

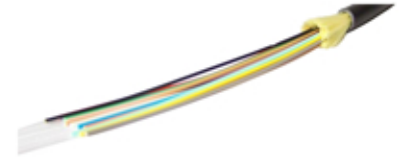
Single Mode Fibers – OS1 and OS2

Single Mode fibers are identified by the designation OS or Optical Single-mode Fiber. Single Mode cable has a much smaller core (8-9um) than multimode cable and uses a single path (mode) to carry the light. The main difference between single mode OS1 and OS2 is cable construction rather than optical specifications. OS1 type cable uses a tight buffered construction while OS2 is a loose tube or blown cable construction.

OS1 Single Mode Tight Buffered Cable

Each fiber has its own protective two-layer coating (color-coded for identification). One layer is plastic and the other is waterproof acrylate. The tight buffer allows for a smaller, lighter weight cable that is more flexible and crush resistant than Loose Tube. Installation is easier as there is no gel to clean up and no fan out kit required for connector termination.

Application: (Indoor Use) – moderate distance telco local loops, LANs and point-to-point links in cities, buildings, factories, office parks or campuses. OS1 can support speeds up to 10G and distances up to about 10km (6 miles).



Tight Buffered 12 Core

OS2 Single Mode Loose Tube Cable

All fibers are essentially bare other than their outer coating. Each fiber has a colored coating for identification. Other than this coating the fiber "floats" within a rugged, abrasion resistant, oversized tube usually filled with optical gel which protects the fibers from moisture. Connector termination requires a fan out kit.

Application: (Outdoor Use) high fiber count, long distance telco backbone and backhaul lines, direct bury applications along streets and railroads. OS2 can support speeds up to 100G and distances up to 200km (124 miles).



Loose Tube 12 Core

Single Mode Fiber Summary

Single Mode jacket color is typically yellow for jumpers but you may see a variety of colors depending on the application and the outer jacket type.

Single mode fiber is the standard choice for high data rates or long distance spans and can carry signals at much higher speeds than multimode fibers with less signal attenuation and external interference. It offers many advantages over multimode fiber and is an effective way to future proof your network cabling infrastructure.