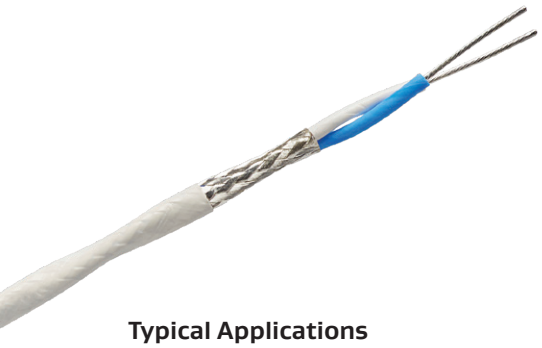
# GORE® Shielded Twisted Pair Cables (100 Ohms)



### Typical Applications

- Avionics/vetronics digital networks
- Cabin Management Systems
- Ethernet backbone
- Single-pair Ethernet (SPE) & power over single-pair Ethernet (PoSPE)
- 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 (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 up to 27% 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 | < 48 |
| 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<br>Conductor-to-Conductor<br>Conductor-to-Shield | <br>1500<br>1000 |

## Mechanical / Environmental

| Property | Value |
|---|---|
| Jacket Material | Engineered Fluoropolymer or PU Halogen-Free[a] |
| Jacket Color | EF: White (Laser Markable)<br>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<br>-46 to +100[a] |

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**Figure 1: Durable Package**

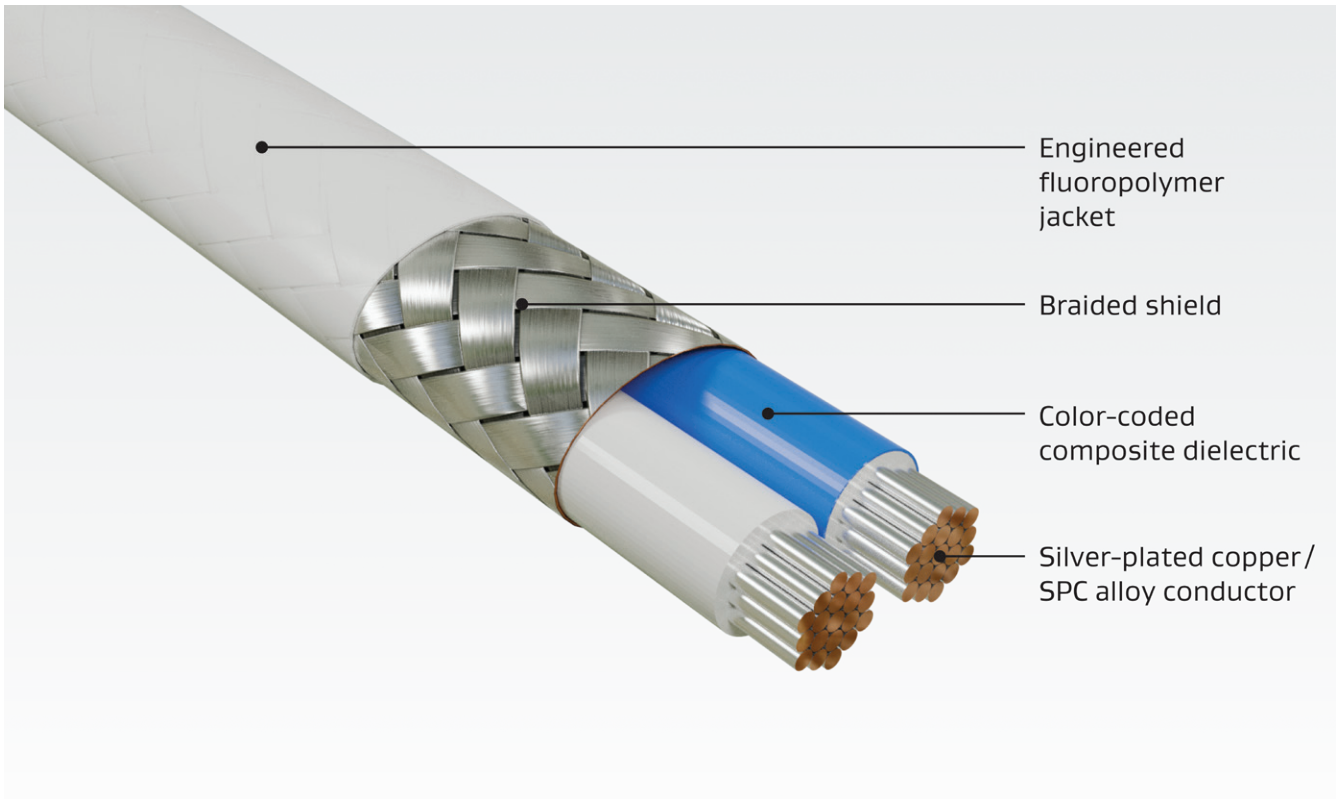



**Figure 2: Low-Profile Configuration**

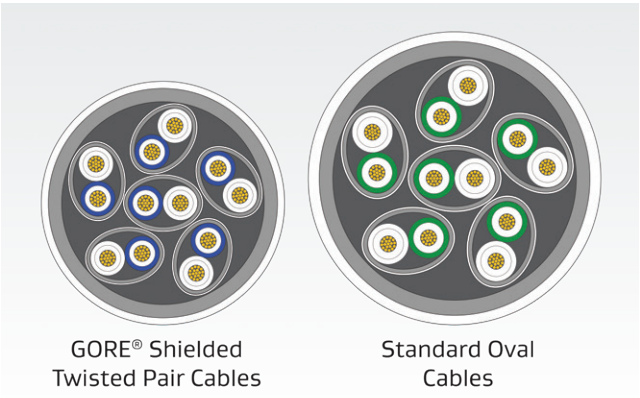



**Figure 3: Smaller Diameter**

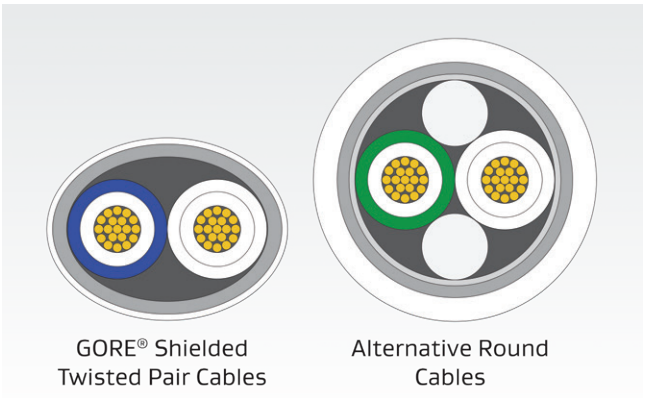


**Table 2: Cable Characteristics**

| 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

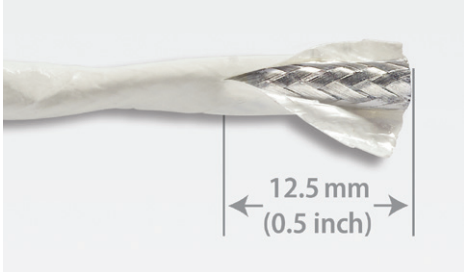
GORE® Shielded Twisted Pair Cables are available in standard sizes (Table 2). To place an order, contact an authorized distributor for in-stock availability at **gore.com/cable-distributors.** To view our full inventory and order complimentary samples of selected products for prototyping and evaluation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

For more information or to discuss specific characteristic limits and application needs, contact a Gore representative for aerospace and defense today.

## 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 6). For more information regarding cable preparation, contact a Gore representative.

**Figure 6: 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.



**W. L. Gore & Associates**
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ACS1014-R1-DSH-US-NOV25