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Multimode Fibre optic Cable

Multimode fiber optic cable and components are less expensive and easier to work with than their single mode counterparts. This is due largely to the fact that the multimode fiber core is larger, and alignment tolerances are much less critical than they are for single mode fiber.

Like single mode, multimode fiber provides high bandwidth at high speeds, but transmission is limited to shorter distances than single mode. (In longer cable runs, the multiple paths of light in a multimode fiber tend to create signal distortion).

Standard multimode cable is made of glass fibers, usually 100 to 150 micron in diameter. Multimode cable is also available as low-cost Plastic Optical Fiber (POF), which offers performance similar to glass cable for very short runs.

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Single mode Fibre optic Cable

Generally, single mode cable provides less signal attenuation, higher transmissions speeds, and up to 50 times greater transmission distance than multimode cable. Single mode cable can transmit data at terabits per second over 100km without requiring re-amplification of the signal.

Single mode fiber typically has a core diameter of only 8.3 to 10 microns, which is much narrower than multimode fiber core which is usually 50 to 100 microns in diameter. The small core of a single mode fiber allows for the propagation of only one light wave, so there is no possibility of distortion due to overlapping light pulses. Also, single mode is more stable than multimode for systems that have branching devices, such as couplers.