# Series 135 Hi-PerCarb

Kyocera SGS Precision Tools Case Study

**INDUSTRY**

ENGINEERING

HI-PERCARB®

## HIGH PERFORMANCE CARBIDE DRILLS

**MATERIAL**

**TI6AL4V Titanium**

**PRODUCT**

**KSPT series 135 HI-PERCARB Drill**

**APPLICATION**

**HOLE MAKING**

**COMPETITOR**

**EDM HOLE POPPER WATER JET MACHINE**

**COOLANT**

**SOLUBLE FLOOD**

**TOOL INFORMATION**

**DRILL #1) .0595 in DIA / .375 in LOC / 1.5 in OAL**

**GOALS**

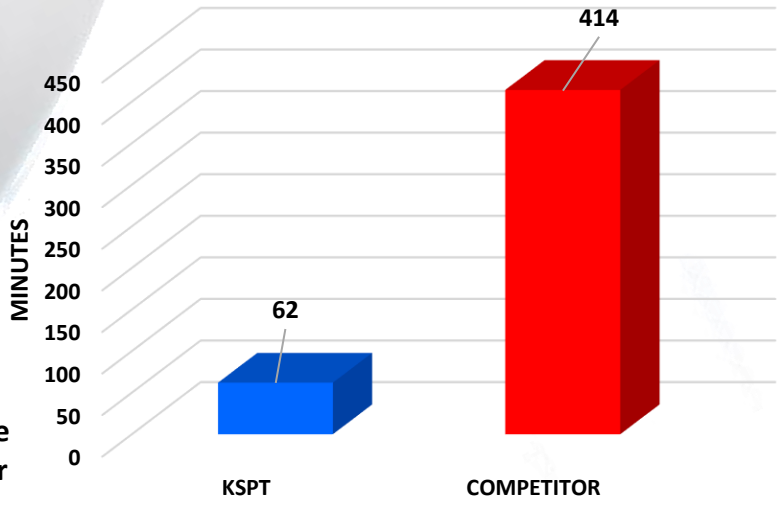
**The goals of this study were to significantly reduce cost through an increase manufacturing efficiency and cycle time reduction.**

**STRATEGY**

**KSPT approached a customer who was using a hole popper waterjet machine to thousands of holes in TI6AL4V titanium. They were seeking a more efficient machining process. KSPT's series 135 HI-PERCARB, with its double margin design was the ideal choice for this job.**

| | KSPT | COMPETITOR |
|---|---|---|
| SPEED | 11,650 RPM | n/a |
| FEED | 9.3 IPM | n/a |
| RADIAL CUT (AE) | N/A | N/A |
| AXIAL CUT (AP) | .05 | .05 |
| CYCLE TIME | 62 MINUTES | 414 MINUTES |

**CYCLE TIME**




**KSPT's series 135 HI-PERCARB was able to reduce the cycle time by over 85%!!**

## RESULTS

How can you possibly lower the total cost of a tooling operation when the customer's current process requires no tooling? In this case, the customer's current hole making process involved a high-powered water jet. There are numerous limitations to water jet technology. The initial few holes created are usually irregular in size and finish. Bad holes equal wasted material and high scrap rates. Additionally, the cutting time for a water jet operation is much longer than a traditional drill. More time spent cutting equals less output. No one wants to hear higher scrap rates and longer cycle times when machining parts. Given this customer's need for a more efficient machining operation, KSPT's staff recommended the use of the Hi-Percarb Series 135 drill. With its double margin design, it was the ideal tool for accurate and smooth hole creation. Now with the use of a traditional drilling operation instead of a water jet cutter, comes a higher new tool cost. Although, because the Hi-Percarb was able to vastly improve the overall operation efficiency, it was able to massively compensate for the higher up-front new tool cost. **Use of the Hi-Percarb reduced the customers total machining cost by over $800,000, a reduction of over 85%! KSPT's Hi-Percarb reduced the cost per part by over 70%! When it came time to look at the total cost savings for the total operation, KSPT's Hi-Percarb produced a cost savings of $732,172.00! A 73% reduction in total cost!!**