

## Polymer swab for sample collection kit of COVID19 : Developed by C-MET, Pune

India is in the process of ramping up the scale of testing for infected cases of Coronavirus Disease 2019 (COVID-19). As per the Centre for Disease Control and Prevention (CDC) recommended guidelines, the sample collection of clinical specimen should be carried out from the upper respiratory tract of suspected cases by using only synthetic fiber (special polymer) swabs with plastic shaft/rod, which is the part of the COVID-19RT PCR sample collection and testing kit.

The supply of COVID-19RT PCR testing kits, majorly imported from Germany, has been affected due to international lockdowns. Moreover, this polymer swab with plastic shaft/rod is majorly imported from the Italian suppliers and not available in country.

C-MET, Pune has developed the desired polymer swabs, which has two parts (1) polymer rod/stick and (2) polymer fibers. The polymer rod/stick has been developed using locally available thermoplastic polypropylene materials via injection moulding at 200°C through stainless steel die/mould. The locally sourced polymer fibers were then wrapped over the polymer rod/shaft via press crimping process to form the head part of the polymer swab. The prototype polymer swabs were thus developed with the help of locally sourced raw materials during this crisis period, so that supply of the material to the medical fraternities could be made seamlessly. The mould for preparing the polymer rod of the swab has also been developed locally.

The prototypes of developed polymer swab were handed over to the collaborator at Bangalore for clinical and ethical tests. Physically it is comparable to the imported swab and chemical/viral studies show that the polymer swab developed by C-MET is superior to the commercial imported swab.

Trials for large scale production of the polymer swabs using semi-automatic swab making machine will be initiated shortly.

This development will reduce the import dependency for the country and also would reduce the cost of the product significantly.





**Prototypes of the Polymer Swabs developed by C-MET**

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