



## Verrillon® VHT5000 Multimode Series

Verrillon Harsh Environment Fibers from AFL are available in a wealth of designs. The VHT5000 product is a multimode graded-index optical fiber with optimized glass chemistry for high resistance to hydrogen darkening, coupled with a metal coating that allows the fiber to perform well 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 sensing and in downstream oil processing.

### Features

- Best glass resistance to hydrogen at high temperatures and pressures available in the entire industry
- High bandwidth 50/125 graded-index multimode design for extremely short spatial resolution in sensing applications
- Metal coating protects the fiber at temperatures up to 500°C
- Patent-pending process prevents fibers from “cold bonding” to metal tubes or other metallic-coated fibers
- Suitable for use in high pressure, high temperature and corrosive environments
- Available in long lengths (multi-kilometers)
- Industry-standard 125 µm clad diameter
- Extensive test and measurement data for optical fiber performance under “harsh conditions” provided with fiber

### Specifications

<b>PART NO.</b>	<b>VHM-50-4-CM-125-4</b>
Description	Ultra-High temperature metal-coated Graded-Index Multimode fiber with low-loss suitable for use up to 500°C. Available in multi-kilometer continuous lengths and proof-tested at 50 kpsi.
<b>PARAMETER</b>	<b>VALUE</b>
<b>Material</b>	
Core	Silica-based
Cladding	F-doped Silica
Coating	Carbon / Metal
<b>Geometry</b>	
Core Diameter (µm)	50 ± 2.5
Clad Diameter (µm)	125 ± 2
Core Non-Circularity (%)	≤ 5
Clad Non-Circularity (%)	≤ 1
Core/Clad Offset (µm)	≤ 1.5
Coat Diameter (µm)	131 +5 / -2
<b>Optical</b>	
NA (nominal)	0.2
Attenuation @ 850 nm (dB/km)	≤ 5
Attenuation @ 1300 nm (dB/km)	≤ 5
Bandwidth @ 850 nm (MHz*km)	≥ 300
Bandwidth @ 1300 nm (MHz*km)	≥ 300
<b>Mechanical</b>	
Proof test (kpsi)	≥ 50
Operating Temperature (°C)	-65 to +500
Continuous Length Available	Multi-kilometers