

Two-Impression Tool Made Through VISI Helps School's COVID-19 Plan

Rutland Plastics moulds 25,000 headbands for visor masks



Rutland Plastics case study

An injection moulding specialist helped a public school in Rutland to produce thousands of pieces of PPE for frontline workers during the early days of the COVID-19 crisis.



While Oakham School was closed during lockdown, staff used 3D printers and laser cutters from the Design and Technology Department to begin making face shields. They approached local company, Rutland Plastics, to help them boost productivity, which took them from manufacturing just a handful a day, to 8,000 a day.

Rutland Plastics' Technical Manager Carl Martin says they were originally asked to 3D print a number of headbands for the shields, but decided it would be more cost effective to manufacture a mould tool using their VISI software package, and then injection mould the plastic product from it.

"We received the initial design for the 3D printed product, and modified it in VISI to make it injection mouldable. Once that was completed and approved, we designed the tool in VISI using a Meusburger bolster with aluminium bolster plates."

The design then went into the toolroom and was milled on their Mazak VCN 530C CNC machine with toolpaths created through VISI's extensive CAM functionality. The process from taking in the initial 3D design, through turning it into a mouldable product, and finalising the mould tool, took less than a week.

When the two-impession mould was setup on their 80-tonne Engel moulding machine, both parts of the headband were formed from a medically-accredited polypropylene every 24 seconds during the production run of 25,000.

To complete the full screen face masks, Oakham School arranged for the headbands to be attached to plastic visors, which were then distributed to front line NHS staff and key workers at hospitals, doctors surgeries, care homes, specialist schools and mental health institutions.



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Carl Martin,
Technical Manager, Rutland Plastics



As medical products were already part of Rutland Plastics' portfolio, they remained fully open during the Coronavirus lockdown, and extended their output with additional components aimed at fighting COVID-19.

Their suite of VISI products and modules, from Hexagon's production software portfolio, has been instrumental in the design and production of a number of mould tools for those products, which include two components for a contactless door-opener. "That device allows doors to be opened and closed without having to touch the handles – particularly important to stop the spread of Coronavirus," says Carl Martin.

The company is also part of a national consortium geared up to increase the manufacture of ventilators, and have taken delivery of a mould tool from Taiwan, moulding ventilator front covers from ABS thermo plastic polymer.

Case study summary

Company: Rutland Plastics

Website: www.rutlandplastics.co.uk

Business: Toolmaker and plastic injection moulders

Key benefits achieved

- VISI helped provide a fast, cost effective moulding alternative to slow 3D printing
- Took their clients' COVID-19 PPE production from a handful a day, to 8,000 a day
- Mould tool turned around within a week





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