



Verrillon®

VHT500 Ultra-High Temperature Single-mode Series

Verrillon VHT500 is a pure silica core single-mode design with a protective metal coating that allows it to operate at temperatures up to 500°C. Typically, these fibers are used in down-hole data logging for enhanced supercritical geothermal applications, high-temperature oil/gas downhole monitoring using acoustic, strain and temperature sensing, and downstream oil process monitoring.

Features

- Metal coating protects the fiber at temperatures up to 500°C
- Optimized for 1550 nm operation
- Pure Silica Core chemistry for improved performance in hydrogen-rich environments
- Greater than 50x bend loss improvement at 1550 nm over standard SMF
- MFD compatible with standard SMF for ease of splicing and minimal splice loss
- Patent-pending process prevents fibers from “cold bonding” to metal tubes or other metallic-coated fibers
- Available in long lengths (multi-kilometers)
- Industry-standard 125 µm clad diameter

Specifications

| | |
|------------------------------|--|
| PART NO. | VHS-60-CM-125-1 |
| Description | Ultra-High temperature metal-coated Single-Mode fiber with low-loss suitable for use up to 500°C. Available in multi-kilometer continuous lengths and proof-tested at 50 kpsi. |
| PARAMETER | |
| Material | |
| Core | Pure Silica |
| Cladding | F-doped Silica |
| Coating | Carbon / Metal |
| Geometry | |
| Core Diameter (µm) | - |
| Clad Diameter (µm) | 125 ± 2 |
| Clad Non-Circularity (%) | ≤ 3 |
| Core/Clad Offset (µm) | ≤1.5 |
| Coat Diameter (µm) | 131 +5 / -2 |
| Optical | |
| NA (nominal) | 0.12 |
| Attenuation @ 1550nm (dB/km) | ≤ 5 |
| Cutoff Wavelength (nm) | ≤ 1530 |
| Mode Field Diameter (µm) | 10.0 ± 0.7 |
| Mechanical | |
| Proof test (kpsi) | ≥ 50 |
| Operating Temperature (°C) | -65 to +500 |
| Continuous Length Available | Multi-kilometers |