

## Telsonic's ultrasonic technology powers the manufacture of copper-infused fabric masks

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SIEVING



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As the fight against COVID-19 intensifies around the world the use of face masks has become mandatory within many everyday environments. Although the wide range of standard mask types commonly used today do provide protection for both the wearer and those in the immediate vicinity, a new report, published in the Lancet journal, found the Coronavirus is capable of surviving on the outside of a face mask for 7 days.

It has also become clear that the use of fabrics infused with copper ions are scientifically proven to be antimicrobial, which means anti-viral, anti-bacterial and anti-fungal. Copper has long-established anti-microbial properties that including killing the COVID-19 virus within a matter of hours. Positively charged copper ions attract and trap bacteria and most viruses, which are negatively charged. The copper ions then penetrate the microbes and destroy their ability to replicate, significantly reducing the number of infectious particles that might get through the pores of the mask. Silver and zinc ions, also used in some masks, deactivate microbes in similar fashion.

South Korean company MediFiber ([www.virusbuster.co.kr](http://www.virusbuster.co.kr)), has launched a new product - CAZ, which is a fiber made of bio-material polymer with a copper ion bonded to its surface. The effectiveness of this product in the fight against COVID-19 has been demonstrated following recent tests carried out by BSL-3 labs in USA and Japan, which confirm that the CAZ fiber rendered inactive 99.99% of Corona19



01 Fabrics infused mask with copper ions

viruses. This is achieved through the effect as known as “Oligo Danamic Action” where the copper ions in contact with the virus destroy the protein shell of the virus and at the same time decompose its RNA to completely kill the virus.

Since the start of the COVID-19 pandemic, Telsonic’s ultrasonic technology has played a key role in the manufacture of masks and other personal protective equipment. The company’s ultrasonic welding systems continue to make a valuable contribution in this new working relationship with MediFiber, where it is being used in the manufacture of “Virus Buster” masks.

Due to the characteristics of the material used to make these masks, which is thicker than the conventional fabrics used in mask production, increased amplitude is required to provide sufficient gap between the sonotrode and the roller. The Telsonic solution for this application comprised of MAG 2.4kW generator and titanium booster plus a specially designed titanium sonotrode. The Telsonic solution replaces previous ultrasonic equipment from another local supplier which proved to be ineffective in this application, being unable to meet the production rate criteria on the company’s mask making machines.

This latest application demonstrates Telsonic’s commitment to working closely with the manufacturers of all types of PPE to deliver the most effective and productive solutions.

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02 Digital ultrasonic welding generator MAG 2.4kW