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-bandwidth data and video on aerospace and defense digital networks (Table 1). Constructed with a rugged buffering system, these cables tolerate vibration, shock, and tension that can severely impact overall system performance in aircraft and armored vehicles.

Gore's 1.2 mm Simplex cables in single-mode and multi-mode core types are also smaller and lighter without losing mechanical strength. They minimize routing and installation complexities in condensed areas of a fiber optic communications system.

Typical Applications

- Avionics/vectronics digital networks
- Ethernet backbone
- Flight management systems
- HD streaming video systems
- Inside-the-box/laser pigtail
- Intercom/radio systems
- 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

Optical

	Value				
Property	**FON1002**	**FON1003**	**FON1253**	**FON1307**	**FON1371**
Signal Transmission Speed Gb/s	Up to 10				
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

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)	Short-Term: ≥ 12.0 (0.47) Long-Term: ≥ 25.0 (0.98)	2.5	350
FON1003	OM1 (Multi-Mode, Graded Index)	62.5/125/155	1.2 (0.04)	Short-Term: ≥ 12.0 (0.47) Long-Term: ≥ 25.0 (0.98)	2.5	350
FON1253	SM (Single Mode)	9/125/250	1.2 (0.04)	Short-Term: ≥ 12.0 (0.47) Long-Term: ≥ 25.0 (0.98)	2.5	350
FON1307	OM2 (Multi-Mode, Graded Index)	50/125/250	1.2 (0.04)	Short-Term: ≥ 12.0 (0.47) Long-Term: ≥ 25.0 (0.98)	2.5	350
FON1371	OM1 (Multi-Mode, Graded Index)	62.5/125/250	1.2 (0.04)	Short-Term: ≥ 12.0 (0.47) Long-Term: ≥ 25.0 (0.98)	2.5	350

Connector Systems & Backshells

GORE® Fiber Optic Cables are designed to fit a variety of high-speed aerospace and defense connector systems and backshells such as ARINC, MIL-STD-38999, and MIL-PRF-29504. Contact the specific manufacturer such as Amphenol®, COTSWORKS®, Glenair®, and Radiall for exact part numbers, tooling information, and termination instructions.

Samples & Ordering Information

The 1.2 Simplex version of GORE® Fiber Optic Cables is available in standard sizes (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 – including other impedance options, contact a Gore representative today at **gore.com/aerospace-defense-contact.**

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