GORE® Shielded Twisted Pair Cables (Controlled Impedance, 100 Ohms)

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 9).

The combination of durable materials in this construction enables a higher tolerance against rough environments such as changing climate zones and rigorous routing for extended service life (Figure 18).

Gore's low-profile configuration also has a direct impact on saving weight and space in vehicles. These cables are 30% smaller and 50% lighter when compared to standard oval cables (Figure 19). When compared to alternative round cables, Gore's unique design is drastically smaller in size (Figure 20). This smaller diameter allows for more flexibility and easier routing in hard-to-reach places of a vehicle for improved installation.

Typical Applications

- Digital camera/video systems
- Ethernet backbone
- High-density connectors
- LVDS devices
- Sensor/processor Interconnect
- Serial buses
- Vetronics digital networks

Standards Compliance

- VG95218-31: Performance Requirements (GSC-03-85203-VG)
- 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
- RoHS and REACH Information (See Table 10)
- SAE AS4373™: Test Methods for Insulated Electric Wire (Contact Gore for available data)

Table 9: Cable Properties
Please contact a Gore representative for other impedance options. In addition, Gore's part number GSC-03-85203-VG includes a PU halogen-free jacket.

Electrical

Property	Value
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 Conductor-to-Shield	 1500 1000

Mechanical / Environmental

Property	Value
Jacket Material	Engineered Fluoropolymer
Jacket Color	White (Laser Markable)
Conductor	Silver-Plated Copper/SPC Alloy
Conductor Color-Coding	Blue/White
Dielectric Material	ePTFE/PTFE
Temperature Range °C	-65 to +200

Figure 18: Durable Package

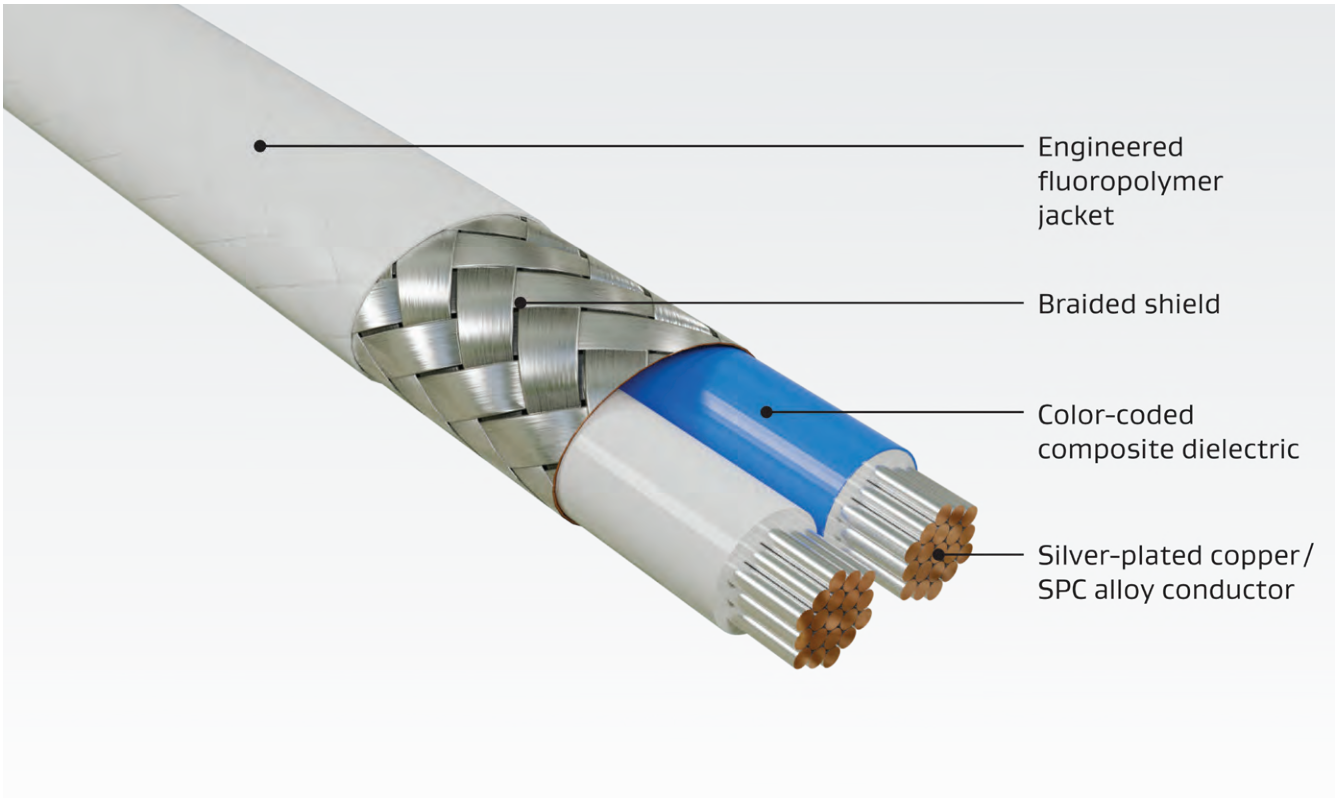

Figure 19: Low-Profile Configuration

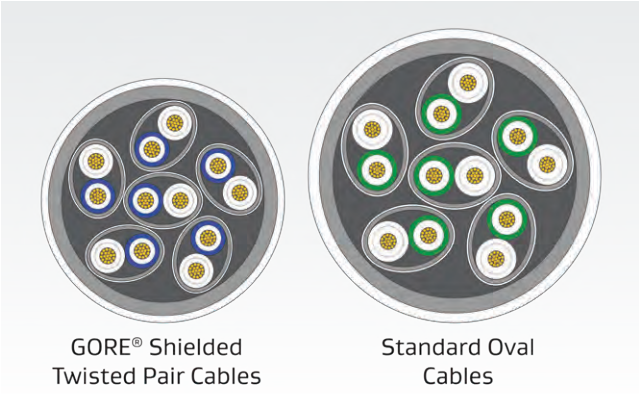

Figure 20: Smaller Diameter

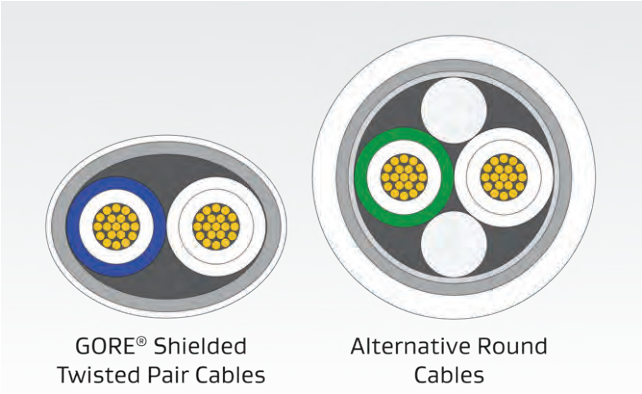

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Table 10: Cable Characteristics

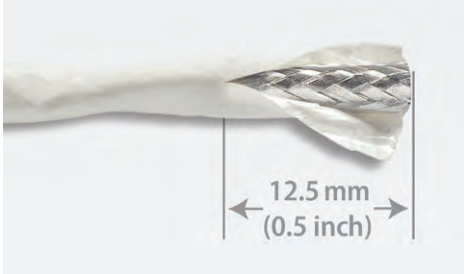
Gore alternative part numbers for GORE® Shielded Twisted Pair Cables meet the substance requirements according to the RoHS Directive 2011/65/EU that also includes Commission Delegated Directive 2015/863. These products do not contain any substances on the Candidate List of Substances of Very High Concern (SVHC) at concentrations above 0.1% (w/w) currently published on the ECHA website as of January 15, 2019.

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
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
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
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	—

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 21). For more information regarding cable preparation, please contact a Gore representative.

Figure 21: Peel-Back Method



Contact-Connector Options

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. Please contact the specific manufacturer such as Amphenol® and Glenair® for exact part numbers, tooling information, and termination instructions.

Ordering Information

GORE® Shielded Twisted Pair Cables are available in standard sizes (Table 10). Visit **gore.com/cable-distributors** for the list of distributors. In addition, see page 70 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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