

GORE® Fiber Optic Cables (1.2 mm Simplex)



The standard version of Gore’s Simplex cables delivers stable optical performance with low loss for transferring high-speed digital data on avionics networks (Table 1). Constructed with a rugged buffering system, these fiber optic cables tolerate vibration, shock, and tension that can severely impact overall system performance in commercial and defense aircraft.

Gore’s 1.2 mm Simplex cables in single-mode and multi-mode core types are also smaller and lighter weight without losing mechanical strength, minimizing routing and installation complexities in condensed aircraft areas.

Typical Applications

- Avionics networks
- Digital video systems
- Ethernet backbone
- Flight management systems
- Inside-the-box / laser pigtail
- Strain-gauge systems
- Transceivers

Standards Compliance

- ABD0031 (AITM 2.0005); BSS7230-F6; BSS7324-7.25; FAR Part 25, Appendix F, Part I: Flammability
- ABD0031 (AITM 3.0008B); BSS7238; FAR Part 25, Appendix F, Part V: Smoke Density
- ABD0031 (AITM 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

Electrical

Property	Value				
	FON1002	FON1003	FON1253	FON1307	FON1371
Maximum Optical Loss at 1300 nm (dB/km)	—	—	—	≤ 1.5	≤ 0.7
Maximum Optical Loss at 1310 nm (dB/km)	≤ 0.7	≤ 1.5	≤ 0.4	—	—

Mechanical / Environmental

Property	Value				
Jacket Material	Extruded FEP				
Jacket Color	Blue				
Core Type	Single Mode or Multi-Mode, Graded Index				
Coating Type	Polyimide	Polyimide	High-Temperature Acrylate		
Buffering System	PTFE				
Temperature Range (°C)	-65 to +200	-65 to +200	-55 to +125	-55 to +125	-55 to +125

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Table 2: Cable Characteristics

Gore Part Number	Core Type	Core/Cladding/Coating	Nominal Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight g/m	Maximum Tensile Strength N
FON1002	SM (Single Mode)	9/125/155	1.2 (0.04)	≥ 12.0 (0.47) ≥ 25.0 (0.98)	2.5	350
FON1003	OM1 (Multi-Mode, Graded Index)	62.5/125/155	1.2 (0.04)	≥ 12.0 (0.47) ≥ 25.0 (0.98)	2.5	350
FON1253	SM (Single Mode)	9/125/250	1.2 (0.04)	≥ 12.0 (0.47) ≥ 25.0 (0.98)	2.5	350
FON1307	OM2 (Multi-Mode, Graded Index)	50/125/250	1.2 (0.04)	≥ 12.0 (0.47) ≥ 25.0 (0.98)	2.5	350
FON1371	OM1 (Multi-Mode, Graded Index)	62.5/125/250	1.2 (0.04)	≥ 12.0 (0.47) ≥ 25.0 (0.98)	2.5	350

Contact-Connector Options

GORE® Fiber Optic Cables (1.2 mm Simplex) are designed to fit a variety of high-speed aerospace connector systems and backshells such as ARINC, MIL-STD-38999, and MIL-PRF-29504. 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 Cables (1.2 mm Simplex) are available in standard sizes (Table 2). Visit gore.com/cable-distributors for the list of distributors. In addition, visit 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, please contact a Gore representative.

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