

Gated Hot Runners Help GB Precision Boost Medical Tool Productivity

Birmingham-based, GB Precision, provides complex bespoke solutions including multi-impression mould tools, as well as components and sub-assemblies to customers in industry sectors such as medical and pharmaceutical packaging, aerospace and F1.

One recent challenge tackled by the company was for a rapid-cycle, multi-impression medical packaging mould tool where the specified moulding material, a high performance, engineering polymer, had a known tendency to “string” during the moulding process.



From the outset, the customer had specified the use of a hot runner system for the tool, however, as GB Precision Director, Paul Turner, observes; “there are hot runner systems and hot runner systems, and you tend to get what you pay for. The original specification had assumed quite a simple system, which, although it would have been perfectly adequate for a less challenging application, would, in this case have resulted in a reduced cycle time and a narrower moulding window, due to the nature of the material being moulded.”

During discussions with the customer, GB Precision convinced them that incorporating a gated hot runner system would not only allow the optimisation of the tool design with regard to filling and cavity orientation and so reduce the moulding cycle-time – the customer had been looking for a 10 second cycle, in the event the tool was able to operate on a much-reduced cycle – but the moulding window would also be substantially increased and material wastage reduced.

As Paul explains; “By providing our engineering expertise at the tool design stage we provided our customer with long term benefits in his tool’s productivity. We were able to show that the initial additional cost of incorporating the more complex valve gated hot-runner system would be quickly outweighed by savings in accurate mould control, setting optimisation and waste reduction, which is particularly important in medical applications, where scrap often cannot be re-used.”