure II	Compliant
Mechanical shock	MIL-STD-810D, method 516.3, procedures I, V & VI	Compliant
Drip	MIL-STD-810D, method 506.2, procedure II	Compliant
Rain	MIL-STD-810D, method 506.2, procedure I	Compliant
Fire resistance	MIL-STD-202F, method III and MIL-C-17F, paragraphs 3.7.22 and 4.8.23	Compliant
Corona extinction voltage	MIL-C-17, paragraphs 3.7.5 and 4.8.6	Compliant
Endurance	MIL-C-39012, paragraphs 3.15 and 4.6.12	Compliant
Acceleration	MIL-STD-810D, method 513.3 procedures I and II	Compliant
Flammability	FAR25.853 (a) appendix F part I (b)(7)	Compliant
Toxicity	FAR25.853 (a) appendix F part I (b)(7)	Compliant
Smoke	FAR25.853 (a) appendix F part I (b)(7)	Compliant

NOTICE – USE RESTRICTIONS APPLY. Not for use in food, drug, cosmetic or medical manufacturing, processing, or packaging operations.

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