# FACING THE CHALLENGE:

## How Kingsmoor Packaging is protecting the front line

**AS THE UK PLASTICS INDUSTRY STEPS UP TO THE CHALLENGE OF SUPPORTING THE FIGHT AGAINST COVID-19, BP&R'S TOM WALKER SPOKE TO JAMES HILL, MANAGING DIRECTOR OF KINGSMOOR PACKAGING, TO FIND OUT HOW IT IS UTILISING ITS EXPERTISE AND EQUIPMENT TO PRODUCE LIFE-SAVING PPE FOR NHS FRONTLINE WORKERS.**

Food packaging company, Kingsmoor Packaging, has turned its expertise towards producing personal protective equipment (PPE) for NHS staff fighting the coronavirus pandemic.

The Somerset-based company is making a single-use, full face visor for front line NHS staff, and expects to distribute the visor in large numbers within two weeks.

There has been a widely reported shortage of PPE for workers across the country, which has led to numerous companies throughout the plastics industry producing their own alternatives.

### A DESIGN PROCESS SUITED TO PPE

Kingsmoor specialises in thermoformed food packaging, and its existing design process was well suited to producing PPE on a wide scale, as Managing Director James Hill explained.

He said: "On the whole it wasn't too much of a challenge to get the visor designed and produced, as we're so used to doing quick projects for the food industry. We've got in-house design and in-house tooling, so in terms of turning a product around, it's what we're used to doing.

"Our initial processes started off with masks, and then we looked at substrates of that, as well as what's being used in the NHS at the moment. We've obviously seen in the media that there's a shortage of PPE and a real need to get it to the front line.

"We've seen examples of visors and wondered why none have been thermoformed, and from that it started to take shape. We prototyped internally, looking at average head and face sizes, and we already had some information on this because some of our processes use visors and welding masks.

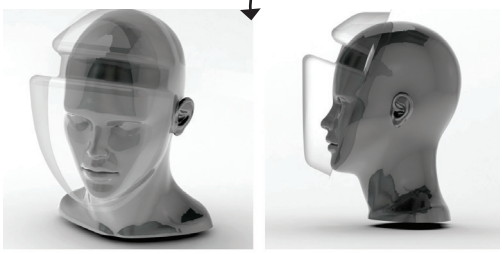
"We looked at a welding mask, and how we could thermoform something similar from a single piece of plastic.

"The design process kept evolving through the week. Usually with these sorts of products we'd work with a food manufacturer, and there'd be a timeframe of getting the product ready, whereas this has evolved very quickly."

### EASE OF USE ESSENTIAL

Ease of use was a major feature of the design, and this is shown in some of its smaller details.

The sample visor



"Someone came up with an idea that we should put sizing numbers on the strap at the back of the visor, so for example if someone knows that it fits their head when it's at slot number five, they can just click it in before putting it on, and that saves times fiddling about with it," Hill continued.

The visor is made from clear APET, is low gauge, and only weighs 35 grams, while also incorporating anti-fog to avoid steaming up.

He added: "Due to the visor being light, the feeling of it is minimal. We know that people will be wearing these for long periods of time, so they needed to be comfortable to wear.

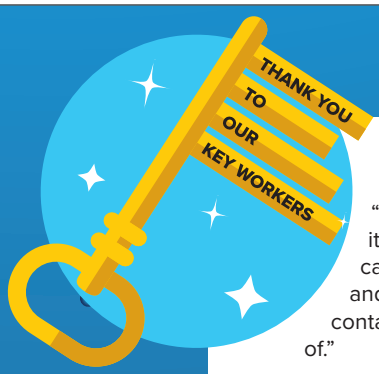
"We made a point of making sure a face mask could fit underneath, and that it could also accommodate glasses. It's a real testament to our engineering and technical teams, and what they've done in the high-pressure is amazing, and that applies across the board to the private sector at the moment."

Kingsmoor is aiming to have 30,000 visors a day produced from the 10th April, which will eventually raise to 90,000 a day, and can be delivered to NHS Trusts throughout the UK.

As they are single-use, the length they last will differ, but as Hill explains, this is no different to standard PPE.

He said: "We're slightly unsure on the lifetime of the visors. We thought that the benefits of them is that they're made from a single piece of plastic and very lightweight, so they're hugely cost-effective.

"We looked at it from the point of view of existing PPE, for example latex gloves. They're stored in a tissue style box, a pair gets taken when they're needed, and then easily disposed of, and this also goes for something like medical aprons. We tried to mimic these types of PPE, so it can all get wrapped up and disposed of together when someone has been in contact with a patient."




"We're hoping with the design that it's cost-effective enough so that it can be utilised as a disposable item, and therefore limit the risk of further contamination once it's been disposed of."

### TO THE FRONT LINE AS QUICKLY AS POSSIBLE

Due to the shortages of PPE, and the unprecedented nature of the crisis, the NHS is making an effort to get equipment to the front line as quickly as possible, and this means that standard procedures regarding testing and certification have been reduced in favour of making it available.

Hill said: "Now we've gone live with the visor, we're trying to put out as many samples out to as many people as we can within the NHS. It hasn't yet been through the normal channels of certification, so we're working hard with various people at the moment to see if that can be fast-tracked and approved to get it on the front line where it's needed.

"From our perspective we think it's a very good idea, we think it's an angle that's not been looked at yet, and primarily we just want to help the NHS. We hope with people crying out for PPE, that the NHS and other bodies will get this fast-tracked."

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### PLASTICS PROMINENT IN COVID-19 FIGHT

Whether through the production of PPE or ventilators, the plastics industry has been hugely prominent in the fight against coronavirus, something that Hill sees as a potential redeeming moment for plastics.

He said: "It's really rewarding being within the industry at the moment. Not only has everyone come together to help, it also shows there's a place for plastics and there always has been.

"While we recognise the pressure of plastics over the last few years, the qualities of single-use plastics are showing to be so important, especially in a scenario where you've got such an infectious disease, as plastic can be easily disposed of, is cheap and durable, and most importantly is extremely medically safe."