



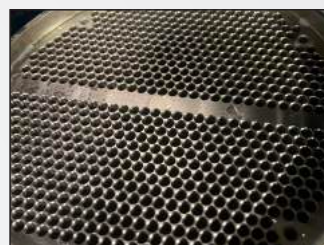
## Consistency is Key.

Our customer, who manufactures heat exchangers for the aerospace industry, was concerned about reaching the desired tool life on a consistent basis in order to be able to leave the machine and trust it will complete a part. Each part has 734 holes to be drilled at 0.750" (19.05 mm) deep, and their current tooling had an inconsistent tool life.

Knowing there had to be better options out there, the customer tested the **Superion Solid Carbide Drill** with HPS geometry and helical flutes that are ideal for drilling harder steels, high temp alloys, and stainless steel. Using the HPS geometry—designed to improve chip formation and reduce bell-mouth for longer drill depths—the customer gained consistent tool life.

In addition to achieving consistent tool life, the Superion drill also dramatically decreased the total part cycle time from over 6 hours to just under an hour at 46 minutes—an almost 90% decrease. The tool life paired with the decreased cycle time led to huge cost per hole savings of 56%.

Overall, the customer was won over by the large decrease in cycle time while maintaining a consistent tool life. **Call us to help you find the right tool for the job.**



| <b>Product:</b> Superion HPS Solid Carbide<br><b>Objective:</b> Gain consistent tool life<br><b>Industry:</b> Aerospace<br><b>Part:</b> Heat exchanger<br><b>Material:</b> 347 Stainless steel<br><b>Hole Ø:</b> 0.1285" (3.264 mm)<br><b>Hole Depth:</b> 0.750" (19.05 mm) | Measure   | Competitor Drill           | Superion Drill             |
|---|---|----------------------------|----------------------------|
|   | RPM   | 5856                       | 10,404                     |
|   | Speed Rate  | 197 SFM (60.046 M/min)     | 350 SFM (106.68 M/min)     |
|   | Feed Rate   | 0.0029 IPR (0.074 mm/rev)  | 0.003 IPR (0.076 mm/rev)   |
|   | Penetration Rate  | 16.98 IPM (431.292 mm/min) | 31.21 IPM (792.734 mm/min) |
|   | Total Part Cycle Time   | 6 hrs 16 mins              | 46 mins                    |
|   | Consistent Tool Life  | No                         | Yes                        |
|   | Superion offered <b>56.76%</b> cost per hole savings over the competitor tooling. |                            |                            |

► Superion Solid Carbide Drill  
HPS Geometry with Helical Flutes  
Item No. 201007-12

87.77%  
decrease in total  
part cycle time



The Superion Solid Carbide Drill with HPS geometry and helical flutes provided:

- ✓ Consistent tool life
- ✓ Decreased cycle time
- ✓ Decreased cost per hole