

# Z-CARB AP

Kyocera SGS Precision Tools Case Study

Total Cost Savings  
**\$80,982.72**

**SGS**<sup>®</sup>  
Solid Carbide Tools

## INDUSTRY

Aerospace

## MATERIAL

15-5PH Stainless Steel (Brinell 375-440)

## PRODUCT

KSPT Z-CARB AP (Advanced Productivity)

## APPLICATION

8% Profile at 1xD Depth of Cut

## COMPETITOR

Comparable 4 Flute End Mill

## COOLANT

FLOOD

## TOOL INFORMATION

.500 DIA / 1.0 LOC / 3.0 OAL

## GOALS

The goals of this study were to significantly reduce job cost through increasing tool life, reducing machining time and improving manufacturing efficiency.

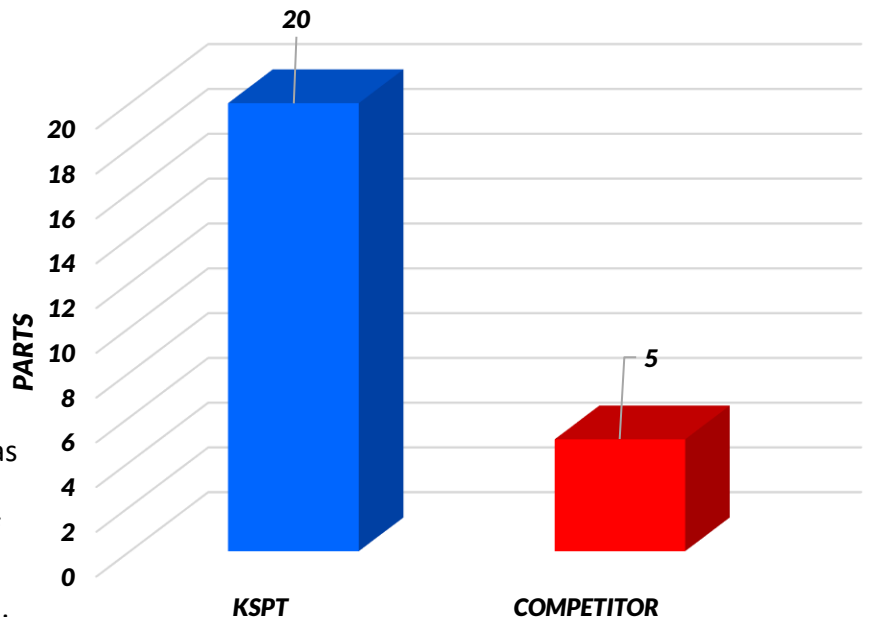
## STRATEGY

KSPT approached this job with a 4 flute Z-Carb high performance end mill. Due to its enhanced corner geometry and chatter suppression technology, KSPT's Z-Carb AP was able to capacitate higher speed and feed rates, while still producing an optimal finish.

	KSPT	COMPETITOR
TOOL DIAMETER	.500	.500
SPEED	2500 RPM	2500 RPM
FEED	50 IPM	50 IPM
RADIAL CUT (AE)	.1250"	.1250"
AXIAL CUT (AP)	.03	.03
CYCLE TIME	20 MINUTES	20 MINUTES



## PARTS PRODUCED BY A NEW TOOL

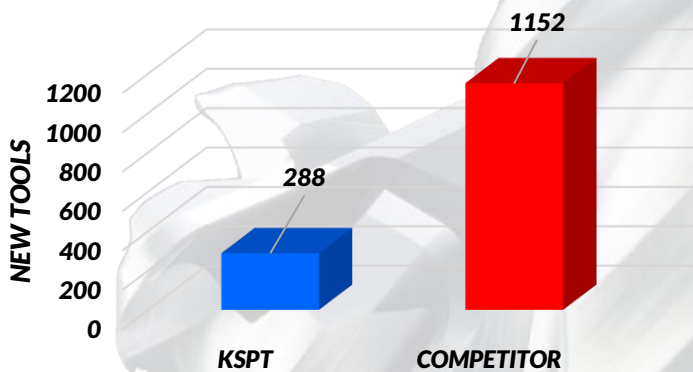


The Z-Carb AP was able to produce 4x the amount of parts as the competitor's tool.

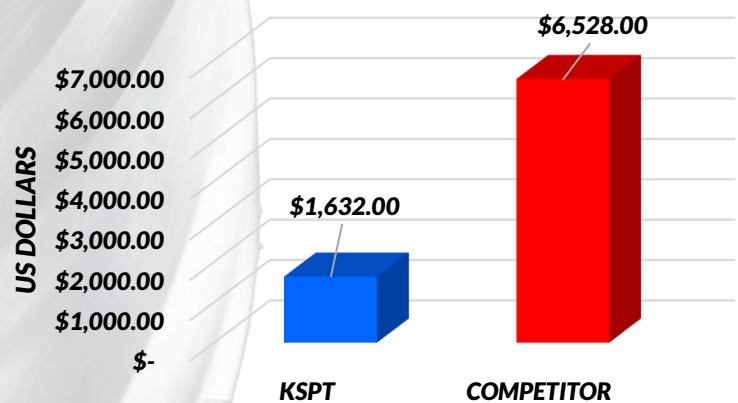
## RESULTS

Machining difficult-to-cut exotic metals like 15-5 PH stainless steel can result in premature, catastrophic tool failure due to heat generated during machining. This is a result, the customer was trying to avoid during this job. The Z-Carb AP (ZAP) was the tool the engineer decided to apply to this job. The decision was a good one. The ZAP was about to produce 4 times as many new parts as the competitor's tool. With less tools being used, the tool change cost was reduced by almost \$5,000. With the use of a higher quality tool, the total cost per part was reduced by close to 80%. Ultimately, when all was said and done, because of the higher quality Z-Carb, the customer experienced a total cost reduction of \$80,982.72!

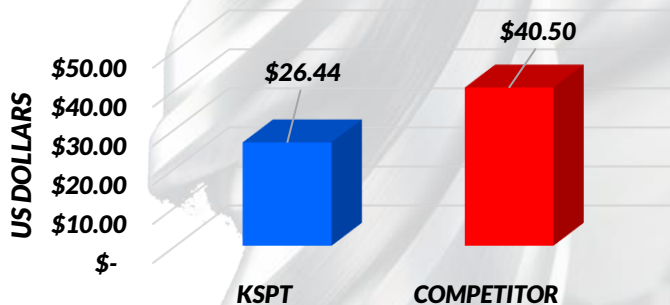
### NEW TOOLS REQUIRED TO COMPLETE THE JOB



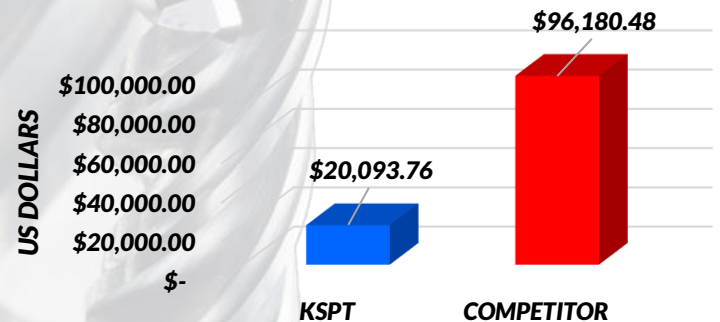
### TOOL CHANGE COST



### TOTAL COST PER PART



### TOTAL NEW TOOL COST



### TOTAL COST

