GORE® Coaxial Cables
For Defense Land Systems

Reliable Video Transmission at 75 Ohms in Smaller, Lighter Cable Construction

Modern systems in defense vehicles require an impressive number of sensors to transmit critical video during missions. These sensors need cables that can transmit video in ultra-high definition reliably and securely while tolerating aggressive environments such as electromagnetic interference (EMI), extreme temperatures, and abrasion. Cables also need to be smaller, lighter, and more flexible so maintainers can easily route them in confined spaces of a vehicle without breaking or failing.

Benefits

- Optimized 4K signals and video transmission with ultra-low loss up to 6 GHz
- Proven to maintain controlled impedance at 75 ohms
- Less RF interference among electronics due to excellent shielding effectiveness
- Superior protection against extreme temperatures, weather, abrasion, more
- Save weight due to smaller, lighter weight cable construction
- Easier routing due to greater flexibility and tighter bend radius
- Reduced operating costs due to longer product life

Typical Applications

- Remote-controlled turret cameras
- Vehicle camera links
- Vetronics displays

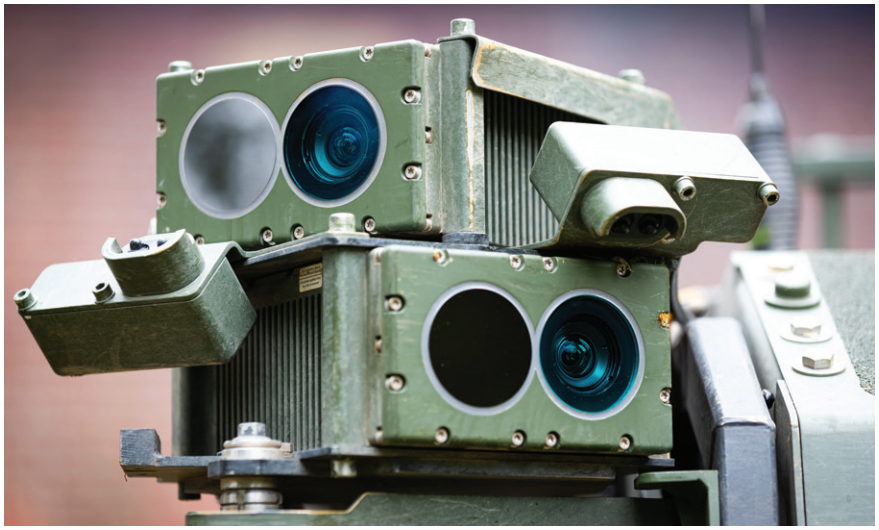

Image courtesy of Rheinmetall©

Optimized 4K Signals

GORE® Coaxial Cables are designed specifically for 4K video interface systems operating at 75 ohms. They optimize signals and video transmission with ultra-low loss up to 6 GHz while maintaining controlled impedance. They are also proven to provide outstanding shielding effectiveness for less RF interference among electronics. Our cables meet and even exceed stringent military requirements while also meeting standards set forth by the Society of Motion Picture and Television Engineers (SMPTE).

We manufacture our coaxial cables with a specialized fluoropolymer insulation that improves durability for superior protection against challenging mechanical and environmental conditions (Table 1). They can easily resist extreme temperatures from -55° to +200°C and changing weather patterns such as hard rain and heavy snow. These rugged cables also tolerate high abrasion, repeated vibration, hazardous chemicals, harsh contaminants, and more.

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Standards Compliance

- EN 3475-503: Test Methods for Scrape Abrasion
- EN4604-003: Cable Characteristics for Signal Transmission
- FAR Part 25, Appendix F, Part I: Flammability
- MIL-C-17G: Cables, Radio Frequency, Flexible and Semi-Rigid
- SMPTE 292M: Bit-Serial Digital Interface for High Definition Television (HDTV)
- SMPTE 424M: 3 Gb/s Signal/Data Serial Interface for HDTV
- SMPTE 2081-1: 6 Gb/s Signal/Data Serial Interface for HDTV
- SMPTE 2082-1: 12 Gb/s Signal/Data Serial Interface for HDTV

Table 1: Cable Properties

Electrical

Property	Value
Standard Impedance Ohms	75 ± 2
Maximum Frequency GHz	6
Typical Operating Voltage V	< 420
Nominal Velocity of Propagation %	83
Nominal Time Delay ns/m (ns/ft)	4 (1.26)
Capacitance pF/m (pF/ft)	53.2 (16.2)
Shielding Effectiveness dB through 2 MHz	> 100
Nominal Dielectric Constant	1.4
Typical Attenuation[a] dB/30 m (100 ft) at 3 GHz at 6 GHz	 17.6 31.4

Mechanical / Environmental

Property	Value
Jacket Material	Engineered Fluoropolymer
Jacket Color	White (Laser Markable)
Braid Shielding	Silver-Plated Copper
Dielectric Material	Expanded PTFE
Conductor Plating	Silver-Plated Copper
Operating Temperature Range °C	-55 to +200

a. Attenuation values are based on the maximum recommended use length.

Significant Weight Savings

GORE® Coaxial Cables significantly reduce size and weight without jeopardizing mechanical strength and electrical reliability than standard legacy RG coaxial cables available in the defense market (Figure 1). Our cables are also easier to install in vehicles with overcrowded areas because of the smaller diameter that increases flexibility with a tighter bend radius.

With complete mechanical and electrical reliability, GORE® Coaxial Cables save weight and reduce operating costs — making them an ideal replacement for legacy RG coaxial cables.

Figure 1: Small, Lightweight Construction

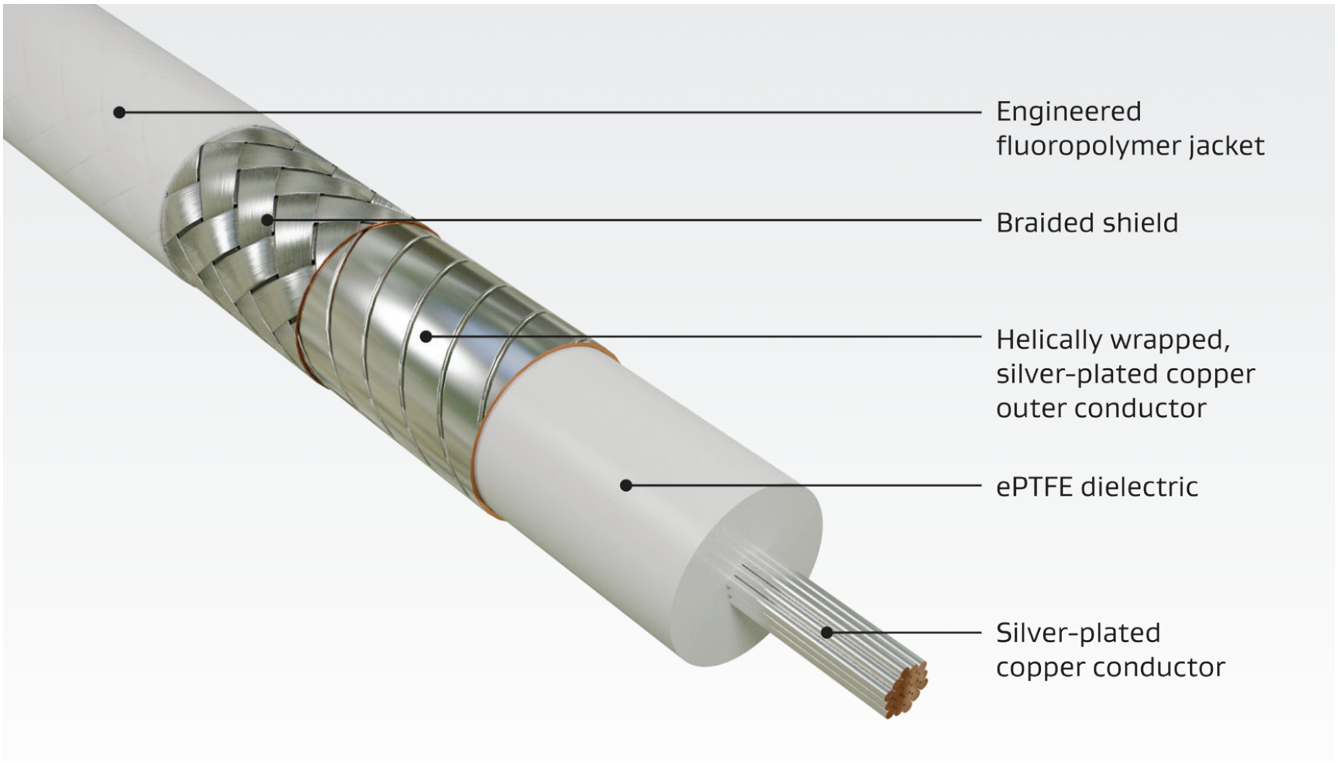

Table 2: Cable Characteristics

Gore Part Number	AWG Size (Stranding)	Maximum Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight kg/km (lb/1000 ft)	Legacy RG Coaxial Cable Replacement
CXN3671	22 (19/34)	4.85 (0.19)	30.5 (1.2)	138.2 (28.3)	6, 59, 302

Ordering Information

GORE® Coaxial Cables are available in a standard size (Table 2). Visit **gore.com/cable-distributors** for the list of distributors. For more information or to discuss specific characteristic limits and application needs, please contact a Gore representative.

W. L. Gore & Associates
gore.com

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