

Solid Carbide Tools Drill Waterways Faster

A [WNT \(UK\)](#) product story

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Edited by the Manufacturingtalk editorial team Apr 12, 2005

As a result of changing to solid carbide tools, the drilling of waterway features in moulds is now five times faster than before, owing to the combination of higher speeds and feeds.

Founded in 1964, family-owned Beaubury Precision Moulds has developed its business through close working relations with its customers and a willingness to invest in the latest equipment and skills when required.

The result is an enviable position as one of the UK's leading designers and manufacturers of blow moulds used in the production of plastics containers for numerous applications.

As part of the company's investment program it had taken a keen interest in the tooling used to machine the aluminium and stainless steel moulds, but one area that Production manager, Matthews felt was lagging behind was the drilling of waterway holes for cooling the moulds.

The purpose of the holes is simply to carry water to cool the mould while it is in use, therefore the [surface finish](#) is not a major issue, all that was required was a good quality, accurate hole.

The major issue was their depth.

The 18x diameter to length ratio is a major limiting factor when sourcing drills, with very few companies able or willing to produce drills of that length.

"We had tried various alternatives over the years, including gun drilling, with limited success due to either inconsistent tool-life or extended cycle times," says Matthews.

"In our view drilling technology had not moved on very far when compared to other tooling technologies".

"And with the drilling of the waterway holes accounting for between 3-4h of the total cycle time we knew we had to find a better alternative." It was, therefore, no surprise when a flyer from WNT (UK) advertising standard solid [carbide drills](#) at 12-times diameter it caught Matthews' attention.

The initial success of these drills prompted further discussions between the two companies and as a result WNT (UK) designed and manufactured [solid carbide](#) drills to the required 18x diameter to length ratio and now provides them on an ex-stock basis to Beaubury Precision Moulds.

As a result of changing to the WNT solid carbide solution, the drilling of these particular waterway features is now five-times faster than previous.

This is due to the combination of the higher speeds and feeds available from the carbide drills and the fact that the holes are produced in one-hit, eliminating any pecking actions that could cause problems with swarf and work hardening of the components.

"We had invited a number of suppliers to try and improve this drilling situation and while some could produce the hole quicker than WNT it was at a cost that could not be justified for this particular application".

"In addition WNT (UK) looked at our requirement, came up with a design that we were both happy with and within four weeks had delivered the first drills".

"At this point they provided us with on-site technical support." While the holes were not critical elements this support was important to Beaubury Precision Moulds as even with all their experience of machining these drilled holes the reassurance of the manufacturer being on site was welcome".

"Drilling, unfortunately, is not like milling or turning as you cannot see what is going on and you haven't a clue what's going on so it was reassuring to have a hand to hold when we first tried the drills," concludes Matthews.