



Z-Carb Series Z1S

Material
Steel - 1018

Part Type
Plate Groove

SGS Product
11/32" Dia, 4 Flute, Square End Mill

Competitor Product
0.3438" Dia. 4 Flute

Application
Milling: Slotting

SGS Tool Information

- 0.3438" Cutting Dia
- 0.8130" Length of Cut
- 2.5000" Overall Length
- TX(Ti-NAMITE-X) Coating
- EDP: [36422](#)

Goal

The customer aimed to increase tool life while reducing cycle time and overall part cost, without sacrificing quality or finish on their machined components.

Strategy

By implementing the Z-Carb series cutter with its superior geometry, we optimized the process to take a deeper axial cut, double the previous depth, while leveraging the capabilities of their new machining center. This allowed the tool to fully utilize its intended geometry for maximum performance.

Result

The new process significantly increased tool life, enabling longer runs between tool changes. This improvement led to a noticeable decrease in tooling costs and reduced overall cycle time. Additionally, the optimized cutting parameters enhanced part quality and surface finish.



Learn more
about the
Z-Carb

Total
Cost Savings
\$124,324

Machining
Cycle Time
↓ 93%

New
Tool Cost
↓ 81%

Cost
Per Part
↓ 90%

Tools	Cutting Dia. (DC)	RPM	SFM	IPM	IPR	Radial Depth (AE)	Axial Depth (AP)	Coolant
SGS Z-Carb (4-Flute)	0.3438"	5500	495	64.02	0.0116	0.3438"	0.2000"	Flood
Competitor (4-Flute)	0.3438"	2200	198	14.96	0.0068	0.3438"	0.1000"	Flood

Cycle Time
↓ 93%

New Tool Cost
↓ 81%

Cost Per Part
↓ 90%

