

Series 140 ICE-CARB

Kyocera SGS Precision Tools Case Study



INDUSTRY



ENGINEERING

MATERIAL

1020 Steel

PRODUCT

KSPT series 140 ICE-CARB Drill

APPLICATION

Hole Drilling

COMPETITOR

Internal coolant 5xD Carbide Drill

COOLANT

Semi-Synthetic

TOOL INFORMATION

4.6mm DIA / 36.0 mm LOC / 74.0mm OAL



GOALS

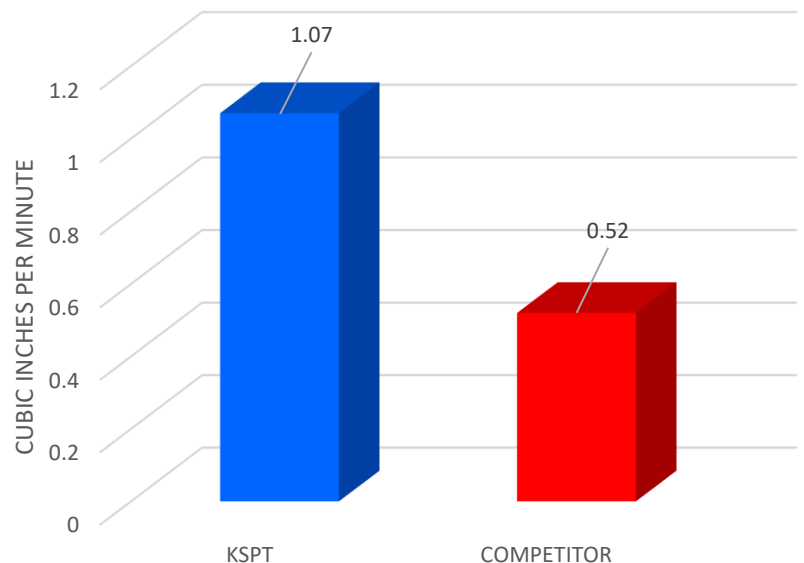
The goals of this study were to significantly reduce cost through a decrease in cycle time and increased tool efficiencies.

STRATEGY

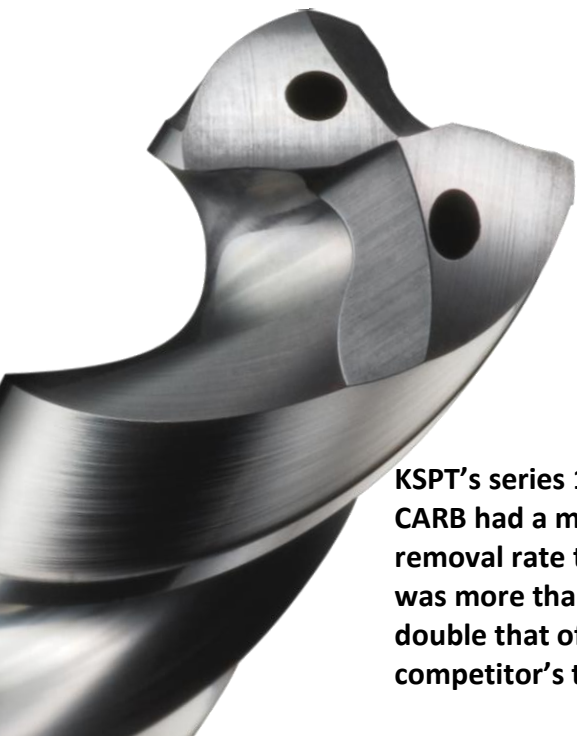
KSPT approached this job with a series 140 ICE-CARB drill. KSPT's series 140 ICE-CARB, with its internal coolant design is ideal for improving surface finish without sacrificing speed and feed rates.

	KSPT	COMPETITOR
TOOL DIAMETER	4.6mm	4.6mm
SPEED	7994 RPM	5000 RPM
FEED	41.6 IPM	20.0 IPM
AXIAL CUT (AP)	.3750	.3750
CYCLE TIME	14:48	30:45

MATERIAL REMOVAL RATE



KSPT's series 140 ICE-CARB had a material removal rate that was more than double that of the competitor's tool!



RESULTS

1020 steel has high machinability and is a preferred steel grade for many manufacturers. A more efficient application of coolant is often a way to increase the machinability of this material. **The KSPT ICE-Carb drill was perfectly suited for this job**, given its internal coolant design. **The ICE-Carb was able to be run at a 37% higher speed and a feed rate that doubled the competitor's drill.** These efficiencies combined to produce a material removal rate that **more than doubled the production of the competitor's drill.** The per part cost for the ICE-Carb drill was less than half of the competition. **The customer experienced a total machining cost savings of over \$75,000!! Ultimately, when all was said and done, the customer was left with a cost savings of \$79,760.75!!**

