

Comfortable face mask designed by CeNS could encourage public to use it for long hours

A team of researchers at Centre for Nano and Soft Matter Sciences (CeNS), Bangalore, an autonomous institute of the Department of Science and Technology, have developed a cup-shaped design (patent filed) of the mask that helps to create enough space in front of the mouth while speaking. It has been transferred to a Bangalore based company for mass production.

This snug fit mask causes no speech distortion, no fogging on glasses, and indeed, packs well all around, leaving practically no room for leakage while breathing. Another important advantage is its high breathability allowing one to wear it without any discomfort. Further, the researchers have chosen the fabric layers such that there is a possibility of deactivating pathogens sheerly by the electric charges that may prevail under mild friction due to the triboelectric nature of the fabric. These advanced-level tests are being carried out.

"While an ergonomic design for COVID-19 protection mask is essential for its ease of use for long hours, it is often not paid much attention beyond a few standard designs. A good design should minimize the feeling of intrusion and leakage around the edges, but maximize the ease of breathing and talking while holding its place," said Prof Ashutosh Sharma, Secretary, DST.

With the increase of active COVID cases in India and other countries, usage of face masks has been advised for the general public. While the healthcare professionals can use the special and high technical quality medical masks, for the general public, a mask with moderate filtering efficiency should suffice. It should be comfortable to wear to encourage public to wear it for long hours.

CeNS has transferred this technology to Camellia Clothing Ltd., a Bangalore based garment company, established a couple of decades ago. The company wishes to produce and sell around one lakh mask per day through different distribution channels throughout India.

