Cleerline NSF fiber optic cable simplifies and improves the process of fiber optic termination. There have been many advancements in the technology of fiber optic connectors over recent decades. Cleerline NSF fiber now adds to this equation increasing the speed, safety, efficiency, and reducing the tooling involved in terminating fiber optic cable. Cleerline NSF fiber is compatible with all common connector systems on the market for standard 50/125 multimode and 9/125 single mode fibers.

Cleerline NSF - Non Strip Fiber

Cleerline NSF fiber optic cable’s proprietary patent pending coating simplifies many of the critical processes involved in the termination of fiber optic cable. Unlike all other types of fiber cables, with NSF fiber the user is no longer required to strip the acrylate “buffer” 900µm coating. NSF is a specialty fiber providing protection for bend longevity assured for 10,000X longer life time and superior mechanical strength compared to normal glass fibers. This allows the installer to quickly terminate mechanical splice style connections and eliminates the imperfections or scarring of the glass caused by stripping when terminating either mechanical or epoxy style connectors. NSF supports all broadband applications and complies with the most stringent industry standards.

Features & Benefits

- No stripping required. With our proprietary design our fiber comes ready for termination without the need to strip the acrylate/polymer or “buffer” coating from the glass. This drastically reduces the time and precision required to terminate the fiber.
- The glass fiber is never exposed to the elements. Not having to strip the integral acrylate/polymer or “buffer” coating means tools never fracture the glass, the glass is never exposed to the elements, and the end product is more stable with less long term defects.
- NSF is designed for ease of use and safety due to incredible flexibility of the fiber at all times during the termination process.
- Incredible bend longevity assured for 10,000X longer life time than normal glass fibers.
- Ultra low Attenuation Loss on tight bend radius.
- NSF exclusive “Soft Peel” 250µm jacket identifier.
- Reduced tooling required for termination.
- High tensile strength & superior fatigue value.

Cleerline NSF 50/125 Multimode Fiber

Standard 50/125 Multimode Fiber

Cleerline NSF Multimode fiber has the same 50µm core and glass cladding as a typical 50/125 multimode fiber, but instead of acrylate buffer coating of 900µm, NSF’s total diameter of the glass core plus the glass cladding and the proprietary coating is equal to 125µm. Cleerline NSF fiber’s diameter matches the standard stripped fiber diameter of the glass core plus the glass cladding = 125µm.

Cleerline NSF 9/125 Single Mode Fiber

Standard 9/125 Single Mode Fiber

Cleerline NSF Single mode fiber has the same 9µm glass core and a glass cladding as a typical 9/125 single mode fiber, but instead of acrylate buffer coating of 900µm the total diameter of the glass core plus the glass cladding and the proprietary coating is equal to 125µm. The diameter matches the stripped glass diameter of the glass core plus the glass cladding = 125µm.
# Cleerline NSF 50/125µm Specialty OM3 Multimode Fiber
## Characteristics Conditions Specified Values Unit


### PHYSICAL CHARACTERISTICS
- **Core Diameter**: 50.0 ± 2.5 (µm)
- **Core Non-circularity**: ≤ 5 (%)
- **Core / Hybrid Cladding Concentricity Error**: ≤ 3.0 (µm)
- **Hybrid Cladding Diameter**: 125 ± 1 (µm)
- **Hybrid Cladding Non-Circularity**: ≤ 3.0 (%)
- **Protective Coating Concentricity Error**: ≤ 3.0 (µm)
- **Coating Strip Force (typical)**: ≤ 100 (g)
- **Color Coating Diameter**: 250 ± 10 (µm)
- **Fiber Curl**: ≥ 2 (m)
- **Proof Test**: 100 (Kpsi)
- **Bend Induced Attenuation at 1300 nm**: ≤ 1.0 (dB)
- **Dynamic fatigue**: 23°C, 41%RH (nd) > 30
- **Length (Typical)**: 1.0 - 8.8 (Km)

### ENVIRONMENTAL CHARACTERISTICS
- **Temperature Dependence at 850 nm and 1300 nm**: ≤ 0.1 (dB/km)
- **Induced Attenuation - 40°C to + 85°C**
- **Water Soaked Dependence at 850 nm and 1300 nm**: ≤ 0.2 (dB/km)
- **Damp Heat Dependence at 850 nm and 1300 nm**: ≤ 0.2 (dB/km)
- **Dry Heat Dependence at 850 nm and 1300 nm**: ≤ 0.2 (dB/km)
- **Induced Attenuation at 85°C, 85%RH, 30 days**

### OPTICAL CHARACTERISTICS
- **Attenuation Coefficient**
  - 850 nm: ≤ 3.0 (dB/km)
  - 1300 nm: ≤ 1.0 (dB/km)
- **Numerical Aperture**: 0.200 ± 0.015
- **Overfilled Modal Bandwidth**
  - 850 nm: ≥ 1500 (MHz-km)
  - 1300 nm: ≥ 500 (MHz-km)
- **Differential Mode Delay**: 850 nm: ≥ 2000 (MHz-km)

### BACKSCATTER CHARACTERISTICS
- **Attenuation Directional Uniformity**: ≤ 0.05 (dB/km)
- **Attenuation Uniformity**: ≤ 0.05 (dB)

## Cleerline NSF 9/125µm Specialty Singlemode Fiber
## Characteristics Conditions Specified Values Unit


### PHYSICAL CHARACTERISTICS
- **Hybrid Cladding Diameter**: 125 ± 0.07 (µm)
- **Hybrid Cladding Non-Circularity**: ≤ 1.0 (%)
- **Core-Hybrid Cladding Concentricity Error**: ≤ 0.5 (µm)
- **Soft-Peel Jacket Diameter**: 245 ± 5 (µm)
- **Fiber Curl**: ≥ 2 (m)
- **Proof Test**: 100 (Kpsi)
- **Soft-Peel Jacket Strip Force**: ≤ 100 (g)
- **Macro-bending loss at 1550 nm / 1625 nm**: (1 turn, 10 mm radius) ≤ 0.03 / 0.2 (dB)
- **Dynamic Fatigue**: 23°C, 41% RH > 30

### ENVIRONMENTAL CHARACTERISTICS
- **Temperature Dependence at 1310 nm and 14400 nm**: ≤ 0.05 (dB/km)
- **Induced Attenuation -40°C to + 85°C**
- **Water Soaked Dependence at 1310 nm and 1550 nm**: ≤ 0.05 (dB/km)
- **Damp Heat Dependence at 1310 nm and 1550 nm**: ≤ 0.05 (dB/km)
- **Dry Heat Dependence at 1310 nm and 1550 nm**: ≤ 0.05 (dB/km)
- **Induced Attenuation at 85°C, 85%RH, 30 days**

### OPTICAL CHARACTERISTICS
- **Attenuation Coefficient**
  - 1310 nm: ≤ .35 (dB/km)
  - 1385 nm H2 aged*: ≤ .31 (dB/km)
  - 1550 nm: ≤ .21 (dB/km)
  - 1625 nm: ≤ .22 (dB/km)
- **Mode Field Diameter**
  - 1310 nm: 8.6 ± 0.4 (µm)
  - 1550 nm: 9.7 ± 0.5 (µm)
- **Fiber Cut-Off Wavelength**: ≤ 1330 (µm)
- **Cabled Fiber Cut-Off Wavelength**: ≤ 1260 (µm)
- **Zero Dispersion Wavelength**: 1330-1324 (µm)
- **Zero Dispersion Slope**: 0.092 (ps/nm².km)
- **Dispersion Coefficient**
  - 1285 - 1330 nm: 8.6 ± 0.4 (µm)
  - 1550 nm: 9.7 ± 0.5 (µm)

### BACKSCATTER CHARACTERISTICS
- **Attenuation Directional Uniformity**: ≤ 0.03 (dB/km)
- **Attenuation Uniformity**: ≤ 0.05 (dB)
- **Group Index of Refraction**
  - 1310 nm: 1.467
  - 1550 nm: 1.468

*Ensure via min EMBC per TIA/EIA 455-220A and IEC 60793-1-49, for high performance laser based systems.