# Series 135 Hi-PerCarb

Kyocera SGS Precision Tools Case Study

**INDUSTRY**

**ENGINEERING**


**MATERIAL**
A36 Steel

**PRODUCT**
KSPT series 135 HI-PERCARB Drill

**APPLICATION**
Hole Drilling

**COMPETITOR**
COMPARABLE 2 FLUTE DRLL

**COOLANT**
SEMI- SYNTHETIC

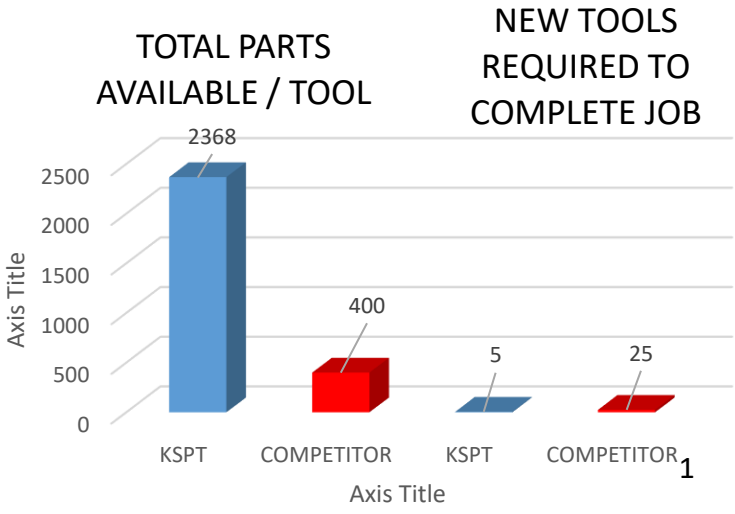
**TOOL INFORMATION**
6.8mm DIA / 34mm LOC / 79mm OAL

**GOALS**
The goals of this study were to significantly reduce cost through an increase tool life.

**STRATEGY**
KSPT approached this job with a series 135 HI-PERCARB drill. KSPT's series 135 HI-PERCARB, with its double margin design is ideal for improving surface finish without sacrificing speed and feed rates.

HIGH PERFORMANCE CARBIDE DRILLS

| | KSPT | COMPETITOR |
|---|---|---|
| | | |
| **TOOL DIAMETER** | 6.8mm | 6.8mm |
| **SPEED** | 5600 RPM | 850 RPM |
| **FEED** | 47.6 IPM | 9.2 IPM |
| **RADIAL CUT (AE)** | N/A | N/A |
| **AXIAL CUT (AP)** | .7500 | .7500 |
| **CYCLE TIME** | 1:04 | 5:31 |




**KSPT's series 135 HI-PERCARB was able to produce almost 6 times the parts with 1/5 of the tools!!**

## RESULTS

The overall findings of this study show that despite KSPT's HI-PERCARB having a **list price that was more than 4 times the cost of the competitor's tool**. With improved processes and a higher quality tool, the customer ultimately saved significantly in the long run. The HI-PERCARB drill was able to be run at a speed **more than 6 times faster** and had more than **5 times the feed rate**. This provided value in two ways: 1) The tool life of the HI-PERCARB was significantly higher and 2) the HI-PERCARB only **required 19% of the machining time**. Additionally, with less tools used, less tool change needs to occur, and the tool change cost was **98% less than the competition's**. Despite having a higher list price, the HI-PERCARB's total new tool cost to the customer was **significantly less than the competition's**. When you combine the tool change cost with the machining cost, you get a **total job cost savings of $49,567.53**