Specifications of 4-core optical fiber splicing pigtail



Overview

A fiber optic pigtail is a short fiber cable with a factory-installed connector on one end and a bare fiber end on the other.

Key Takeaways

A 4-core optical fiber splicing pigtail is a multi-fiber cable with four individual fibers, factory-terminated connectors, and a bare fiber end for fusion or mechanical splicing, designed for low insertion loss and high return loss in structured cabling systems.

Core Features

Fiber Count: 4 fibers, typically color-coded according to TIA/EIA-598-A standards for easy identification and tracing. Connector Type: Available in SC, LC, FC, ST, or APC variants depending on application; single-mode or multimode options are supported. Polish Type: Standard PC, UPC, or APC for single-mode fibers; APC connectors provide a minimum of 60 dB return loss.

Insertion Loss: Standard pigtails have a maximum insertion loss of 0. 25 dB, while low-loss versions can achieve 0. 15 dB.

Return Loss: Multimode fibers >26 dB, single-mode fibers >50 dB, APC single-mode fibers ≥60 dB.

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Mechanical and Environmental Specifications

Coating: Typically 900-micron tight buffer LSZH coating with 250-micron fiber coating for protection. Pull Force: 5 N ± 0. 5 N per IEC 61300-2-44 standards.

Durability: Connector durability exceeds 500 matings for both multimode and single-mode fibers. Construction: Tight-buffered or ribbon-type multifiber construction for mechanical protection and environmental resistance.

Packaging and Application

Packaging: Individually packaged with part numbers, descriptions, optical performance, and barcodes for inventory management. Applications: Suitable for FTTH, FTTX, PON, WDM/DWDM networks, data centers, and indoor/outdoor telecom installations. Splicing Compatibility: Designed for fusion splicing or mechanical splicing to connect to incoming fiber cables; compatible with optical distribution frames and termination boxes like the PPC ODB4, which supports up to four pigtail splices.

Additional ConsiderationsMulti-Fiber Management: Color-coded fibers reduce the risk of mispatching and simplify field installation. Environmental Protection: Indoor pigtails are lightweight and flexible, while armored or waterproof variants are available for harsh environments. Flexibility: Custom lengths, fiber grades, and connector types can be ordered to match specific network requirements.

In summary, a 4-core optical fiber splicing pigtail provides a reliable, low-loss, and easy-to-install solution for multi-fiber network terminations, supporting both indoor and outdoor applications with high mechanical and optical performance.

Article Content

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Singlemode vs Multimode Fiber Pigtails: How to Choose the Right One By fiberlife. Posted on February 4, 2026 Fiber optic pigtails play a critical

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