

Is Amsino's *AMSure*® Suction Tubing considered non-conductive?

Amsino's *AMSure* suction tubing is comprised of plasticized PVC (polyvinyl chloride), a type of plastic. The molecules of plastic are connected in such a way that the atoms' electrons are filled. Plastics do not have any free electrons, which means they cannot move about and conduct an electric current as metals can.

If a material resists an electrical current flow, it is called dielectric or an insulator. PVC, as with most plastics, has excellent electrical insulating properties, exhibit considerable resistance to electrical current and are poor heat conductors because they are both thermal and electrical insulators. For this reason, PVC is the primary choice for insulating electric cables, switches, light fittings, and other electrical goods.

Electrical resistance is measured by dielectric strength. Dielectric strength reflects the electric strength of insulating materials at various power frequencies. It measures the dielectric breakdown resistance under an applied voltage. It is an indicator of how good a material is as an insulator. Dielectric strength is expressed as volts per unit thickness. Plasticized PVC exhibits a Dielectric Strength Value (SI) of 10-30 kV/mm. By comparison, the SI of ceramic is about 8.7, while the SI for copper is nearly infinite.

As such, Amsino's suction tubing is considered non-conductive as related to both electrical current and heat.