# Alcatel 6930
# Multimode 50/125 Fiber

Alcatel graded index Multimode fibers operate in both the 850nm and 1300nm regions and are ideally suited for use in Local Area Networks (LANs) for data, voice, and video transmissions.

The 50/125 Multimode fiber is an economical solution fully compatible with all of the major industry network standards available on the market today, including FDDI, Ethernet, Fast Ethernet, ATM, and Token Ring. The 50/125 Multimode fiber is also guaranteed for use in a variety of cables, including loose tube and tight buffer cable.

All of Alcatel's Multimode fibers are further enhanced with Alcatel's unique processes, including the Alcatel Fiber Coating (AFC™) process. The AFC™ coating ensures a level of fiber durability and robustness even in harsh environments. Additionally, Alcatel's Multimode Fibers benefit from their Furnace Chemical Vapor Deposition (FCVD) process. The FCVD process ensures superior geometry and uniformity, as well as enhanced purity.

**Alcatel's 50/125 Multimode** graded index fiber is one of Alcatel's preeminent fibers for Multimode applications. The fibers have been designed to satisfy the increasing pressure for Service Providers to support the exponential growth in high-speed transmission over shorter distances, including corporate and campus environments.

As one of the world's largest manufacturers of communications products, Alcatel has the expertise, technology and manufacturing resources to provide a total end-to-end solution to support your fiber, cable, and systems requirements.

| FEATURES | BENEFITS |
|---|---|
| Operates at both 850nm and 1300nm wavelengths | Enhanced transmission capacity |
| Optimized to take advantage of lower-cost transceivers (LEDs) | Significant cost savings |
| Compatible with all major network standards, including FDDI, Ethernet, Fast Ethernet, Token Ring and ATM | Operational flexibility |
| Utilizes Alcatel's proprietary Furnace Chemical Vapor Deposition (FCVD) process | Ensures fiber with superior geometry and uniformity, as well as enhanced purity |
| Utilizes Alcatel's unique fiber coating AFC™, specially modified for Multimode | Provides superior durability and robustness even in the harshest conditions, resulting in lower maintenance and replacement costs |

## KEY INDUSTRY LEADING MILESTONES

- **1999**- Introduced Alcatel's AFC™ coating specifically designed to provide superior aging performance for Multimode fibers and better stability during the coating process
- **2000**- Introduced Alcatel's proprietary Furnace Chemical Vapor Deposition (FCVD) fiber production process to ensure the highest quality fiber



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## Optical Specifications

### Typical Spectral Attenuation and Bandwidth (modal dispersion)

| Attenuation 850/1300nm | Bandwidth 850/1300nm |
|---|---|
| 2.4/0.6 dB/km | 600/1200 MHz km |
| 2.5/0.7 dB/km | 400/800 Mhz km |
| 2.8/1.0 dB/km | 300/300 Mhz km |

### Point Discontinuity

| | |
|---|---|
| @850nm/1300nm | 0.2 dB Maximum |

### Bending Sensitivity Attenuation

The maximum attenuation with bending does not exceed the following values @ 850nm and 1300nm:

| | |
|---|---|
| 100 turns on 75nm diameter | ≤ 0.5 dB/km |

### Chromatic Dispersion

| | |
|---|---|
| Zero Dispersion Wavelength ($\lambda o$) | 1295 to 1320nm |
| Zero Dispersion Slope (S o): | |
| for 1300nm< $\lambda o$ <1320nm is typically | ≤ 0.11 ps/nm$^2$•km |
| for 1295nm < $\lambda o$ <1320nm is typically | ≤ 0.001 *( $\lambda o$-1190)ps/nm$^2$•km |

### Numerical Aperture (NA)

| | |
|---|---|
| Numerical Aperture | 0.200 ± 0.015 |

### Effective Group Index of Refraction

| | |
|---|---|
| @ 850nm | 1.482 |
| @1300nm | 1.480 |

Fibers with different characteristics and lengths available upon request

References for products: IEC pub 60793/2 EN 188000-206

*Alcatel reserves the right to change specifications without prior notice.*

## General Specifications

| | |
|---|---|
| Core Diameter | 50 ± 3 µm |
| Core Non-Circularity | 6% Maximum |
| Cladding Diameter | 125 ± 2 µm |
| Cladding Non-Circularity | 2% Maximum |
| Core/Cladding Concentricity Error | 6% Maximum |
| Coating Diameter | 245 ± 15µm |
| Coating Non-Circularity | 6% Maximum |
| Cladding Concentricity Error | 12.5 µm Maximum |

## Environmental Specifications

### Induced Attenuation Change@ 850 &1300nm

| | |
|---|---|
| Operating Temperature -60 to +85°C | ≤ 0.2 dB/km |
| Temperature/Humidity Cycling -10/+70°C RH 95% | ≤ 0.2 dB/km |

## Mechanical Specifications

### Proof-test

The entire length is subjected to a tensile proof-test @1% strain for 0.5 s, or equivalent. This exceeds the requirements of 100 Kpsi stress proof-testing.

### Other Values

| | |
|---|---|
| Stress corrosion factor (n) | >20 |
| Strippability (50-500mm/mn) | > 1 N |

### Delivery Lengths

1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8 km

References for measurements
EC Pub 60793 1-1, 1-2, 1-3, 1-4, 1-B6
EIA-TIA 455-31C/46A/58A/59/168A/173/176/177A/204

For additional information visit Alcatel online or call your nearest Optical Fiber Sales Representative

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