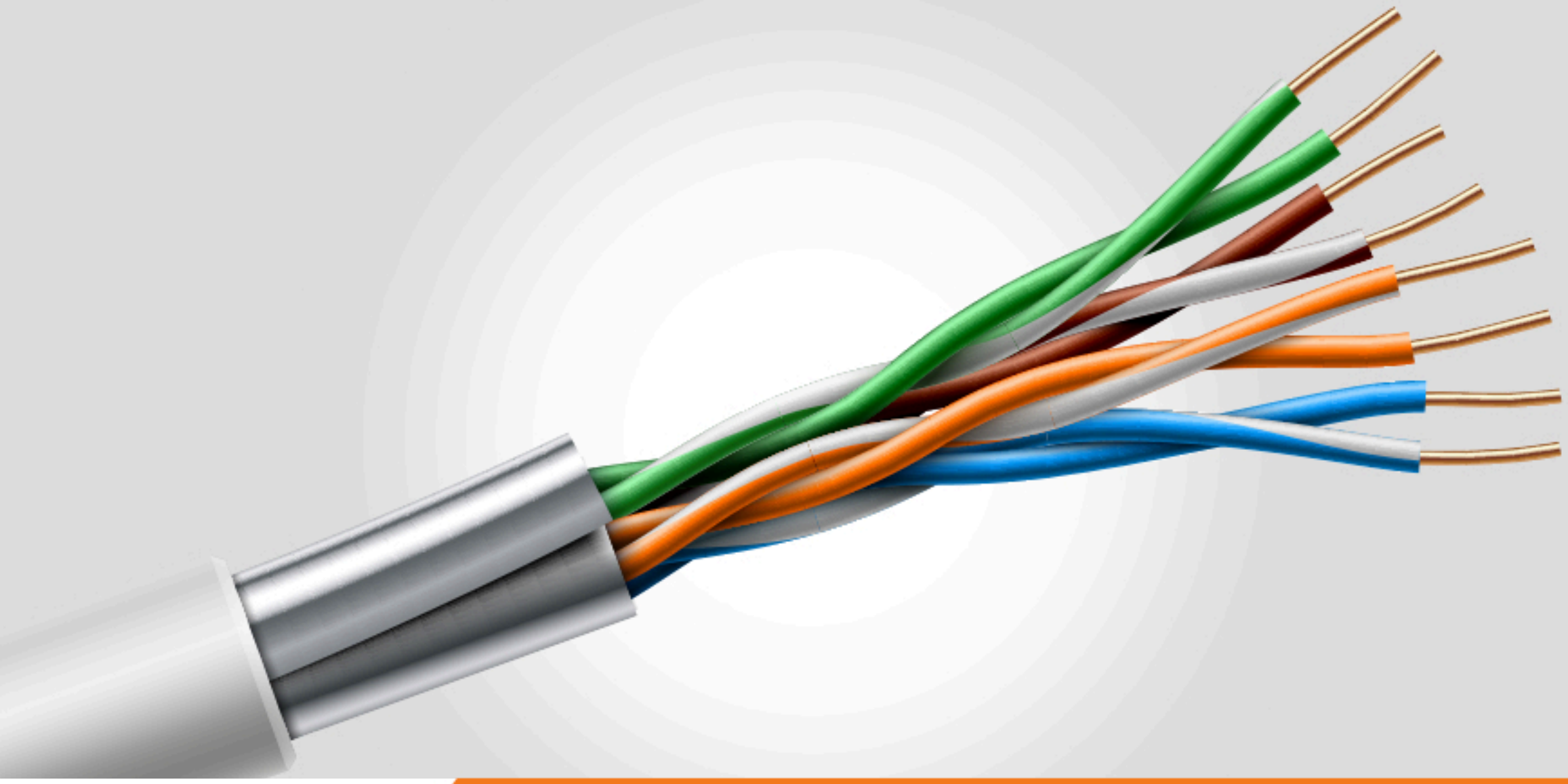

NEXXT SOLUTIONS INFRASTRUCTURE

Why installing 100-percent copper wires is important?

In the twisted-pair cable market, you may find products costing up to 40-percent less compared to cables made with 100-percent copper. The most widely used among these less costly cables are generally composed of 70-percent aluminum and 30-percent copper. As a result, their mechanical resistance is reduced, rendering them weaker when bending or handling than their 100-percent copper counterparts, which are more flexible and malleable. When commercially pure copper is used, its electrical conductivity value can be as high as 98-percent, while in alloy compositions, its conductivity will be of only 61-percent when compared to copper. This characteristic proves to be really important due to wires provide the physical means to carry signals.

Signal loss and voltage drop in aluminum alloy wires increase when longer cable runs are used to cover the distance between the connection points.

As aluminum has higher electrical resistance than copper, the alloy cable will then be more susceptible to jacket overheating, considering that the operating temperature rating in copper is higher than aluminum. Since higher temperatures adversely impact transmission performance in networks, such overheating can temporarily delay signals travelling along the cable, which will ultimately translate into information loss.

If we take into account the money invested in the purchase of a cable containing aluminum versus an investment in a 100-percent copper cable, the initial savings will have a lot of negative consequences both, at the operational and performance levels of the network. Such in turn will cause a company to lose profits due to the degraded state of the infrastructure in the installation, regardless of the amount of money invested in state-of-the-art and high-quality equipment (switches, routers, etc.). Components like these will not be able to maximize their performance simply because the means with the optimal conditions is not provided to transmit all the data from the starting to the destination point.