Fibre-types

1 Jonathan Mon, Jul 24, 2017 Ethernet / MPLS 2261

SX uses multimode (grey connector jacks)

LX typically uses singlemode (blue connector jacks) for <5km , or multimode (grey connector jacks) <550m

There are two basic fibre families

Singlemode (Blue connector jacks) (SM, OS1.OS2)

Sheath options are generally indoor PVC or LSZH and external Nylon with CST or GRP armouring

Singlemode is fairly straightforward in the smallest of the traditional fibres and is mode not always has a yellow outer jacket (pvc or lszh) and can be used for links up to 100km.

Multimode (Grey connector jacks) (MM defines four types OM1, OM2, OM3 and OM4)

transmits many rays (modes) of light simultaneously and has 4 types and is made with larger cores of 62.5 and 50 micron.

OM1 (optical mode 1) is the original of the species and rarely used today. It has the [illegible] serious [illegible] not recommended for new installations as it has no benefits over 50 micron fibres.

OM2 It has a core size of 50 microns and again was introduced in the 1980's with 1Gb [illegible] ment of "laser optimised" multimode fibres. Again not recommended for new installations.

OM3 is the most widely used multimode fibre today it also has a 50 micron glass core [illegible] with 40Gb applications up to 100mtrs and is identified by its distinctive aqua colour.

OM4 is the newest of these. It has a lower insertion loss and an EMB of 4700. It also [illegible] datacentre applications but with little cost difference over OM3 its likely to be default choice.

	62.5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	9/125 OS1
100Mb	2km	2km	2km	2km	100km
1Gb	275mtr	550mtr	800mtr	1100mtr	100km
10Gb	33mtr	82mtr	300mtr	550mtr	40km
40Gb/100Gb	N/A	N/A	100mtr	150mtr	40km

From examining the above table it gives us some important clues to deciding the best [illegible] will guarantee 10Gb transmissions speeds and higher to cater for future requirements.

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