

Although higher-category cables are more expensive, the real cost of installing Ethernet cabling is the labor required to pull the cables through the walls. You should never install anything less than Category (Cat) 5e cable. And if at all possible, invest in Cat 6 cable to allow for upgrades to your network.



TIP

To sound like the cool kids, say “Cat 6” rather than “Category 6.”

What’s with the pairs?

Most twisted-pair cables have four pairs of wires, for a total of eight wires. Standard Ethernet uses only two of the pairs, so the other two pairs are unused. You may be tempted to save money by purchasing cable with just two pairs of wires, but that’s a bad idea. If a network cable develops a problem, you can sometimes fix it by switching over to one of the extra pairs. If you use two-pair cable, though, you don’t have any spare pairs to use.



WARNING

Don’t use the extra pairs for some other purpose, such as a voice line or a second data line. The electrical “noise” in the extra wires can interfere with your network.

To shield or not to shield

Unshielded twisted-pair cable (UTP) is designed for normal office environments. When you use UTP cable, you must be careful not to route cable close to fluorescent light fixtures, air conditioners, or electric motors (such as automatic door motors or elevator motors). UTP is the least expensive type of cable.

In environments that have a lot of electrical interference (such as factories), you may want to use shielded twisted-pair cable (STP). Because STP can be as much as three times more expensive than regular UTP, you don’t want to use STP unless you have to. With a little care, UTP can withstand the amount of electrical interference found in a normal office environment. But for harsh environments, where cable will be placed outdoors, buried in the ground, or near industrial equipment, you should use STP cable instead.

Most STP cable is shielded by a layer of aluminum foil. For buildings with unusually high amounts of electrical interference, the more expensive braided-copper shielding offers even more protection.