SGS Solid Carbide Tools

CUSTOMER SUCCESS

Aerospace | Other Super Alloy - Inconel 718 (AM)

Z-Carb-HPR

Series Z5C

Material
Other Super Alloy - Inconel 718 (AM)

Part Type
Hot Gas Manifold

SGS Product
3/4" Dia, 5 Flute, Corner Radius End Mill

Competitor Product
0.7500" Dia. 6 Flute

Application
Milling: Semi Rough / Profiling

SGS Tool Information
- 0.7500" Cutting Dia.
- 1.5000" Length of Cut
- 4.0000" Overall Length
- AlTiN (Ti-NAMITE-A) Coating
- EDP: 38642

Total Cost Savings **$12,131**

Machining Cycle Time **11%**

New Tool Cost **12%**

Cost Per Part **11%**

Goal

A customer requested a test of the Z-Carb HPR to reduce cycle time during part production.

Strategy

SGS application engineers replaced the competitor's tool with a 3/4" Z-Carb HPR end mill and increased the radial stepover from 10% to 12%. As a result of this adjustment, cycle time was reduced, and it's believed that further improvements in tool life or cutting parameters are possible with a change in the current toolholder.

Result

Implementation of the Z-Carb HPR led to a **11%** reduction in cycle time. New tool costs decreased by **12%**, and cost per part was reduced by **11%**. Overall, the customer achieved a **12%** total cost reduction, resulting in annual savings exceeding **$12,000**.

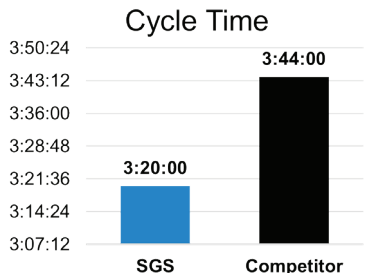
Learn more about the **Z-Carb HPR**

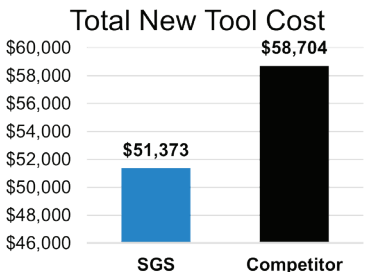
Tools	Cutting Dia. (DC)	RPM	SFM	IPM	IPR	Radial Depth (AE)	Axial Depth (AP)	Coolant
SGS Z-Carb-HPR (5-Flute)	0.7500"	404	79	6.06	0.0150	0.0900"	0.2250"	Coolant Through
Competitor (6-Flute)	0.7500"	458	90	9.34	0.0204	0.0750"	0.2250"	Coolant Through

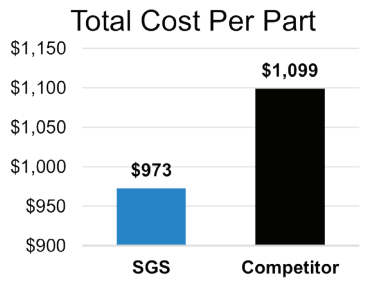
Machining Cycle Time **11%**

New Tool Cost **12%**

Cost Per Part **11%**







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