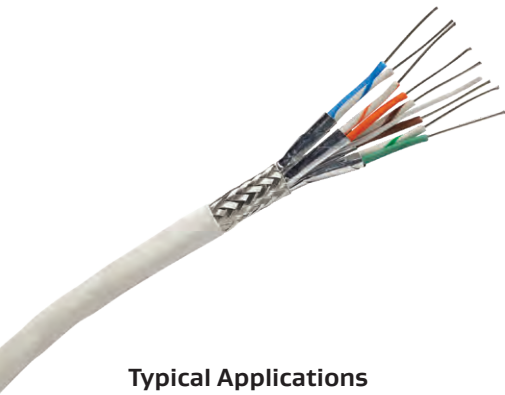


GORE® Ethernet Cables (4 Pairs, Cat5e/6/6a)



Typical Applications

- Data storage
- Ethernet backbone
- High-definition streaming video
- Mission systems
- Radar systems
- Radio/communications systems
- Tactical links
- Vectronics digital networks

Standards Compliance

- STANAG 4754: NATO Generic Vehicle Architecture (NGVA) for Land Systems
- VG95218-31: Performance Requirements (GSC-01-85237-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
- ANSI/TIA 568-C.2: Performance Requirements
- IEEE 802.3: Ethernet 10G BASE-T
- SAE AS4373™: Test Methods for Insulated Electric Wire (Contact Gore for available data)
- SAE AS6070™/5 & /6™: Ethernet 1000BASE-T (10 Gb, 100 Ohms); QPL (RCN9034-24, RCN9047-26)

For standard Ethernet protocols, Gore’s 4-pair cables are engineered for the increasing data demands of modern vectronics digital networks (Table 2). The Cat6a version exceeds stringent electrical requirements and delivers excellent signal integrity with sufficient margin for high-speed data transmission up to 10 Gb at lengths up to 80 m (262 ft). This award-winning Cat6a version is also approved to SAE AS6070 and VG95218-31 standards and on the Qualified Products List (QPL).

In addition, the unique design of these cables is 24% smaller and 25% lighter than alternative designs and proven to save 5.9 kg/km (13 lb/1000 ft) in vehicles (Figures 5 and 6). The reduced cable diameter also allows for greater flexibility and a tighter bend radius making routing easier and faster for maintainers.

Table 2: Cable Properties

Gore’s Cat6a version, part number GSC-01-85237-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)
Minimum Near-End Crosstalk (NEXT) dB	
10 MHz	59.2
100 MHz	52.3
500 MHz	42.2
Shielding Effectiveness dB	> 55
Dielectric Withstanding Voltage Vrms	
Conductor-to-Conductor	1500
Conductor-to-Shield	1000

Mechanical / Environmental

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

Figure 5: High-Density Construction

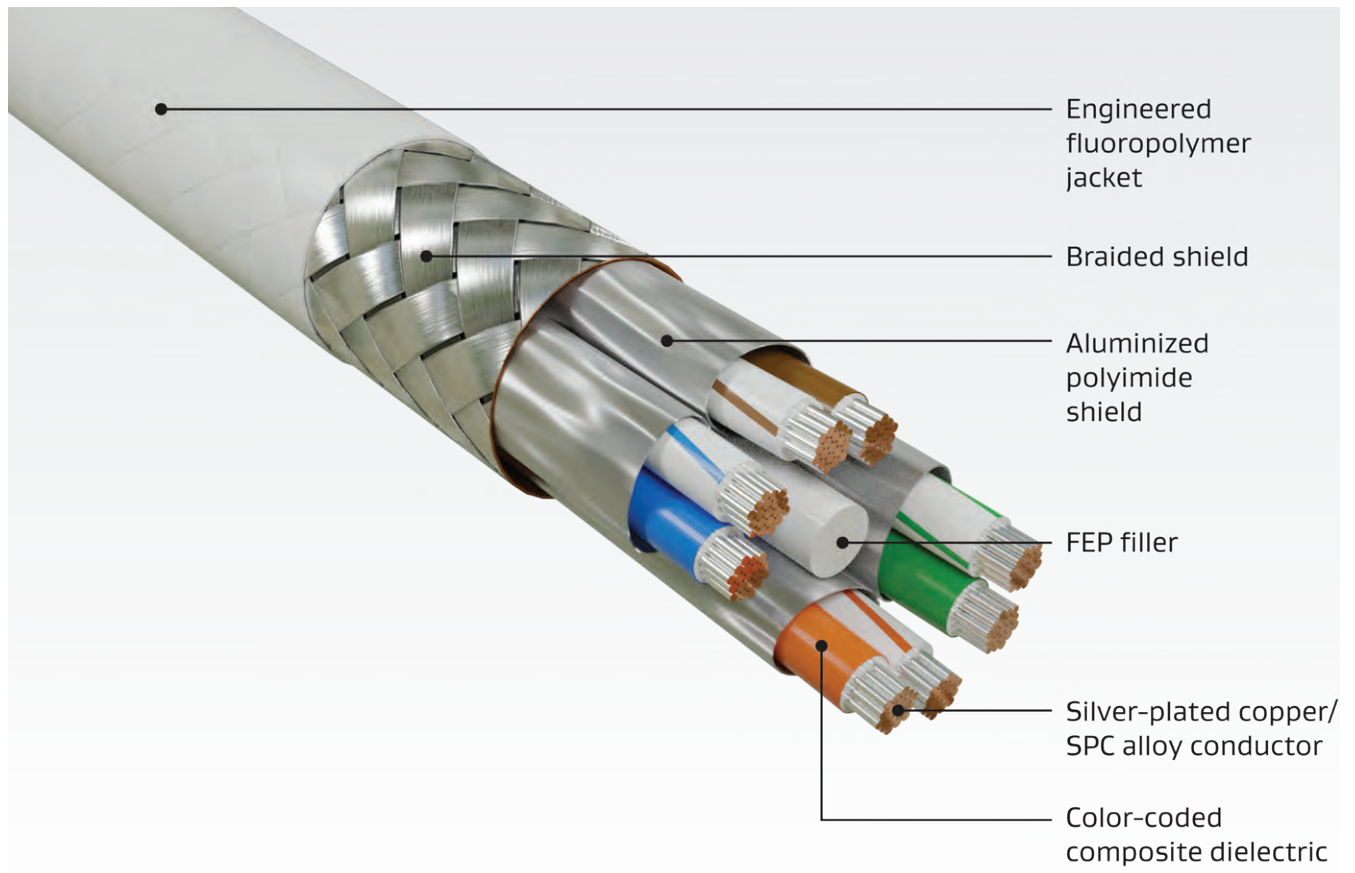


Figure 6: Reduced Cable Diameter

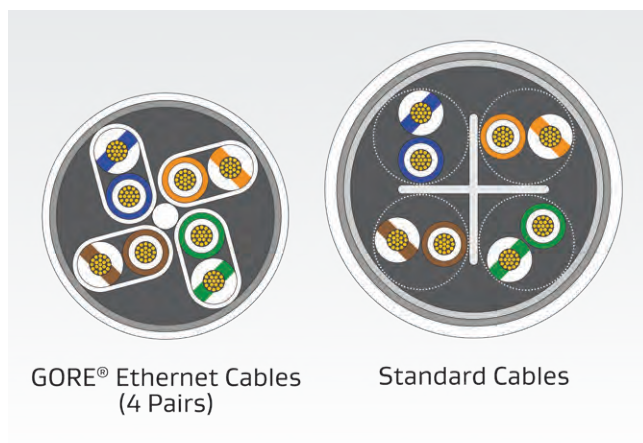


Table 3: Ethernet Cat6a Interconnect Options

Gore’s RCN8966-24 and RCN8966-26 versions include a unique inverted dielectric for termination with selected high-speed aerospace and defense connector systems, including Amphenol® Bel Stewart, Octonet, Platinum® Tools and Sentinel®. Please contact a Gore representative for additional connector systems not listed in the table.

Connector System	Gore Part Number					
	GSC-01-85237-VG	RCN8966-24	RCN9034-24	RCN8966-26	RCN9047-26	RCN9034-28
Amphenol® Octonet		•		•		
Amphenol® Oval Contact System (OCS13-53)	•	•	•	•	•	•
Amphenol® μ-Com	•	•	•	•	•	•
Amphenol® Socapex OctoMax 1G26				•	•	•
Bel Stewart SS-39200 Series		•		•		
Carlisle Octax® M38999 (Size 11)	•	•	•	•	•	•
Glenair® El Ochito®				•	•	•
Glenair® El Ochito® Type 1	•					
Glenair® OctobYTE™ (Series ITH Connector)	•					
HARTING RJ Industrial® 10G RJ45 (Part Number 09451511560)	•	•	•	•	•	•
ITT Cannon OctoGig™		•	•	•	•	•
LEMO® 2B Series	•	•	•	•	•	•
ODU AMC® Break-Away (Part Numbers S12YAR-PD8XJG0-0000 / A12YAR-PD8XJG0-0000)		•	•	•	•	•
ODU AMC® High-Density (Part Numbers A10WAM-PD8XBEO-0000 / C10WAM-PD8XBEO-0000)		•	•	•	•	•
Omnetics Micro 360® Cat6a					•	
Platinum® Tools EZ-RJ45® 106193		•		•		
Sentinel® 111508080095HA4		•				
Sentinel® 111508080095LA4				•		
TE Connectivity® CeeLok FAS-T®		•		•		•
TE Connectivity® CeeLok FAS-X®	•	•	•	•	•	•

Table 4: Cable Characteristics

Insertion loss values are based on the maximum recommended use length. Also, Gore's Cat6a version RCN9034-24 and RCN9047-26 are approved to SAE AS6070 standards that support AS50881 EWIS (electrical wiring interconnection systems) specifications and on the Qualified Products List (QPL).

Cat6a

Gore Part Number	AWG Size (Stranding)	Maximum Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight kg/km (lb/1000 ft)	Typical Insertion Loss dB/30 m (100 ft)		
					100 MHz	200 MHz	500 MHz
GSC-01-85237-VG	24 (19/36)	9.0 (0.35)	45.0 (1.77)	94.0 (63.1)	5.6	8.1	14.1
RCN8966-24	24 (19/36)	6.9 (0.27)	13.7 (0.54)	67.0 (45.0)	5.6	8.1	14.1
RCN9034-24	24 (19/36)	6.6 (0.26)	13.2 (0.52)	62.5 (42.0)	5.6	8.1	14.1
RCN8966-26	26 (19/38)	5.8 (0.23)	11.6 (0.46)	52.1 (35.0)	6.9	9.9	17.0
RCN9047-26	26 (19/38)	5.6 (0.22)	10.2 (0.44)	47.6 (32.0)	6.9	9.9	17.0
RCN9034-28	28 (19/40)	4.6 (0.18)	8.9 (0.35)	37.2 (25.0)	8.8	12.6	21.5

Cat5e

Gore Part Number	AWG Size (Stranding)	Maximum Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight kg/km (lb/1000 ft)	Typical Insertion Loss dB/30 m (100 ft)	
					10 MHz	100 MHz
GSC-01-83471-00	24 (19/36)	6.3 (0.25)	30.0 (1.18)	56.0 (37.0)	2.3	8.1
GSC-01-83472-00	26 (19/38)	4.9 (0.19)	20.0 (0.79)	49.0 (32.9)	2.8	10.0

Ordering Information

GORE® Ethernet Cables (4 Pairs) are available in standard sizes (Table 4). 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.