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Pune-based startup develops masks coated with anti-viral agents

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According to the Founder Director, Thincr Technologies India, the masks are more effective than N-95, 3-ply and cloth masks



Pune-based startup firm Thincr Technologies India has developed masks coated with anti-viral agents known otherwise as virucides. The virucidal mask project is among the earliest projects to have been selected for commercialisation by Technology Development Board (TDB), a statutory body of the Department of Science and Technology, Government of India, as part of the Government's fight against COVID-19.

Thincr Technologies with support from Merck Life Sciences developed the masks. The coating formulation has been utilised to coat the fabric layer and the 3D printing principle was employed to achieve uniformity of coating. The coated layer can be incorporated as an additional layer in N-95 masks, 3-Ply masks, simple cloth masks, 3D printed or other plastic cover masks, along reusable filters. These masks thus provide additional protection beyond the protection achieved by filtration mechanisms.

The coating has been tested and shown to inactivate the SARS-COV-2 virus. The material used for coating on the mask is a Sodium Olefin Sulfonate based mixture. It is a soap forming agent with hydrophilic and hydrophobic properties. In contact with enveloped viruses, it disrupts the outer membrane of the virus. The ingredients used are stable at room temperature and are widely used in cosmetics.

The filters of these reusable masks have also been developed using 3D printing. Founder Director Dr Shitalkumar Zambad says that the masks have been found to have bacterial filtration efficiency higher than 95 per cent.

The startup has applied for a patent for this product. Commercial-scale manufacturing has also started, informs Dr Zambad. Meanwhile, 6,000 virucidal masks have been distributed by an NGO to four government hospitals in Nandurbar, Nashik and Bengaluru, for use by healthcare workers and also to a girls' school and college in Bengaluru.