SERIES 51 T-CARB

Kyocera SGS Precision Tools Case Study

TOTAL SAVINGS $39,772

SGS Solid Carbide Tools

INDUSTRY
AEROSPACE

MATERIAL
A-286

PRODUCT
KSPT SERIES 51 T-CARB

APPLICATION
HIGH SPEED MACHINING

COMPETITOR
COMPETITOR'S 5 FLUTE HP END MILL

COOLANT
FLOOD

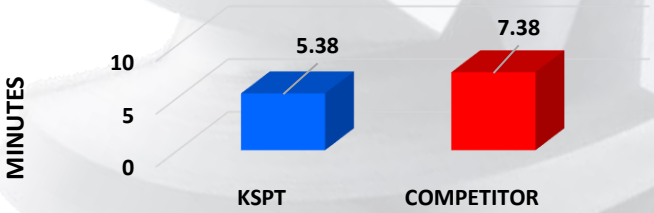
TOOL INFORMATION
.500 DIA / 1.25" LOC / 3" OAL

GOALS
The goals of this study were to significantly reduce job cost through reduced cycle time, increasing MRR and reducing total machining time.

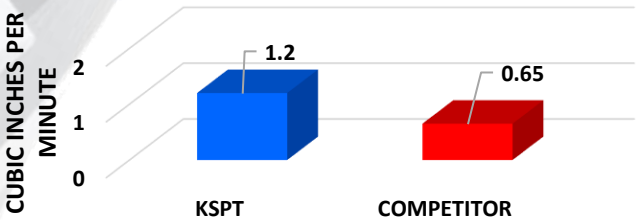
Features
KSPT approached this job with a 6 flute T-Carb end mill. KSPT's T-Carb excels at high-speed machining. Specifically, trochoidal and peel milling, the T-Carb's 6 flute design with eccentric relief provides strength and supreme chip control at high speeds, and with surprising finish results.

	KSPT	COMPETITOR
TOOL DIAMETER	.5"	.5"
SPEED	1360 RPM	1212 RPM
FEED	27.7 IPM	15.0 IPM
RADIAL CUT (AE)	.08	.08
AXIAL CUT (AP)	.54	.54
CYCLE TIME	5:23	7:23

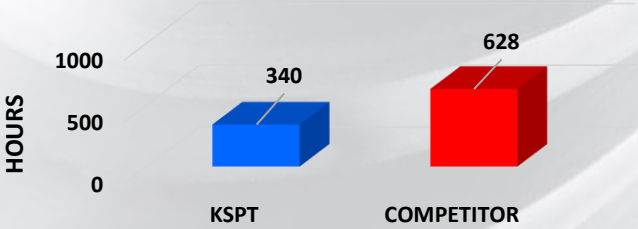
CYCLE TIME



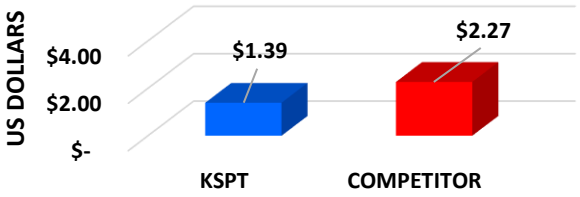
MATERIAL REMOVAL RATE



TOTAL MACHINING HOURS



TOTAL COST PER PART



RESULTS

As one of the austenitic alloys A-286 alloy maintains good strength and oxidation resistance at temperatures up to 1300ºF. It is one of the most popular high temp alloys and is widely used across the entire aerospace industry because of those reasons. However, it is more difficult to machine than other metals in the aerospace industry. The right tool, when applied correctly, can improve its machinability. In this case, KSPT's T-Carb was the tool chosen. It was the correct choice. The T-Carb was able to capacitate significantly higher speed and feed rates. Thus, the material removal rates for the T-Carb were almost double the MRR of the competitor's tool. The total machining hours were almost cut in half! With less lower machining time, comes a lower machining cost. The total machining cost was reduced by over $36,028. Coupled with a new tool cost savings of $3,744 the customer saved a total of $39,772! A SAVINGS OF ALMOST 40%!!!

KYOCERA