



Z-Carb-AP

Series ZAP

Material

Titanium Ti-6Al-4V

Part Type

Titanium Shells

SGS Product

1/4" Dia. 4 Flute, Corner Radius End Mill

Competitor Product

0.2500" Dia. 4 Flute Solid End Mill

Application

Milling: Semi Rough / Profiling

SGS Tool Information

- 0.2500" Cutting Dia.
- 0.7500" Length of Cut
- 2.5000" Overall Length
- TX (Ti-NAMITE-X) Coating
- EDP: [36601](#)

Goal

The customer aimed to reduce machining cycle time while increasing tool life to boost overall productivity and lower manufacturing costs.

Strategy

Upgraded from general purpose end mills to the Z-Carb AP, featuring variable helix, rake, and flute spacing for higher performance and stability. Although the tool cost was 70% higher, the goal was to offset it through improved efficiency and longevity.

Result

Testing proved highly successful. The Z-Carb AP doubled tool life and delivered a 10-minute cycle time reduction, resulting in 25% faster machining, 8% lower tool cost, and 25% lower cost per part. Overall, the customer achieved \$9,233 in total savings, validating the upgrade to a high-performance solution.



Learn more about the [Z-Carb-AP](#)

Total
Cost Savings
\$9,233

Machining
Cycle Time
↓ 25%

New
Tool Cost
↓ 8%

Cost
Per Part
↓ 25%

Tools	Cutting Dia. (DC)	RPM	SFM	IPM	IPR	Radial Depth (AE)	Axial Depth (AP)	Coolant
SGS Z-Carb-AP (4-Flute)	0.2500"	4584	300	18.34	0.0040	0.2017"	0.0500"	Flood
Competitor (4-Flute)	0.2500"	3820	250	15.28	0.0040	0.2017"	0.0500"	Flood

Cycle Time
↓ 25%

New Tool Cost
↓ 8%

Cost Per Part
↓ 25%

