

Z-CARB HPR

Kyocera SGS Precision Tools Case Study



INDUSTRY



ENGINEERING

MATERIAL

6Al4V (>35HRC hardness)

PRODUCT

KSPT Z-CARB HPR

APPLICATION

PROFILING

COMPETITOR

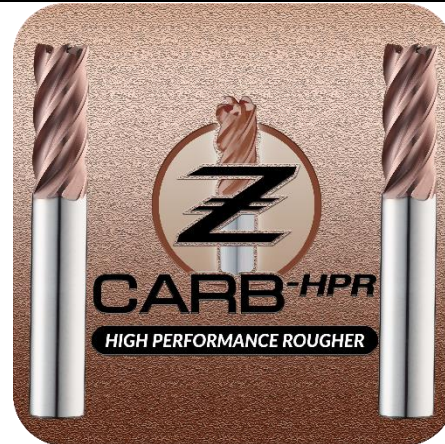
COMPARABLE END MILL

COOLANT

FLOOD

TOOL INFORMATION

1 DIA / 2.0" LOC / 4.5" OAL



GOALS

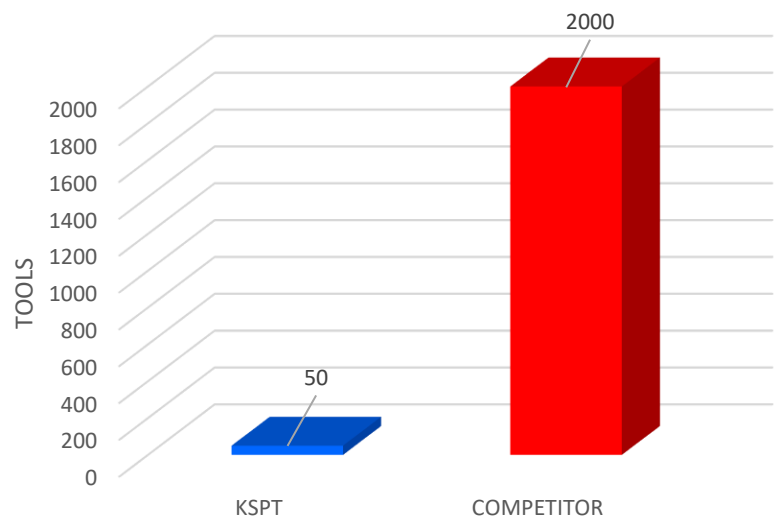
The goals of this study were to significantly reduce job cost through increasing tool life and maximizing material removal rates.

STRATEGY

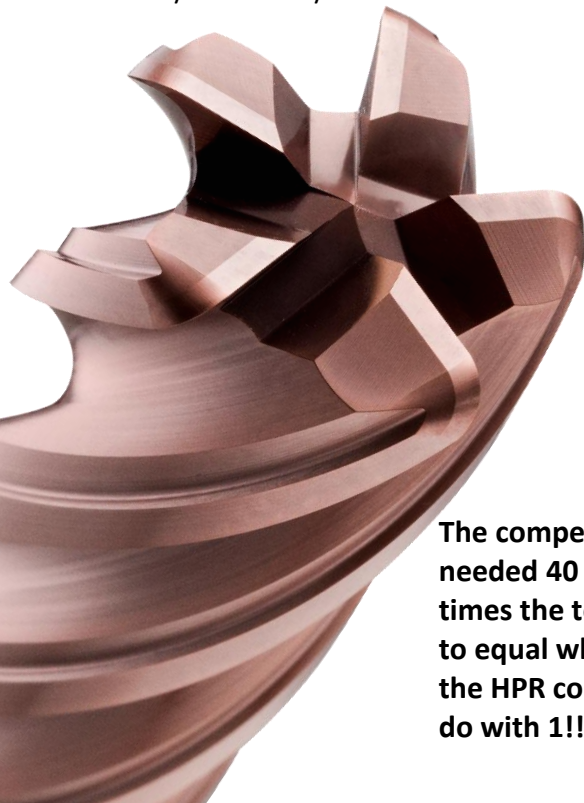
KSPT approached this job with a 5 flute Z-Carb high performance rougher (HPR) end mill. KSPT's Z-Carb HPR ideal for achieving high metal removal rates, while at the same time achieving an optimal surface finish. The specialized five flute design is engineered for increased productivity over three and four flute end mills.

	KSPT	COMPETITOR
TOOL DIAMETER	1"	2.5"
SPEED	650 RPM	2700 RPM
FEED	17 IPM	54 IPM
RADIAL CUT (AE)	.4"	2.5"
AXIAL CUT (AP)	2"	.045"
CUTTING TIME / PART	55.56 MINUTES	12.04 MINUTES

NEW TOOLS REQUIRED TO COMPLETE JOB



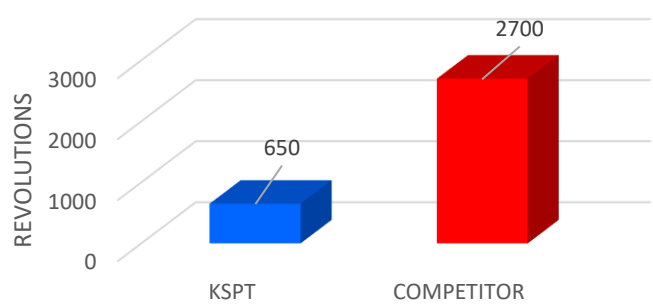
The competitor needed 40 times the tools to equal what the HPR could do with 1!!



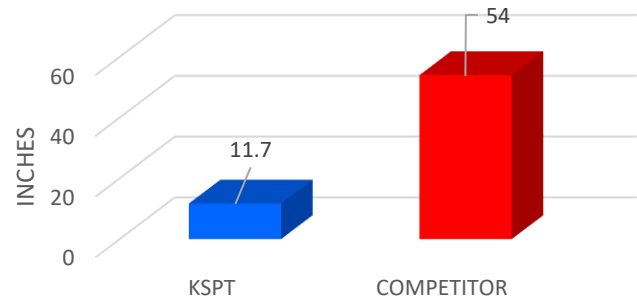
RESULTS

The overall findings of this study indicate that **KSPT's HPR blew away the competition**. The HPR was able to **produce 40 times as many parts with 40 times less tools**. The HPR was able to **capacitate a 35% higher material removal rate** than the competitor's tool. The customer, because of only having to use **1 HPR for every 40 of the competitor's tool**, produced a **per part cost savings of over \$3,400!!** The difference in total new tool cost was a **staggering \$356,000!!!** While the competitor's tool could offer a benefit in machining cost savings, because of the higher quality of the HPR, **our sales engineer was able to present the customer with a potential total cost savings of \$349,109.57!!!!**

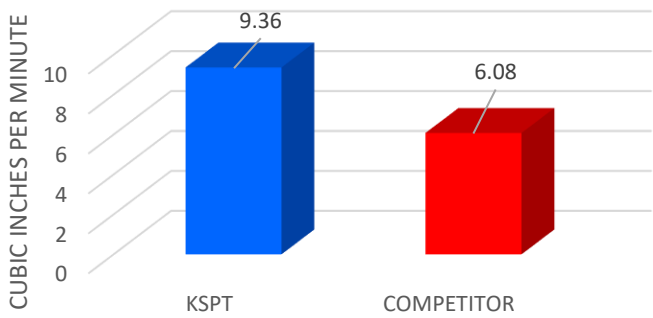
SPEED (RPM)



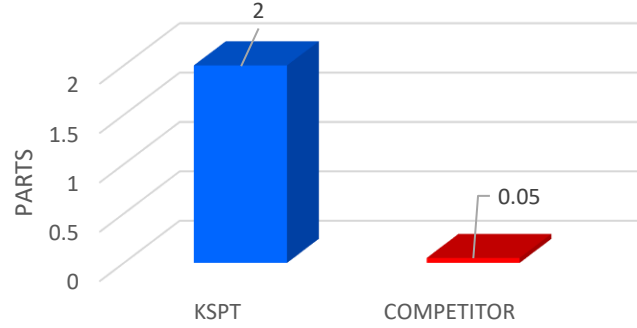
FEED (IPM)



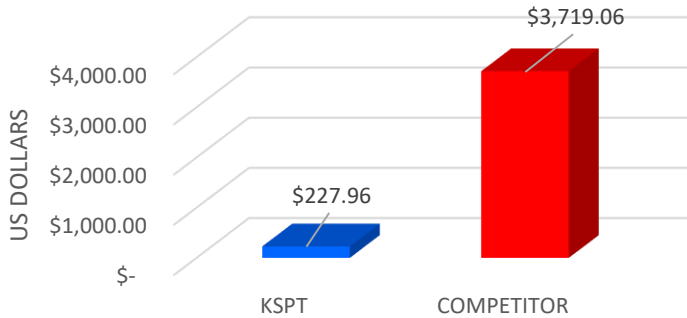
MATERIAL REMOVAL RATE (MRR)



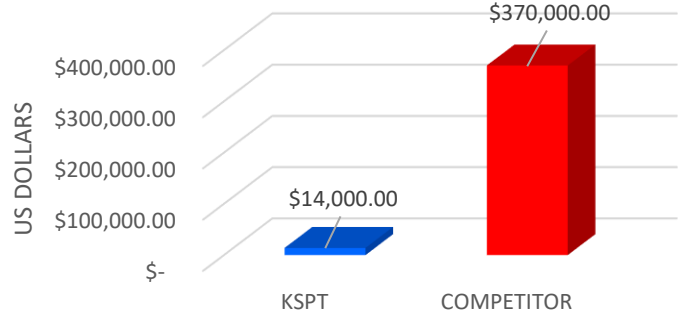
PARTS PRODUCED BY A NEW TOOL



TOTAL COST PER PART



TOTAL NEW TOOL COST



TOTAL COST

