Z-Carb

Kyocera SGS Precision Tools Case Study

INDUSTRY

ENGINEERING

MATERIAL

4140 Forged Steel (22 HRC, Annealed)

PRODUCT

KSPT Z-Carb Advance Productivity End Mil

APPLICATION

Milling

COMPETITOR

4-Flute HP End Mill

COOLANT

Flood

TOOL INFORMATION

.3125” DIA / .8125” LOC / 3.0” OAL

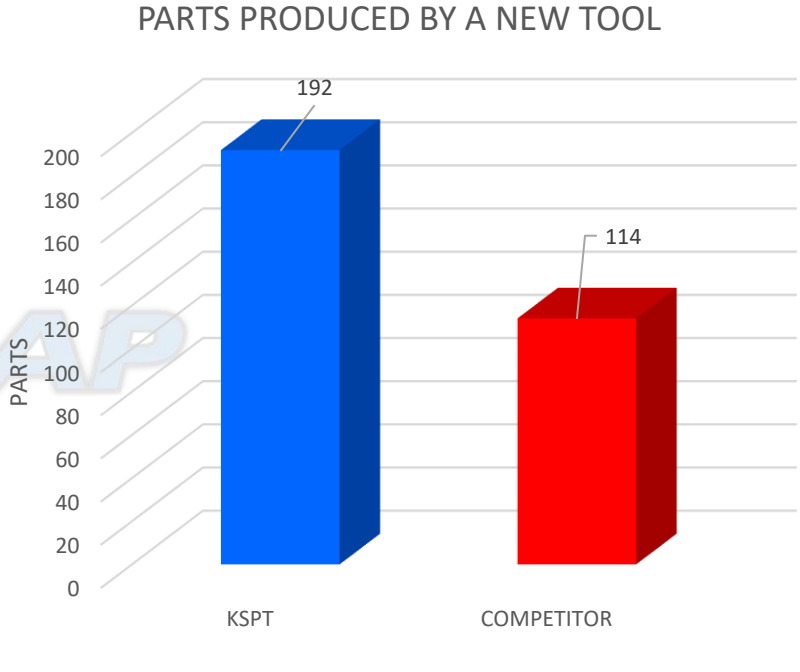
GOALS

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

STRATEGY

KSPT approached this job with a 4 flute Z-Carb advanced Productivity end mill. KSPT’s Z-Carb is widely known around the world for its unparalleled efficiency in cutting operations. It was the first and still the best variable geometry end mill on the market.

	KSPT	COMPETITOR
TOOL DIAMETER	.3125"	.3125"
SPEED	4262 RPM	4262 RPM
FEED	24.7 IPM	24.7 IPM
RADIAL CUT (AE)	.3125"	.3125"
AXIAL CUT (AP)	.250"	.250"



RESULTS

In its annealed state, 4140 forged steel can be a very machinable, if you have the proper tool. In this case, the Z-Carb Advanced Productivity end mill was that proper tool. Even though the Z-Carb and the competitor's tool were run at identical speeds and feeds, because the **Z-Carb is a higher quality tool**, the tool life exceeded the life of the competitor's tool. Every **one Z-Carb produced 40% more parts** than any one of the competitor's tools. Since the customer needed to produce 75,000 parts, they only needed to use 391 total Z-Carbs, while the competitor needed 658. Thus, the **tool change cost was reduced by 40%**. The customer, when evaluating the **total new tool cost, saved over $12,000**. **Ultimately, after using the Z-Carb, the customer saved a grand total of $14,602.25**