

Fiber Optic Ceramic Ferrule Sizes



AI Overview

Ceramic fiber optic ferrules typically have precise inner diameters from 80 μm to 1100 μm , outer diameters of 1.25 mm or 2.5 mm, and lengths ranging from 2.5 mm to 22.5 mm, with submicron tolerances for high-precision alignment.

Standard Dimensions

Inner Diameter (Bore Size): Ceramic ferrules are designed to align optical fibers with high precision. Bore sizes range from 80 μm to 1100 μm , depending on singlemode or multimode fiber requirements and connector type (LC, SC, FC, ST, MU). The inner diameter is polished to a tolerance of ± 0.001 mm in concentricity and ± 0.0005 mm in eccentricity for singlemode ferrules.

Outer Diameter (OD): Common standard outer diameters are 1.25 mm for LC ferrules and 2.5 mm for FC, SC, and ST ferrules. The OD is ground and polished to a controlled submicron level to ensure proper mating with connector housings.

Length: Ferrule lengths vary by type and application. Typical lengths include 4.9 mm to 8.1 mm for bare ceramic ferrules, with flanged versions extending up to 16 mm. Custom ferrules can range from 2.5 mm to 22.5 mm.

Material and Manufacturing: Ceramic ferrules are usually made from zirconia or alumina, providing excellent mechanical stability, non-magnetic properties, and high wear resistance. Precision is achieved through extrusion molding and precision machining, ensuring excellent coaxiality and concentricity between the bore and outer diameter. The end face can be polished to customer specifications, including PC or APC polishing.

Tolerances and Alignment: High-precision ferrules maintain submicron tolerances to ensure accurate fiber alignment. The inner diameter is slightly larger than the fiber OD to allow insertion, while maintaining tight concentricity for minimal optical loss. Concentricity and eccentricity tolerances are critical for singlemode fibers used in optical communication.

Summary

Bore (ID): 80 μm – 1100 μm

Outer Diameter (OD): 1.25 mm (LC) or 2.5 mm (FC/SC/ST)

Length: 2.5 mm – 22.5 mm (bare or flanged)

Material: Zirconia or alumina ceramic

Tolerances: $\pm \dots$

Article Content

Infinite Cables US OS2 Singlemode Simplex LC/SC 9 Micron

Physical Characteristics Color Yellow Cable Diameter 3mm Fiber Size 9/125 micron
Fiber Type Singlemode Glass Manufacturer Corning Glass (ClearCurve LBL) Connector
Ferrules Ceramic Fiber

Fiber Optic Ceramic Ferrules

Available ferrule types from SINO OPTIC are SC, FC, LC, ST, MU, SMA with flat, dome, cone, step, or pre-angled end-faces. We can also customize non-standard ferrules with any different length or inner

What is a Fiber Optic Adapter: The Most Complete Guide

In the precision-driven world of fiber optic networking, where signal integrity, latency, and density are paramount, the fiber optic adapter is one of the

DIGITUS OS2 Fibre Optic Cable

Cable sheath: The outer sheath of the fibre optic network cable is made of halogen-free material (LSZH = Low Smoke Zero Halogen) and has a flame-retardant fire behaviour FEATURES: Fiber Optic

FiberSource LC Connector, MM, 127µm Ceramic Ferrule, 3mm Boot

FiberSource Multimode Simplex LC Connector, Beige Polymer Body, Ceramic Pre-Radius Ferrule 127um Nominal Hole Size, 3.0mm White Strain Relief Boot.

FC/PC Fiber Connectors: Multimode, Ceramic Ferrule

Our smaller bore connectors (Item #s 30128C3, 30140E1, and 30150C1) accommodate our small-core multimode fibers. Our larger bore connectors accommodate our large-core fiber series and are ideal

Ceramic Ferrule, LC, SC, FC, MU, ST / Fiberwe Technologies Co., Ltd.

The ferrules have a precise hair-thin Inner Diameter (ID) for aligning the optical fiber with various ODs. The ferrule's ID is polished to a diameter of 0.001mm or larger than the OD of the optical fiber.

Fibre Optic Termination Techniques – Wray Castle

Introduction to Fibre Optic Termination Fibre optic termination is the process of preparing the end of a fiber optic cable so it can connect to network equipment, another cable, or a patch

Fiber optic quick connector cold joint

The fiber optic quick connector/cold connector is a very innovative field-terminated connector, which contains factory-installed optical fiber, pre-polished ceramic ferrule and a

Ceramic Ferrules

Custom Ferrules are made of alumina or zirconia ceramics, with inside diameters from 80 microns to 1100 microns, in lengths from 2.5mm to 22.5mm, and with features such as multi-step, countersinks,

Fiber Optic Connectors Tutorial

How fiber optic connectors mate FC Connectors Mating Unlike electronic connectors, most fiber optic connectors don't have jack and plug design. Instead a fiber mating sleeve (adapter, or coupler) sits

Fiber Optic Connector Types: A Beginners Guide

The fiber connector types, sometimes referred to as terminations, link fiber optic cables together through terminals, switches, adapters, and patch

96-Core LC-LC Pre-terminated Breakout Patch Cord for Data Centers

Selected High Quality Ferrule Pre-terminated fiber optic breakout patch cords available with high quality ceramic ferrules, professional polishing technology, and precise matching for optical endface to

Infinite Cables US OM4 Multimode Duplex LC/LC 50 Micron

Application Specifications Physical Characteristics Color Aqua Cable Diameter 2mm Fiber Size 50/125 micron - Laser Optimized Fiber Type Multimode Glass Manufacturer Corning Glass Connector

Fiber Optic Connectors & Ceramic Ferrules | SC, LC,

Featuring high-precision Zirconia Ceramic ferrules for minimal signal loss, our selection includes industry-standard SC, LC, ST, FC, and MPO/MTP®

Fiber Ferrule Explained: Types, Materials & Use Cases

A fiber ferrule secures and aligns fibers in connectors. Compare types, materials, and use cases to reduce signal loss and boost fiber optic network reliability.

ST Fiber Optic Connector – Bayonet Twist-Lock, Low Insertion Loss

High-performance ST fiber optic connector with bayonet twist-lock mechanism, ceramic ferrule, and dust cap. Ideal for LAN, industrial Ethernet, and military communications.

Single Mode vs Multimode Fiber Adapters: 2025 Guide

Fiber adapters play a critical role in modern optical communication systems by connecting and aligning fiber optic cables for seamless data transmission. Single-mode and

Global Ceramic Ferrule Market Research Report 2025

Synopsis Ferrule is the most important component of Fiber Connectors and Fiber Patch cord. It could be made of different materials, such as plastics, stainless steel, and ceramic (zirconia). Most of the

Ferrules

Berkshire Photonics offers a range of high-performance fiber optic ferrules in different diameters of 1.25mm, 2.5mm, and 3.167mm. These ferrules are available in both ceramic and stainless steel and

Fiber Optic Solutions for High-Performance | Diamond SA

With in-house expertise in working ceramic, metal, and plastic, we transform raw materials into precision-engineered components, ensuring the highest quality

What Is A Fiber Optic Pigtail

Defining the Fiber Optic Pigtail: Purpose and Fundamental Role A fiber optic pigtail is a short segment of optical fiber cable (typically 0.5–3 meters,

Everything you need to know about fiber optic termination

Fiber Optic Termination Tutorial We terminate fiber optic cable two ways - with connectors that can mate two fibers to create a temporary joint and/or connect

Basics of Fiber Optics

The principle of physical contact connectors involves the direct contact of polished fibers within two ceramic ferrules. The ferrules are aligned using a ceramic alignment sleeve (see Figure 15).

Contact Us

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