



## The virtues of EMS Innovation in the midst of the COVID-19 pandemic

The COVID-19 pandemic called for protective measures for medical staff, doctors, nurses, laboratory workers, the list is endless. In this article we share an insight to a very worthy project in the form of quality protective glasses.

Conceiving the idea that came up over a weekend in May 2020. The first sketches were made and some existing glasses were compared, a 3D CAD model concept was created as well as the first 3D printed models. The target being to design a pair of protective glasses with the temple arms and the lenses all made from one single material.

The tool was designed and manufactured by Fenton Precision Engineering Limited, Wellingborough Northants together with another UK-based tool finishing specialist for a specific high gloss finish to achieve the optical lens quality.

In parallel talks were held with various raw material suppliers and

different materials including PC (Polycarbonate) were tested, but these materials did not pass the final light refraction test.

FPE contacted EMS-CHEMIE UK, the Headquarters located in Switzerland, who are well known in the eyewear market for their tailored high-performance polymers, in the hope of finding a suitable material solution.

During the first discussion they explained that they had already made a similar application of a one-component pair of glasses, i.e. everything made with a single material.

Samples were taken using four different Grilamid TR materials to find the best solution according to the design and test standard.

We went through a learning curve in terms of material handling, processing parameters and even down to the cleaning of the injection moulding machine in order to be successful with one of the EMS specific grades of material.

This was a specially modified material from EMS-CHEMIE, tailored to the needs, successfully passing all tests and thus obtaining EN 166:2001 S on 2<sup>nd</sup> February 2021, FPE had a new approved product ready for market.

With EMS as our supportive development partner we had been successful and we are ready to supply the market with appropriate high quality safety glasses that guarantee the protective function for the user!