



Z-Carb HPR

Series Z5C



Material

Stainless Steel - 304

Part Type

Components

SGS Product

1/2" Dia, 5 Flute, Corner Radius End Mill

Competitor Product

0.5000" Dia. 5 Flute End Mill

Application

Milling_Semi Rough-Profiling
33-5 Ae

SGS Tool Information

- 0.5000" Cutting Dia.
- 1.2500" Length of Cut
- 3.2500" Overall Length
- AlTiN (Ti-NAMITE-A) Coating
- EDP: [37195](#)

Goal

The customer was seeking an end mill to reduce cycle time while increasing tool life.

Strategy

SGS recommended testing a Z-Carb HPR with a larger radial stepover. By running at 25% radial engagement, the customer achieved improved tool life and stable cutting performance while enabling faster material removal.



Learn more about the Z-Carb HPR

Result

The implementation of the Z-Carb HPR resulted in a **87%** reduction in required cycle time. Total cost per part were reduced by **62%**, and total machining costs were reduced by **87%**. Overall, the customer achieved a total cost reduction of **62%**, generating annual savings of more than \$22,000.

Total Cost Savings
\$22,093

Machining Cycle Time
↓ 87%

Total Cost Per Part
↓ 62%

Total Machining Cost
↓ 87%

Tools	Cutting Dia. (DC)	RPM	SFM	IPM	IPR	Radial Depth (AE)	Axial Depth (AP)	Coolant
SGS Z-Carb-HPR (5-Flute)	0.5000"	2579	338	31.08	0.0121	0.1250"	1.0000"	Flood
Competitor (5-Flute)	0.5000"	2300	301	23.00	0.0100	0.0200"	1.0000"	Flood

Machining Cycle Time

↓ 87%

Total Cost Per Part

↓ 62%

Total Machining Cost

↓ 87%

