

GORE® Shielded Twisted Pair Cables (100 Ohms)



Typical Applications

- Avionics/vetronics digital networks
- Cabin Management Systems
- Ethernet backbone
- HD streaming camera/video systems
- High-density connectors
- LVDS devices
- Sensor/processor Interconnects
- Serial buses

Standards Compliance

- ABD0031 (AITM 2.0005); BSS7230; FAR Part 25, Appendix F, Part I: Flammability (DXN2600 through DXN2606)
- ABD0031 (AITM 3.0005); BSS7239: Toxicity (DXN2600 through DXN2606)
- ABD0031 (AITM 3.0008B); BSS7238; FAR Part 25, Appendix F, Part V: Smoke Density (DXN2600 through DXN2606)
- ANSI/NEMA WC 27500: Environmental Testing, Jacket and Marking (DXN2600 through DXN2606)
- SAE AS4373™: Test Methods for Insulated Electric Wire (Contact Gore for available data)
- VG95218-31: Performance Requirements (GSC-03-85203-VG)

Well-suited for wire and cable harness applications, Gore's cables utilize low-voltage differential signals (LVDS). They deliver excellent signal integrity with controlled impedance for data transmission lines at speeds up to 1 GHz (Table 1).

The combination of durable materials in this construction enables a higher tolerance against typical aerospace and defense conditions such as rigorous routing and changing climates for extended service life (Figure 1).

Gore's low-profile configuration also has a direct impact on saving weight and space in aircraft and military vehicles. These cables are 30% smaller and 50% lighter when compared to standard oval cables (Figure 2). When compared to alternative round cables, Gore's unique design is drastically smaller in size (Figure 3). This smaller diameter allows for more flexibility and easier routing in hard-to-reach places of aircraft and vehicles for improved installation.

Table 1: Cable Properties

Electrical

Property	Value
Signal Transmission Speed GHz	Up to 1
Standard Impedance Ohms	100 ± 10
Typical Operating Voltage V	< 15
Nominal Velocity of Propagation %	80
Nominal Time Delay ns/m (ns/ft)	4.10 (1.25)
Capacitance pF/m (pF/ft)	42.6 (13.0)
Dielectric Withstanding Voltage Vrms	
Conductor-to-Conductor	1500 / 700 ^a
Conductor-to-Shield	1000

Mechanical / Environmental

Property	Value
Jacket Material	Engineered Fluoropolymer or PU Halogen-Free ^a
Jacket Color	EF: White (Laser Markable) PU: Black ^a
Conductor	Silver-Plated Copper or SPC Alloy
Conductor Color-Coding	Blue/White
Dielectric Material	Expanded PTFE/PTFE
Temperature Range °C	-65 to +200 -46 to +100 ^a

a. Based on Gore's part number GSC-03-85203-VG for military vehicle systems.

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Figure 1: Durable Package

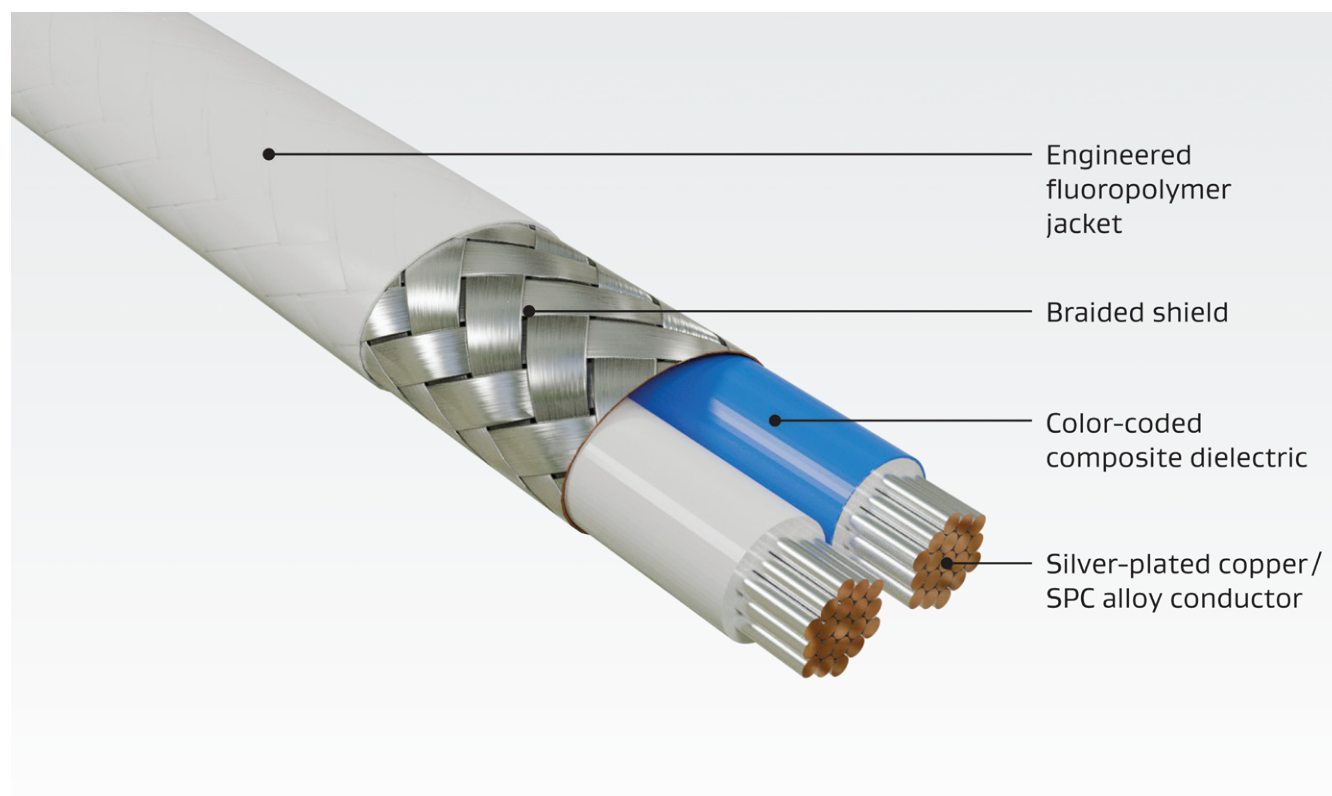


Figure 2: Low-Profile Configuration

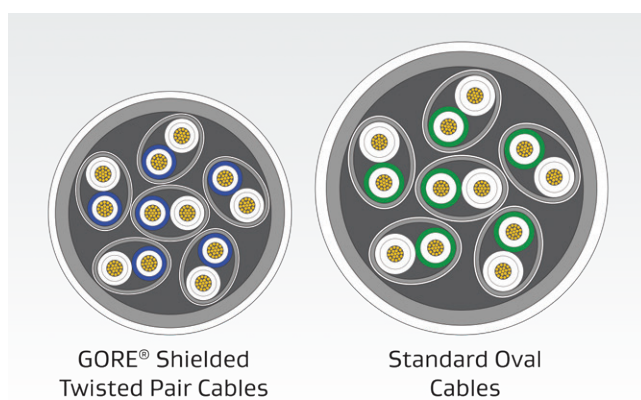


Figure 3: Smaller Diameter

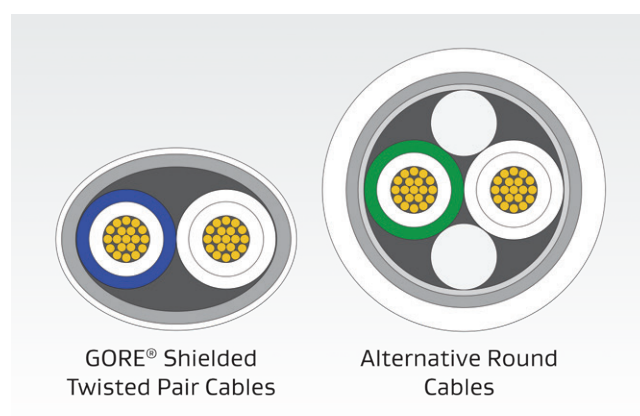


Table 2: Cable Characteristics

Gore Part Number	Gore Alternative Part Number	AWG Size (Stranding)	Nominal Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight kg/km (lb/1000 ft)	Maximum Insertion Loss dB/30 m (100 ft)			
						100 MHz	200 MHz	500 MHz	1 GHz
DXN2600	GSC-03-84879-00	20 (19/32)	5.1 (0.20)	25.0 (0.98)	31.7 (21.3)	4.8	6.8	11.3	16.4
GSC-03-85203-VG	—	22 (19/34)	4.8 (0.19)	29.0 (1.14)	43.0 (28.9)	6.6	9.8	15.7	23.5
DXN2601	GSC-03-84880-00	22 (19/34)	3.8 (0.15)	19.1 (0.75)	23.2 (15.6)	6.6	9.8	15.7	23.5
DXN2602	GSC-03-84557-00	24 (19/36)	3.3 (0.13)	16.2 (0.64)	16.8 (11.3)	7.6	10.7	17.3	25.0
DXN2603	GSC-03-84823-00	26 (19/38)	2.5 (0.10)	12.6 (0.49)	12.8 (8.6)	9.4	13.8	21.5	31.2
DXN2604	GSC-03-84881-00	28 (19/40)	2.0 (0.08)	9.9 (0.39)	8.6 (5.8)	13.2	19.2	32.0	46.8
DXN2605	GSC-03-84710-00	30 (19/42)	1.8 (0.07)	8.9 (0.35)	7.1 (4.8)	20.9	23.6	38.3	56.9
DXN2606	—	32 (19/44)	1.7 (0.07)	8.6 (0.34)	5.0 (3.4)	27.0	39.0	60.0	—

Samples & Ordering Information

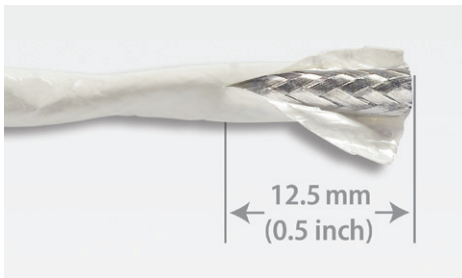
GORE® Shielded Twisted Pair Cables are available in standard sizes (Table 2). To place an order, contact an authorized distributor for in-stock availability at gore.com/cable-distributors. To view our full inventory and order complimentary samples of selected products for prototyping and evaluation in 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.

Cable Preparation

Laser stripping is the ideal method to prep GORE® Shielded Twisted Pair Cables. Alternatively, Gore recommends using thermal or sharp mechanical strippers. Also, a unique method is to make a short, horizontal slit in the jacket material, peel it back to allow for contact termination and return the jacket to its original position for a neat closure (Figure 4). For more information regarding cable preparation, contact a Gore representative.

Figure 4: Peel-Back Method



Connector Systems & Backshells

GORE® Shielded Twisted Pair 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 differential Twinax sizes 8 and 22D contacts. Contact the specific manufacturer such as Amphenol® and Glenair® for exact part numbers, tooling information, and termination instructions.

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