SGS Solid Carbide Tools

CUSTOMER SUCCESS

General Engineering | Stainless Steel - 303

Micro End Mill

Series M3S

Material
Stainless Steel - 303

Part Type
Name Plates

SGS Product
0.0310" Dia, 3 Flute, Square End Mill

Competitor Product
0.0310" Dia. 4 Flute

Application
Milling - Slotting 100 Ae

SGS Tool Information
- 0.0310" Cutting Dia.
- 0.0930" Length of Cut
- 1.5000" Overall Length
- AlTiN (Ti-NAMITE-A) Coating
- EDP: 01182

Goal

This hardware manufacturer wanted to improve cycle times, extend tool life, improve their part quality/finish and lower tool costs. To achieve this goal, KYOCERA SGS application engineers looked for a way to improve cutting parameters using a less expensive tool while maintaining excellent quality.

Strategy

By adding a Cool Speed Spindle Speeder to reach 28,000 RPM, and implementing a SGS 3-flute micro end mill, cycle time was decreased roughly 40% and a smoother, burr-free finish was achieved compared to the competitor tool at lower RPMs.

Result

The implementation of the Series M3S resulted in a **37%** reduction in machining cycle time. Total machining costs decreased by **37%**, and the cost per part was reduced by **36%**. Overall, the customer achieved a total cost reduction of **36%**, generating annual savings of more than **$39,000**.

Total Cost Savings **$39,333**

Machining Cycle Time **37%**

Machining Cost **37%**

Cost Per Part **36%**

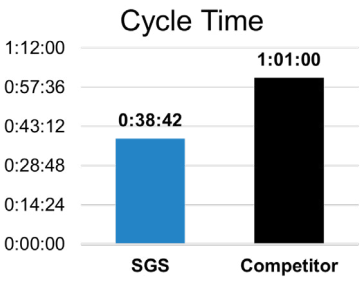
Learn more about the **Series M3S**

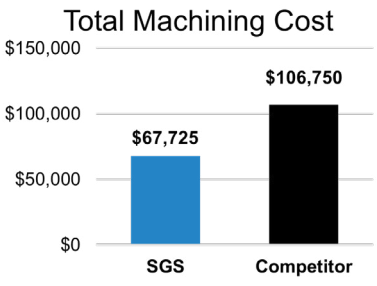
Tools	Cutting Dia. (DC)	RPM	SFM	IPM	IPR	Radial Depth (AE)	Axial Depth (AP)	Coolant
SGS Micro End Mill (3-Flute)	0.0310"	28000	227	9.49	0.0003	0.0310"	0.0120"	Flood
Competitor (4-Flute)	0.0310"	8000	65	4.00	0.0005	0.0310"	0.0120"	Flood

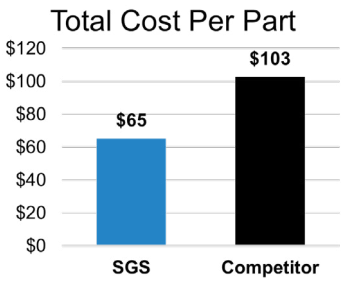
Machining Cycle Time **37%**

Machining Cost **37%**

Cost Per Part **36%**







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