GORE® High Speed Data Cables
Ultralight Solutions for Aerospace & Defense

GORE® Shielded Twisted Pair Cables (Ultralight)

The Ultralight version of GORE® Shielded Twisted Pair Cables is the next evolution of Gore's proven high-speed cable portfolio for aerospace and defense. Featuring a lighter construction, this version cuts weight from 27% to 60% compared to our standard constructions and leading alternative designs, such as standard oval cables (Figure 1). When compared to alternative round cable designs, Gore's reduced-diameter design s drastically smaller (Figure 2).

Our Ultralight version maintains the same high standards for mechanical durability, excellent signal integrity, and EMI protection as our standard version, which has been trusted in many critical applications (Table 1). Reliably supporting low-voltage differential signaling (LVDS), it consistently delivers data transmission up to 1 GHz with controlled impedance at 100 ohms.

Additionally, the durable construction is qualified to rigorous industry standards and withstands tight routing, vibration, and fluctuating environmental conditions (Figure 3). With more flexibility, installation is also simplified in dense harnesses and hard-to-reach spaces for extended service life across platforms.

GORE® Shielded Twisted Pair Cables (Ultralight) offer system design engineers a way to reduce platform weight, add more payload and cargo, and streamline integration without compromising electrical reliability or long-term durability.

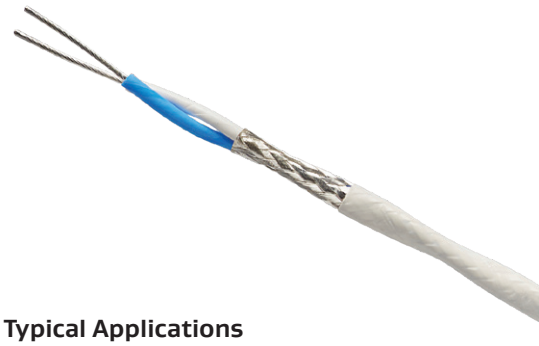

Table 1: Cable Properties

Mechanical / Environmental

	Value	
Property	**Ultralight**	**Standard**
Weight kg/km (lb/1000 ft)	DXN2656-24: 12.8 (8.6) DXN2656-26: 8.9 (6.0)	DXN2602: 17.6 (11.8) DXN2603: 12.8 (8.6)
Jacket Material/Color	Engineered Fluoropolymer / White (Laser Markable)	
Conductor	Silver-Plated Copper Alloy	
Conductor Color-Coding	Blue/White	
Dielectric Material	Expanded PTFE/PTFE	
Temperature Range °C	-65 to +200	

Typical Applications

- Electrical Wiring Interconnection System (EWIS)
- Avionics/vetronics digital networks
- Cabin Management Systems
- Ethernet backbone
- HD 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
- 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
- SAE AS4373™: Test Methods for Insulated Electric Wire (Contact Gore for available data)

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Table 1: Cable Properties (continued)

Electrical

	Value	
Property	**Ultralight**	**Standard**
Signal Transmission Speed GHz	Up to 1	
Standard Impedance Ohms	100 ± 10	
Typical Operating Voltage V	< 48	
Nominal Velocity of Propagation %	80	
Nominal Time Delay ns/m (ns/ft)	4.10 (1.25)	
Capacitance pF/m (pF/ft)	42.0 (13.0)	
Dielectric Withstanding Voltage Vrms Conductor-to-Conductor Conductor-to-Shield	 1500 1000	

The Ultralight version of GORE® Shielded Twisted Pair Cables is available in standard sizes (Table 2).

Table 2: Cable Characteristics

Gore 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
DXN2656-24	24 (19/36)	3.3 (0.13)	16.2 (0.64)	12.8 (8.6)	7.6	10.7	17.3	25.0
DXN2656-26	26 (19/38)	2.5 (0.10)	12.06 (0.49)	8.9 (6.0)	9.4	13.8	21.5	31.2

Figure 1: Low-Profile Configuration

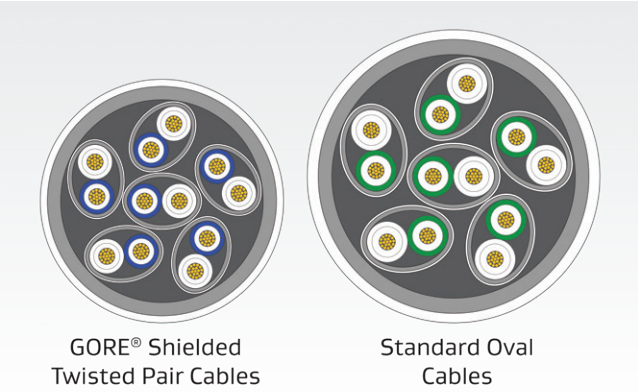


Figure 2: Smaller Diameter

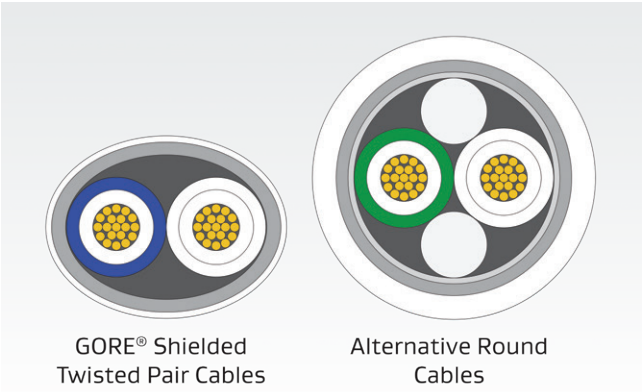
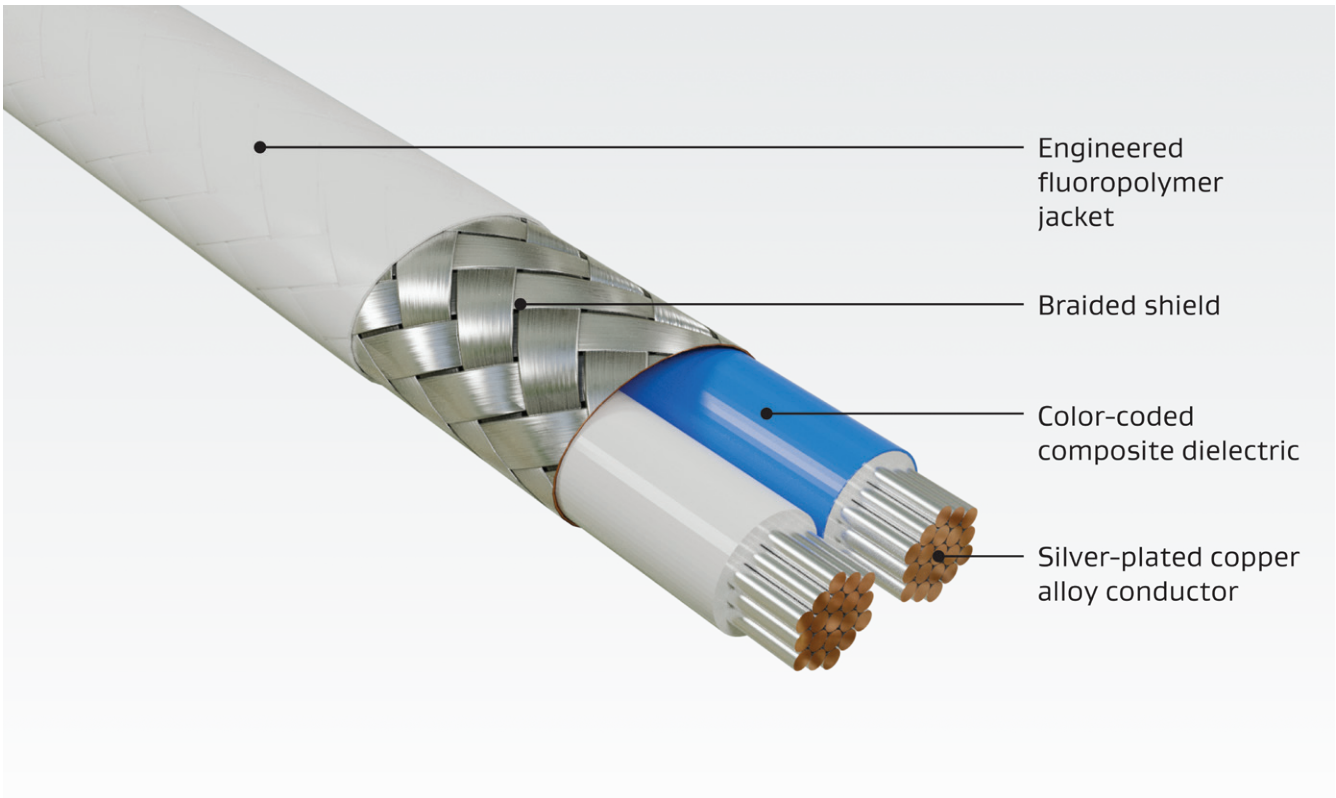


Figure 3: Durable Package



W. L. Gore & Associates
gore.com

ACS-1065-DSH-US-OCT25