

GORE® Fiber Optic Ribbon Cables



Engineered with a unique buffering system, Gore's ribbon cables provide reliable protection in difficult environments while maintaining high-speed communications up to 12 channels on avionics digital networks (Figure 1). These multi-mode cables deliver consistent signal integrity with low optical loss for uninterrupted data transmission after installation and long after alternative cables have succumbed to harsh aircraft conditions (Table 1).

Also, the compact design of these cables increases flexibility with a small bend radius, which simplifies and speeds up the installation process in cramped areas of an aircraft.

Gore offers three versions of ribbon cables, each manufactured with the right amount of ruggedness to optimize performance in applications ranging from inside-the-box to outside the aircraft.

Typical Applications

- Avionics networks
- Digital video systems
- Ethernet backbone
- Flight management systems
- Transceivers
- Weather radar systems

Standards Compliance

- ABD0031 (AIM 2.0005); BSS7230; FAR Part 25, Appendix F, Part I: Flammability
- ABD0031 (AIM 3.0008B); BSS7238; FAR Part 25, Appendix F, Part V: Smoke Density
- ABD0031 (AIM 3.0005); BSS7239: Toxicity
- MIL-STD-202, Method 103: Humidity
- MIL-STD-810, Method 509: Salt Fog
- MIL-STD-810, Method 510: Sand and Dust

Table 1: Cable Properties

Gore's part numbers are identified by an asterisk (*) designating the core type followed by an asterisk designating the number of fibers (i.e., 4, 8, or 12). Also, optical values are typical. For exact part number values, please contact a Gore representative.

Optical / Mechanical / Environmental

Property	Value			
	FON1214/*/*	FON1256/*/*	FON1551	FOA8100/*/*
Typical Application	Inside-the-Box		Outside-the-Box	
Maximum Optical Loss at 850 nm dB/km	≤ 4.0	≤ 2.3	≤ 3.5	≤ 2.3
Jacket Material	Engineered Fluoropolymer		Extruded PVDF	Extruded PVDF with Strength Member
Jacket Color	White		Orange	
Core Type	Single Mode, Multi-Mode, or Multi-Mode, Graded Index		Multi-Mode, or Multi-Mode, Graded Index	
Coating Type	Acrylate	High-Temperature Acrylate	High-Temperature Acrylate	
Buffering System	PTFE		PTFE	
Nominal Weight g/m	2.0		2.0	
Tensile Strength N	350		350	
Temperature Range °C	-60 to +85	-55 to +125	-55 to +125	-60 to +125

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Figure 1: Unique Buffering System

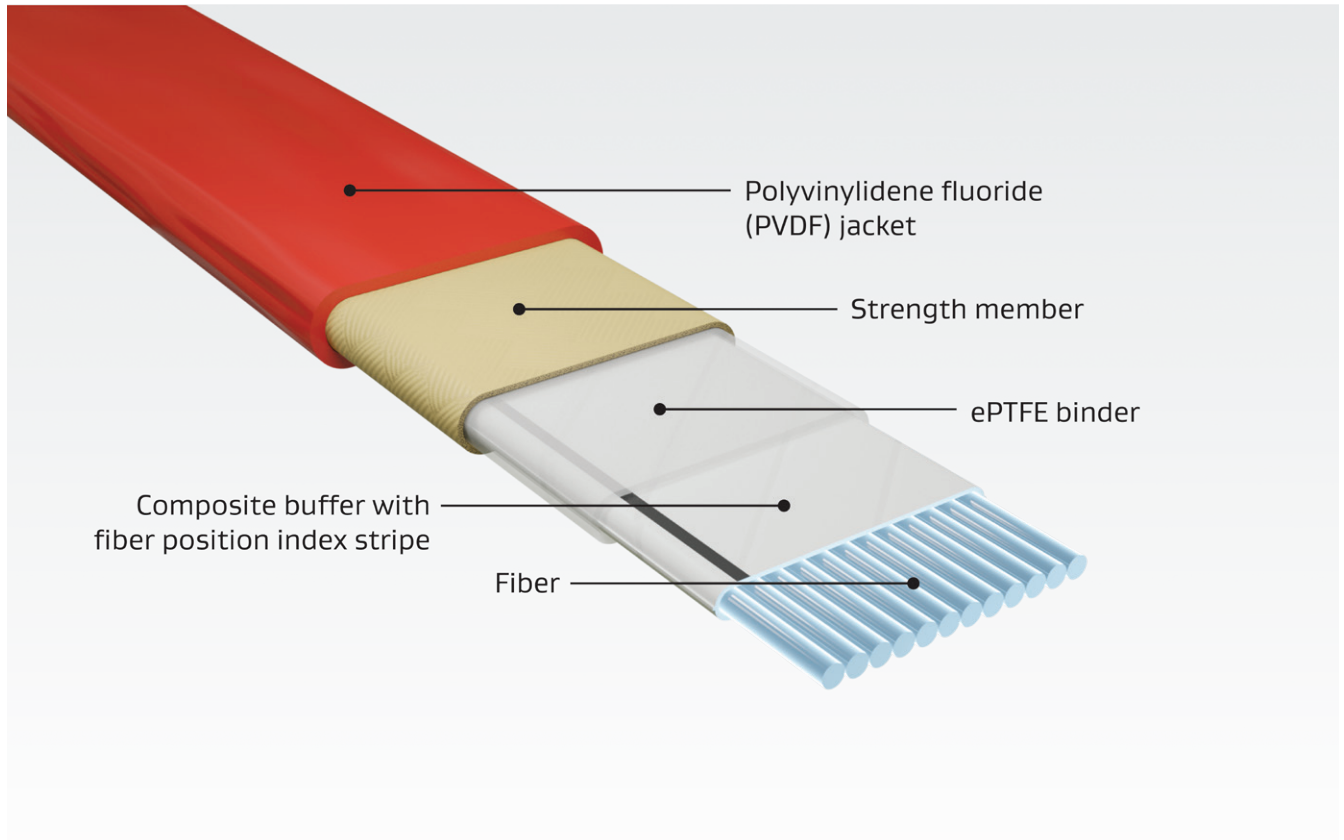


Table 2: Cable Characteristics

Gore's part numbers are identified by an asterisk (*) designating the core type followed by an asterisk designating the number of fibers (i.e., 4, 8, or 12). For more options, please contact a Gore representative.

Gore Part Number	Core Type	Core/Cladding/Coating	Nominal Outer Diameter mm (in)	Minimum Bend Radius mm (in)
FON1214/1/*	OM1 (Multi-Mode, Graded Index)	62.5/125/245	3.6 (0.14)	≥ 12.0 (0.47) ≥ 25.0 (0.98)
FON1214/2/*	SM (Single Mode)	9.5/125/245	3.6 (0.14)	≥ 6.0 (0.24) ≥ 13.0 (0.51)
FON1214/4/*	OM2 (Multi-Mode, Graded Index)	50/125/245	3.6 (0.14)	≥ 12.0 (0.47) ≥ 25.0 (0.98)
FON1214/5/*	OM3 (Multi-Mode)	50/125/245	3.6 (0.14)	Refer to Manufacturer Data Sheet
FON1214/6/*	OM4 (Multi-Mode)	50/125/245	3.6 (0.14)	Refer to Manufacturer Data Sheet
FON1256/*/*	OM1-OM3 (Multi-Mode)	50/125/245, 62/125/245	3.6 (0.14)	≥ 12.0 (0.47) ≥ 25.0 (0.98)
FON1551	OM2 (Multi-Mode, Graded Index)	50/125/245	3.8 (0.15)	≥ 6.0 (0.24) ≥ 13.0 (0.51)
FOA8100/*/*	OM3 (Multi-Mode)	50/125/245	5.1 (0.20)	≥ 12.0 (0.47) ≥ 25.0 (0.98)

Contact-Connector Options

GORE® Fiber Optic Ribbon Cables are designed to fit a variety of standard high-speed aerospace and defense MT connector systems and backshells. Please contact the specific manufacturer such as Amphenol®, COTSWORKS®, Glenair®, and Radiall for exact part numbers, tooling information, and termination instructions.

Ordering Information

GORE® Fiber Optic Ribbon Cables are available in standard sizes (Table 2). Visit [gore.com/cable-distributors](https://www.gore.com/cable-distributors) for the list of distributors. In addition, visit [gore.com/hdrsamplerflyer](https://www.gore.com/hdrsamplerflyer) regarding Gore's full inventory of sample products and lead times.

For more information or to discuss specific characteristic limits and application needs — including other fiber options and core types, please contact a Gore representative.

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