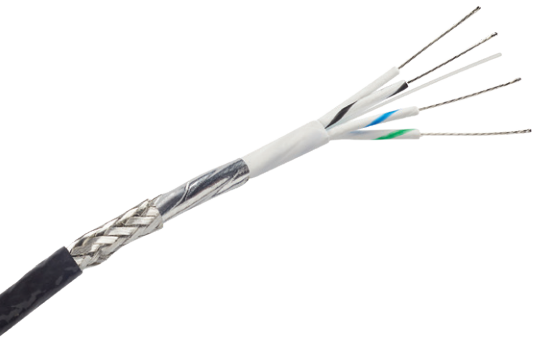
GORE® Fibre Channel Cables (150 Ohms)



In hazardous aircraft environments, this cable enhances noise immunity and EMI suppression while maintaining consistent signal integrity at data rates up to 1 GHz (Table 1). Using the field-cancellation properties of a balanced cable design, it can transmit two differential signals within the same shield without interfering with each other.

Gore is the original inventor of this low-dielectric quadrax cable geometry that saves more weight than other cable designs. Our cable diameter is 40% smaller than dual-twisted pair cables, which makes it inherently lighter weight without jeopardizing toughness (Figures 1 and 2). The excellent flexibility and tight bend radius of this cable also make initial wring simpler and faster for aircraft maintainers.

Our high-speed fibre channel interconnect has been proven on many military, commercial, and business aircraft — such as the F-16, F-18, AV-8B, and Falcon 7X.

Typical Applications

- Active electronically scanned arrays (AESA)
- Cabin/flight management systems
- Mission systems
- Tactical aircraft moving maps

Standards Compliance

- ABD0031 (AITM 2.0005); BSS7230; FAR Part 25, Appendix F, Part I: Flammability
- ABD0031 (AITM 3.0005); BSS7239: Toxicity
- ABD0031 (AITM 3.0008B); BSS7238; FAR Part 25, Appendix F, Part V: Smoke Density
- ANSI/NEMA WC 27500: Environmental Testing, Jacket and Marking
- ANSI X3.303: Fibre Channel Physical and Signaling Interface-3 (FC-PH-3)
- EN3475-503: Test Methods for Scrape Abrasion
- SAE AS4373™: Test Methods for Insulated Electric Wire (Contact Gore for available data)

Table 1: Cable Properties

Electrical

Property	Value
Signal Transmission Speed GHz	Up to 1
Standard Impedance Ohms	150 ± 10
Typical Operating Voltage V	< 15
Nominal Velocity of Propagation %	87
Nominal Time Delay ns/m (ns/ft)	4.0 (1.22)
Capacitance pF/m (pF/ft)	28.2 (8.6)
Typical Skew Within Pair ps/m (ps/ft)	3.0 (0.9)
Dielectric Withstanding Voltage Vrms Conductor-to-Conductor Conductor-to-Shield	 1500 1000

Mechanical / Environmental

Property	Value
Jacket Material	FEP
Jacket Color	Black
Conductor	Silver-Plated Copper Alloy
Conductor Color-Coding	Black/White Stripe, Blue/White Stripe, Green/White Stripe, Solid White
Dielectric Material	Expanded PTFE
Temperature Range °C	-65 to +200

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Figure 1: Tough Quadrax Construction

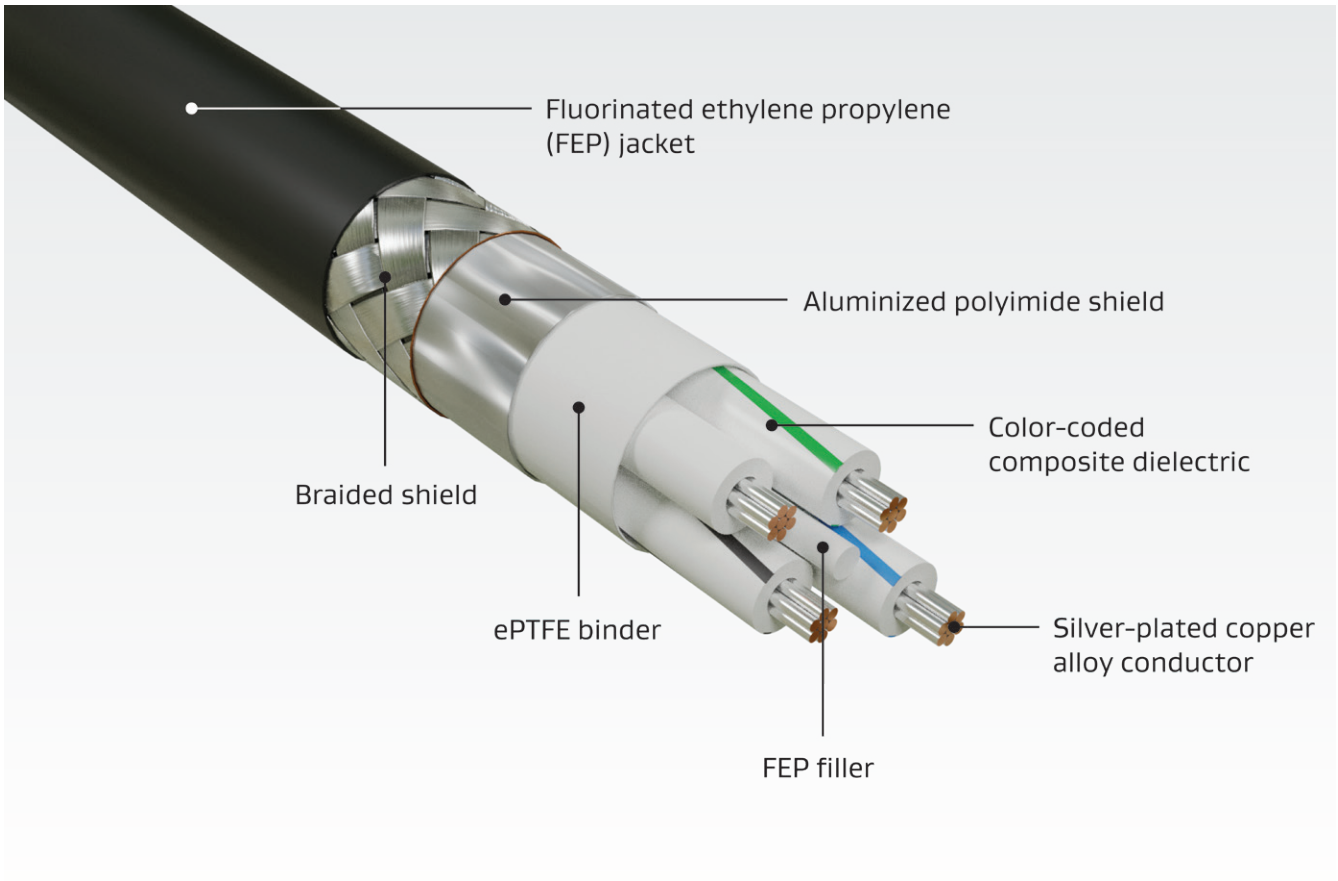
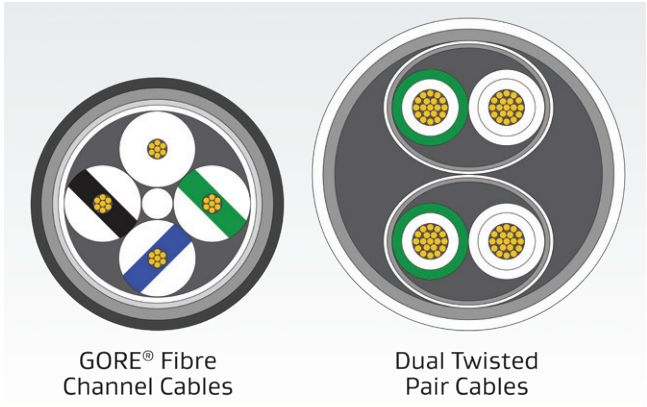


Figure 2: Low-Dielectric Cable Geometry



Connector Systems & Backshells

GORE® Fibre Channel Cables are designed to fit a variety of high-speed aerospace and defense connector systems and backshells such as ARINC and MIL-STD-38999 with size 8 contacts. Contact the specific manufacturer such as Amphenol® and Glenair® for exact part numbers, tooling information, and termination instructions.

Our cables can also be terminated with commercially available connectors to create assemblies and optimize performance in the smallest possible package. For between-the-box applications, connector options include MIL-C-38999 with size 11 contacts and DB-9 plug and receptacles. For inside-the-box applications, connector options include SMP, SMA, SSMC, and MCX.

Table 2: Cable Characteristics

Gore Part Number	AWG Size (Stranding)	Nominal Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight kg/km (lb/1000 ft)	Typical Insertion Loss dB/30 m (100 ft)
					500 MHz
RCN8328	26 (7/34)	4.8 (0.19)	25.0 (1.00)	34.0 (22.9)	10.0

Samples & Ordering Information

GORE® Fibre Channel Cables are available in a standard size (Table 2). To place an order, contact an authorized distributor for in-stock availability at **gore.com/cable-distributors.** To view our full inventory and order complimentary samples of selected products for prototyping and evaluation in your application, visit **gore.com/hsdc-sample-inventory-air-defense.**

For more information or to discuss specific characteristic limits and application needs, contact a Gore representative today at **gore.com/aerospace-defense-contact.**

Gore's high-speed fibre channel interconnect has been proven on many defense, commercial, and business aircraft such as the Falcon 7X.

W. L. Gore & Associates
gore.com

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