



## Z-Carb-HPR

### Series Z5C

**Material**  
Stainless Steel - 304SS

**Part Type**  
Plates

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

**Competitor Product**  
0.5000" Dia. 5 Flute

**Application**  
Milling Semi Rough-Profiling  
33-5 Ae

**SGS Tool Information**

- 0.5000" Cutting Dia.
- 1.0000" Length of Cut
- 3.0000" Overall Length
- AlTiN (Ti-NAMITE-A) Coating
- EDP: [38835](#)

### Goal

The customer aimed to increase tool life, reduce tool cost, and improve part quality and surface finish on a stainless steel plate application. They were open to evaluating an alternative end mill that could deliver better performance and value.

### Strategy

SGS was given the opportunity to test a Z-Carb HPR against a competitors 5-flute endmill. The Z-Carb HPR was run at the same axial and radial depths of cut while increasing speed and feed rates, allowing for improved performance without changing the customer's existing process.

### Result

The Z-Carb HPR increased tool life while reducing milling time and improving overall part quality. Machining cycle time was reduced by **33%**, new tool cost decreased by **51%**, and cost per part dropped by **38%**, resulting in total cost savings of **\$12,822**.



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

Total  
Cost Savings  
**\$12,822**

Machining  
Cycle Time  
**↓ 33%**

New  
Tool Cost  
**↓ 51%**

Cost  
Per Part  
**↓ 38%**

Tools	Cutting Dia. (DC)	RPM	SFM	IPM	IPR	Radial Depth (AE)	Axial Depth (AP)	Coolant
SGS Z-Carb-HPR (5-Flute)	0.5000"	3000	393	43.95	0.0147	0.0500"	0.8050"	Flood
Competitor (5-Flute)	0.5000"	2000	262	36.00	0.0180	0.0500"	0.8050"	Flood

Cycle Time  
**↓ 33%**

New Tool Cost  
**↓ 51%**

Cost Per Part  
**↓ 38%**

