

Test Reference Cord specifications

Fluke Networks offers test cords with reference grade connectors in accordance with standards such as ANSI/TIA-526-14-C and ISO/IEC 14763-3. The requirements of these standards for loss at the connector are 0.10 dB for multimode and 0.20 dB for singlemode.

Our test reference cords are made to the following specifications:

Multimode 50/125 μm

- **Cable:** OFS, LaserWave 300 (OM3), $\pm 1.0 \mu\text{m}$ core diameter
- **Jacket color:** Aqua
- **Insertion Loss (reference grade)**¹ 0.07 dB maximum against the MTC <0.1 dB random mating
- **Return Loss:** 40 dB maximum
- **Radius of Curvature per GR-326:** 7 mm to 25 mm
- **Apex Offset per GR-326:** 0 to 50 μm
- **Fiber Height (spherical fit) per GR-326:** -100 nm to + 100 nm
- **Angular Offset per GR-326:** -0.3 degrees to +0.3 degrees
- **Fiber Roughness (Rq) per GR-326:** 0 to 50 nm
- **Ferrule Roughness (Rq) per GR-326:** 0 to 50 nm

Multimode 62.5/125 μm

- **Cable:** OFS, Laser Optimized 62.5 XL $\pm 1.0 \mu\text{m}$ core diameter
- **Jacket color:** Orange
- **Insertion Loss (reference grade)**¹ 0.07 dB maximum against the MTC <0.1 dB random mating
- **Return Loss:** 40 dB maximum
- **Radius of Curvature per GR-326:** 7 mm to 25 mm
- **Apex Offset per GR-326:** 0 to 50 μm
- **Fiber Height (spherical fit) per GR-326:** -100 nm to + 100 nm
- **Angular Offset per GR-326:** -0.3 degrees to +0.3 degrees
- **Fiber Roughness (Rq) per GR-326:** 0 to 50 nm
- **Ferrule Roughness (Rq) per GR-326:** 0 to 50 nm

Singlemode 9/125 μm (UPC)

- **Cable:** Corning, SMF 28e+
- **Jacket color:** Yellow
- **Insertion Loss (reference grade)**² 0.17 dB maximum against the MTC <0.2 dB random mating
- **Return Loss:** 50 dB maximum
- **Radius of Curvature per GR-326:** 7 mm to 25 mm
- **Apex Offset per GR-326:** 0 to 50 μm
- **Fiber Height (spherical fit) per GR-326:** -100 nm to + 100 nm
- **Angular Offset per GR-326:** -0.3 degrees to +0.3 degrees
- **Fiber Roughness (Rq) per GR-326:** 0 to 50 nm
- **Ferrule Roughness (Rq) per GR-326:** 0 to 50 nm

Singlemode 9/125 μm (APC)

- **Cable:** Corning, SMF 28e+
- **Jacket color:** Yellow
- **Step or conical endface:** Step (/knowledge-base/certifiber-pro/apc-step-vs-conical-end-faces)
- **Insertion Loss (reference grade)** 0.15 dB maximum³
- **Return Loss:** 65 dB maximum
- **Radius of Curvature per GR-326:** 5 mm to 12 mm
- **Apex Offset per GR-326:** 0 to 50 μm
- **Fiber Height (spherical fit) per GR-326:** -100 nm to + 100 nm
- **Angular Offset per GR-326:** 7.5 degrees to 8.5 degrees
- **Fiber Roughness (Rq) per GR-326:** 0 to 50 nm
- **Ferrule Roughness (Rq) per GR-326:** 0 to 50 nm

¹Maximum insertion loss for 2.5 mm ferrules is based on interoperability and 2 standard deviations. For maximum insertion loss, 95% should meet the specification. During testing of the insertion loss using a master test cord (MTC), the maximum allowed test is to be less than 0.07 dB to achieve interoperability

²Maximum insertion loss for 2.5 mm ferrules is based on interoperability and 2 standard deviations. For maximum insertion loss, 95% should meet the specification. During testing of the insertion loss using a master test cord, the maximum allowed test should be less than 0.17 dB to achieve interoperability

³Except for E2000 which is 0.40 dB maximum.