

SPOT LIGHT ON Cat 5e and Cat 6 Cable

Data cabling within a new building is critical in allowing key services to operate both in the present whilst allowing for technological advances in the future. Several different types of data cabling are available which are outlined below.

Commonly Used Terms

10BASE-T Ethernet – a term used to describe data transfer at a rate of 10 mega bits (10,000,000) per second through copper.

100BASE-T Ethernet (Fast Ethernet) – a term used to describe data transfer at a rate of 100 mega bits (100,000,000) per second through copper.

1000BASE-T Ethernet (Gigabit Ethernet) – a term used to describe data transfer at 1000 mega bits (1,000,000,000) per second through copper.

Crosstalk – a phenomenon by which data transmitted in one circuit adversely effects the transmission of data in another circuit. Practically, this is exemplified by transfer in one data cable affecting another data cable or the cores within one cable affecting each another.

Twisted pair – twisted pair refers to pairs of cables being intertwined. Each of the four pairs in Cat 5 and 6 cables have different number of twists per metre to minimise crosstalk between the pairs.

	Cat 5e v Cat 6	Comments
Number of Twists	Cat 6 cable has More twists per metre compared to Cat 5e.	Reduces cross talk.
Longitudinal separator.	Cat 6 Cable has a plastic spacer that runs through the cable .	Reduces cross talk.
Shielding	Cat 5 and 6 cables are available with or without an overall shield.	Reduces cross talk between separate data cables.
Size of Conductor	Cat 6 has thicker copper compared to Cat 5e (typically 22 v 24 AWG).	Allows increased data transmission speeds.
10/100/1000BASE-T Ethernet	Cat 5e and Cat 6 cable can both transmit a up to 1000BASE-T ethernet.	Cat 5e cable is at its maximum capacity running 1000BASE-T whilst Cat 6 is not.
10 Gigabit Ethernet	Cat 6 cable can support 10Gigabit ethernet up to a range of 36m.	Cat 6A (augmented) can support 10 Gigabit ethernet up to 100m.
Size of Cable	Cat 6 has a greater OD size and is heavier compared to at 5e.	This improved specification in size not only makes Cat 6 cable more expensive but can also results in more substantial containment being required.

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