

# Stretch ability of a conductive ink used for electronics

[Business](#), [Manufacturing](#)



Graphite and carbon are the common elements in this study in which it manufactures conductive ink. Because they produce and store electricity that gives us big helps and we benefit with them, in fact, electricity, nowadays can be considered as one of our necessities. This study showed some beneficial use of conductive inks in our lives such as on printed heaters, energy harvesting, energy storage, and electrochemical sensors. With the ink, it was said that it is the fundamental element wherein the accuracy of the electricity relies on its formulation and its properties tend to effect with the surface or variable you'll be going to use it with. When you use a different type of a component on its formulation it may decrease or increase conductivity, depending on the process. Also, this study has shown the percentage and ratio of a carbon that produces a high total mass and the other way around. The carbon that has a high total mass had produced 29.4% (0.029  $\Omega$ ) and its ratio is 2.6 to 1. And the carbon that has a low total mass had produced 21.7% and the ratio is 1.8 to 1. Using one of the senses, sense of touch, according to this journal, they found that due to the materials that were used on its formulation, when it is applied to a surface it is roughed texture, as well as on their way of using it, they used it on screen printing, it was stated that its texture is rough due to the carbon (Phillips et al., 2017).

According to Dr. Ghaffarzadeh, conductive inks boomed the industries but there was a big risk that manufacturers are preventing to do. For them, it was a risk that there'll be a demand that asks for more low cost. They are considering that many are adapting it so they are on hold of their demand but with the manufacturers side, it was not that easy to affiliate because if

you'll check on its composition and elements of components, there are certain materials that are on its big profit but not with the price, so it still affects the product's pricing. There were suppliers who are developing broader portfolio that are looking if the demand could be possible. But with its market, it is still on the peak because many still can afford it and also some suppliers are in demand on its production. Looking on the brighter side, going on the consumers' side it creates and invites relationship with the producers that are really profitable on both sides (Ghaffarzadeh, 2018).

This study enables the readers or other researchers to understand the stretch ability of a conductive ink used for electronics. By having the conductive ink on a tangible object they used it on screen printing. Just like with other studies, with different masses on its procedure or formulation the conduction of electricity change. It differs with others that this one's stretching. If the mixture has fine and large-diameter silver flakes it increases its stretch ability. But if it has smaller flakes of silver increases the conduction of electricity. On stretching process, larger flake particles elevate ohms connectivity. When the ink is used on printing the silver flakes were stretched its ability was enhanced and its resistance is lesser than 30 times the original resistance. This research compared and explained the estimation of resistance caused by stretching (Mohammed, 2017).

Hence, they looked and researched for an alternative of the metals that are naturally and originally used for making conductive ink. They found copper nanowires (Cu NWs) as a good conductor and a highly efficient for conductive ink. It was aforementioned that many demands were about the

high-cost of this conductive ink in different purposes, copper nanowires are more economically sided. Cu NWs also has the components that satisfy the elements of conductive inks with 2% volume nanoparticles. This doesn't differ that much to the true ones because it is versatile to any substrates or devices. Basically, this copper nanowire is mostly usable on draw-on electronic devices. You'll never see its value, until you need it (Naveen et al., 2015).