Case study

European cutting tool insert manufacturer

This particular European cutting tool insert manufacturer is one of Europe's oldest. Specialising in hard metal and ultra-hard materials tooling solutions, they pride themselves on the quality and durability of their high-performance tools.

The surface finishing technology used by cutting tool insert manufacturers creates a distinct competitive advantage over competitors, that's why this particular manufacturer have asked us not to use their name in this case study.

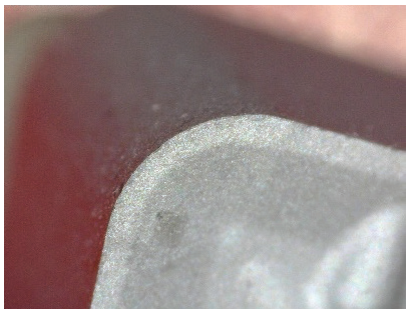
As part of their continual improvement programme, they were looking to increase both the capacity and quality of their edge honing operation. A vital part of which involved replacing their existing edge honing system.

Given the company's premium position in the market they looked to us, as global leaders in the surface finishing of tooling, to provide the solution.

The starting point involved extensive sample processing at our R&D facility in Guernsey. We tested a wide range of different tools to ensure we could achieve the perfect results for not only cutting tool insert edge honing but post coating work too.

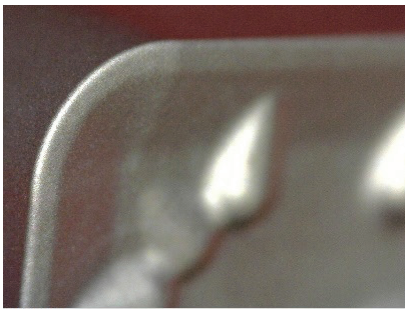
Our technology demonstrated a consistent and tighter process result on pressed and sintered edges than their incumbent system could achieve. In addition, burrs were more effectively removed and surfaces were more uniform - making them ideal for coating.

The results for post coating work again resulted in uniform surfaces and a peening effect on coatings - reducing tensile stress and creating the strain hardening needed to ensure insert coatings remain permanently adhered.



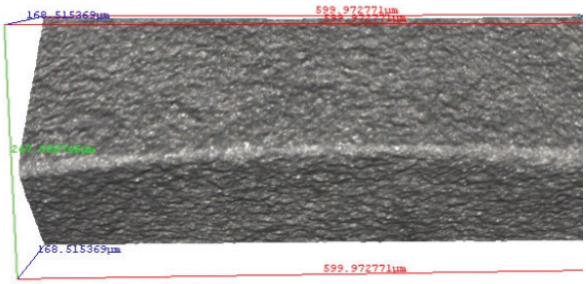
Cutting edge pre-process

Post-process edge 60µm

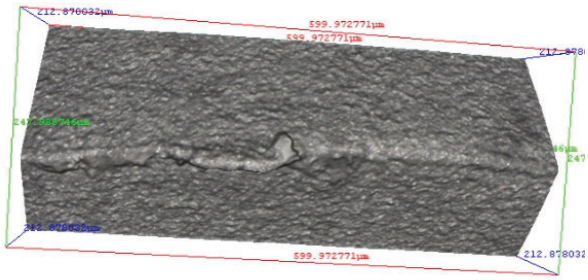


Post-proces edge 100µm

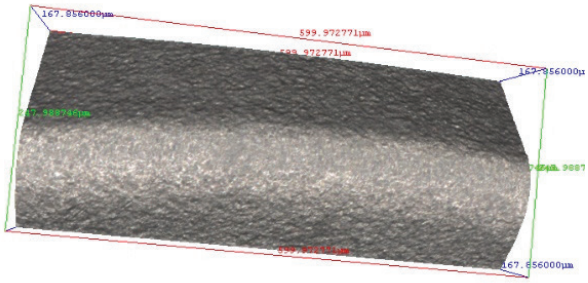
Vapormatt



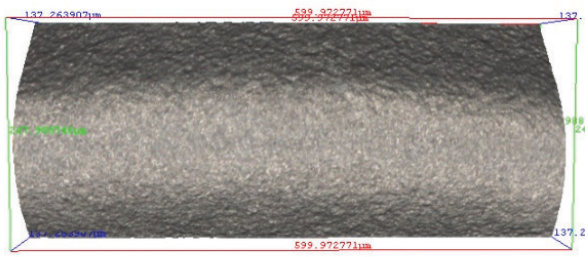
Cutting edge pre-process



Pre-process edge showing sintering blister



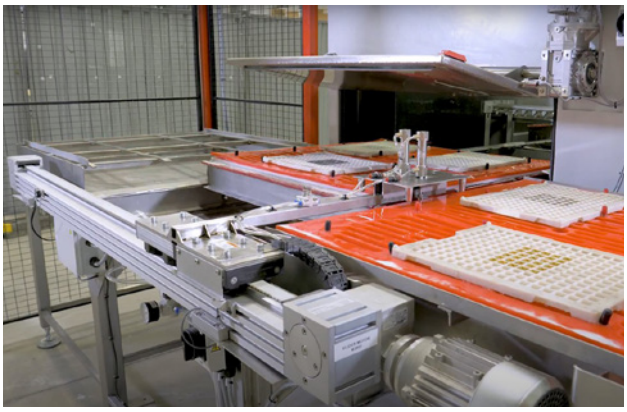
Post-process edge 60µm



Post-proces edge 100 µm

The next step was to determine the correct wet blasting system from our comprehensive portfolio of systems suited to the surface finishing of inserts. Our Jaguar system was the perfect match in terms of production capacity and to further boost productivity we supplied a shuttle system to avoid any downtime. The shuttle system allows one table to be loaded or unloaded whist the other table is being blasted.

Vapormatt automatic Jaguar system



Jaguar Trolly System

In operation they have found the Jaguar exceeds their expectations, repeatedly producing edge hones of between 30 to 40µm, with a tolerance better than the +/- 15µm they specified.

In addition, they have found the Jaguar to be very reliable and capable of rapidly delivering the same high-quality results achieved during sample processing – completely fulfilling their brief of improved quality and production capacity.

Our wet blasting systems deliver distinct productivity and quality competitive advantages to our customers, because of this we are often asked to sign Non-Disclosure Agreements (NDAs) to keep our customers' details confidential. That is why we cannot include the name of the manufacturer in this case study.

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