



THIRD WAVE SYSTEMS

MODELING TECHNOLOGY · MACHINING SOLUTIONS

CASE STUDY: Cutting Tool

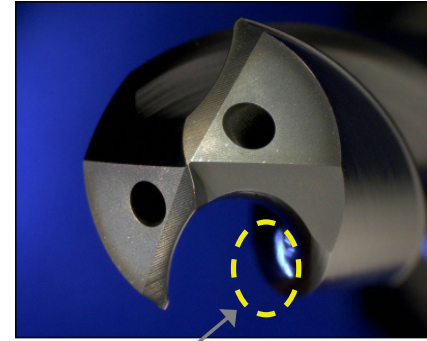
OSG utilized Third Wave Systems product, AdvantEdge, to develop a brand new line for stainless steel WDO Drills. Using AdvantEdge, OSG was able to study chip shape and evaluate improved drill geometries.



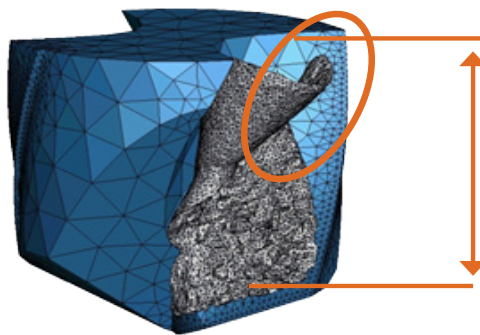
Challenge: The stainless steel chips evacuated from conventional drills are stringy and don't have a consistent chip shape, which results in poor part quality.

Approach: Model the drill and chip(s) in AdvantEdge to determine chip characteristics and evaluate improved drill geometries.

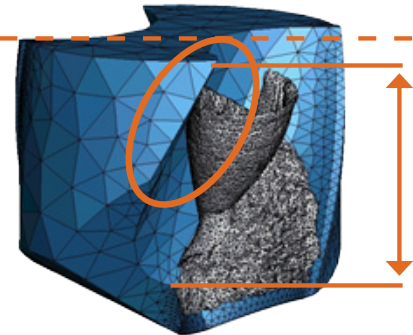
Results: A new drill geometry was developed that includes an altered cutting edge and groove shape, which creates consistently divided chips



Modify cutting edge and groove shape to create divided chips



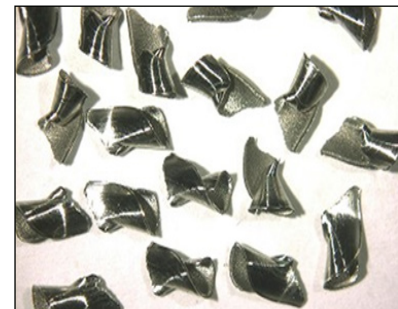
Conventional Design



Improved WDO Design in AdvantEdge 3D



Stringy Chips



Consistent Chip Break

Third Wave Systems is the premier provider of validated material physics-based modeling solutions and services. The physics-based machining simulation software products and services are used to optimize machining processes, giving engineers access to more information than trial-and-error tests and allowing them to make better decisions. Third Wave Systems' modeling products and services are used by progressive companies to dramatically reduce costs of machined components, accelerate design cycles, improve part quality and get to market faster.

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