



GORE™ FireWire® High Flex

ROUND AND FLAT CABLE ASSEMBLIES

Reliable Flex Life Performance

GORE™ FireWire® High Flex Cable Assemblies provide motion control and vision systems with reliable interconnects for high performance flex life and signal transmission performance. These assemblies should be used to avoid bit errors in moving FireWire® systems. GORE™ FireWire® High Flex Assemblies provide peace of mind when reliable system performance and equipment uptime are critical.

GORE™ FireWire® High Flex Cables are available in flat and round cable assemblies. Both assemblies incorporate 6-pin connectors to meet the IEEE 1394a electrical requirements (see Technical Specifications Table 1 and 2).

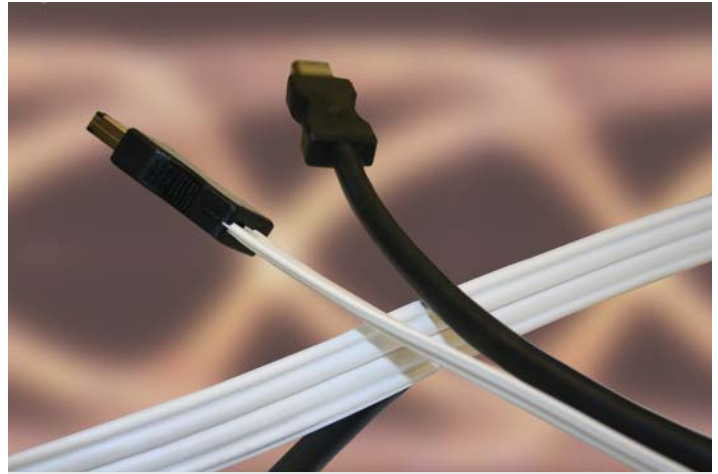
GORE™ FireWire® High Flex Round Cable Assemblies have been tested beyond 10 million cycles in rolling flex motions on bend radius of 50 mm. GORE™ FireWire® High Flex Flat Cable Assemblies have been tested beyond 20 million cycles in rolling flex motions on bend radius of 20 mm. These cables showed a stable signal transmission performance during these tests while competitive samples failed.

TECHNICAL SPECIFICATIONS (TABLE 1 AND 2)

Characteristic	IEEE 1394a	IEEE 1394b
Skew	400ps/assy	160ps/assy
Impedance	110 ±6 Ohm	110 ±6 Ohm
Crosstalk	FEXT, NEXT: <5%, for 160ps TDT pulse	FEXT, NEXT: <5%, for 160ps TDT pulse

Frequency (MHz)	IEEE 1394a Attenuation dB/Assembly	IEEE 1394b Attenuation dB/Assembly	*GORE™ FireWire® Assembly Attenuation db/Assembly
100	-2.3	—	-2.2
200	-3.2	—	-2.75
400	-5.8	-4.1	-3.5
800	—	-6.2	-4.7
1000	—	-7.5	-5.3

*Test data from a 4.5 m IEEE 1394a assembly



KEY FEATURES

- Available in round or flat cable assemblies
- Cables can be customized
- Flat cable is non-particulating for clean room use

KEY BENEFITS

- Prevents lost data/data integrity problems
- Longer flex life (beyond 20 million flex cycles)
- Can be used in bend radius down to 20 mm
- Prevents system downtime
- Longer use length

Most IEEE 1394 cables on the market today are designed for static environments and, when put in motion environments, they fail to meet the IEEE 1394 electrical specifications. Additionally, the attenuation increases significantly when these cables are flexed. GORE™ FireWire® High Flex Cable Assemblies maintain a stable attenuation over the flex life, measured at 1 GHz, as illustrated in Chart 2. GORE™ FireWire® High Flex Cable Assemblies are specifically designed to meet the demands associated with motion control and vision systems. During flex, GORE™ FireWire® High Flex Cable Assemblies will prevent bit errors or loss of data.

The maximum electrical use length of the cable is dependent on frequency of the signal and attenuation of the cable. Maximum electrical use length for GORE™ FireWire® High Flex Cable



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Assemblies is calculated from the attenuation value of the cable during flex. Chart 1 shows the change in electrical use length of a GORE™ FireWire® High Flex Cable Assembly at 1 GHz frequency. These assemblies will provide reliable data transmission during flexing and can also be used when systems demand longer length cable.

CHART 1: CHANGE IN ELECTRICAL USE LENGTH

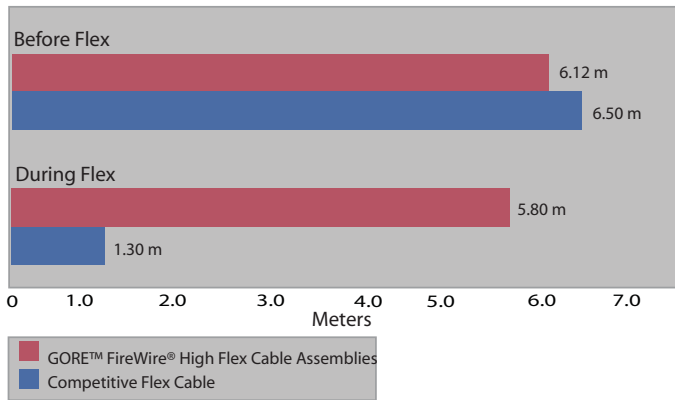
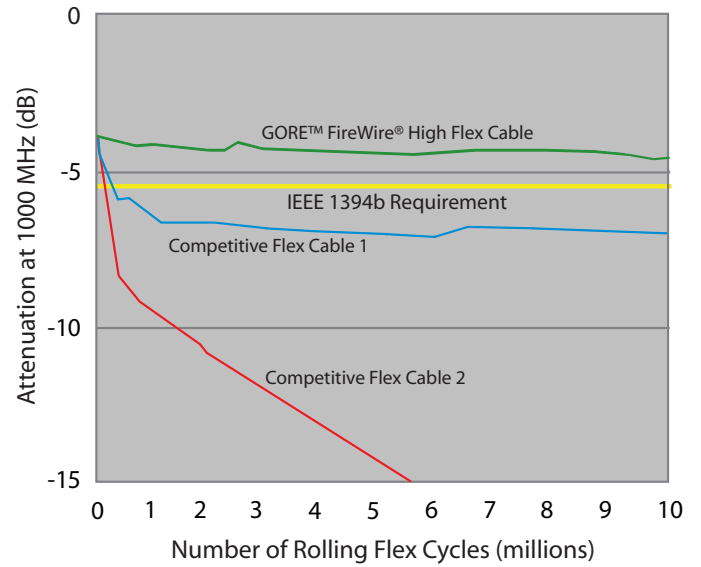


CHART 2: ATTENUATION VS FLEX CYCLES



Contact Gore for more FireWire® High Flex Cable options.

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