

UGM Alumni Produce Reusable Masks

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The presence of masks is frequently rare in the midst of the Covid-19 outbreak. To help meet the expanding needs of masks, UGM alumni and lecturers produce masks that can be washed and used repeatedly.

The mask product called *iimask* made using a two-layer fabric that has an ultrafiltration membrane inside. The layer has a pore density of fewer than 100 nanometers. That sufficiently tight membrane pore expects to prevent various microorganisms, such as bacteria and viruses, from entering the nose and mouth.

"We make this mask as an alternative for people facing the scarcity of masks on the market," explained Tutik Sriani, Ph.D., the *iimask* development team on Saturday (18/4).

Although porous tightly, the mask still provides convenience use for its users. The material does not cause breathing difficulties.

The graduate of Mechanical Engineering at the UGM Faculty of Engineering developed *iimask*



together with her husband Gunawan Setia Prihandana, Ph.D., who also came from the same alma mater. They also assisted by UGM Mechanical Engineering lecturer, Muslim Mahardika, Ph.D.

Tutik explained that the membrane layer of the mask he developed was hydrophobic or waterproof. Therefore, it can hold the splash from the outside, so that the droplet does not enter the nose or mouth of the user. This membrane can also be used repeatedly by rewashing it after the use.

"This membrane insert can provide protection for up to 2 weeks," said the woman who focused on conducting studies in the field of this membrane.

People can also put the membrane layer to various fabric masks with a place to embed the layer inside.

Iimask membrane is produced independently at Tutik's house in Plumbon, Sardonoharjo, Sleman. She also took a local tailor to meet the needs of cloth masks.

"Within a month, we can produce around 3,000 pieces of insert," she said.

The presence of *iimask* is not only an option for the community to protect themselves from Coronavirus transmission. However, it also contributed to the reduction of medical waste during this pandemic.

Meanwhile, Muslim Mahardika said that currently, the UGM Faculty of Engineering has ordered around 400 *iimask* products, which are ready to be distributed free of charge to volunteers, the community, and several hospitals in Yogyakarta.

"Through the community service program, the UGM Faculty of Engineering will send this *iimask* to volunteers and several hospitals," she explained.

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