



Cutting on a curved surface?

Every application has its challenges, and some are more unusual than others. Our customer is generating a 3.1" (78.74 mm) x 3.1" (78.74 mm) square opening from solid in a 5/8" (15.875 mm) thick wall of a cylindrical tube.



This application posed many challenges with tooling for our customer, and no drill had worked for them previously. Adding to the challenge of drilling into a curved surface, the entry is at a 45° angle; our customer was previously using an endmill followed by a finishing endmill.

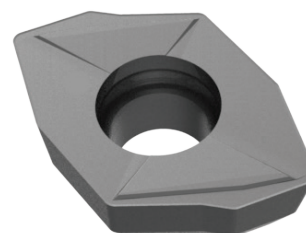
The customer decided to test the **4TEX Indexable Carbide Drill** using the "N" geometry with TiCN coating designed specifically for excellent chip formation in non-ferrous applications. The 4TEX accomplished this task by drilling several full diameter holes followed by "step over" passes to create a rough opening. The square opening is then cleaned up and finished by an endmill pass. Allied was able to double the tool life to 800 holes per insert and had substantially less stock removal than the previous operation when followed by the finishing endmill.

The 4TEX proved successful in this application, leaving the manufacturing engineer saying, "This is the best drill I've ever seen." Tool life increased by 100% while cycle time was decreased by 2 minutes. **Is your application unusual? Give us a call to help you find the right solution.**

| Product: 4TEX Drill Objectives: Successful interrupted cut Industry: Firearms Part: Tank – Cannon component Material: AMS-QQ-A-250/11 aluminum alloy, 6061-T651 Hole Ø: 1.0" (25.4 mm) Hole Depth: 0.625" (15.875 mm) | Measure | Competitor Endmill | 4TEX Drill |
|--|---|----------------------------|--------------------------|
| | RPM | 2037 | 6112 |
| | Speed Rate | 400 SFM (121.92 M/min) | 1600 SFM (487.68 M/min) |
| | Feed Rate | 0.015 IPR (0.381 mm/rev) | 0.006 IPR (0.152 mm/rev) |
| | Penetration Rate | 30.56 IPM (776.224 mm/min) | 36.6 IPM (929.64 mm/min) |
| | Tool Life | 400 holes | 800 holes |
| | The 4TEX Drill offered 97.39% cost per hole savings over the competitor tooling. | | |

- ▶ 4TEX Drill holder
3xD length
Item No. D3071000I-100F
- ▶ 4TEX Drill inserts
N geometry (non-ferrous)
Item No. 4T-070305-N

100%
tool life increase



The 4-sided indexable inserts with wear-resistant coating provided:

- ✓ Successful interrupted cut
- ✓ Increased tool life
- ✓ Worry-free machining

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