



Here's how you deal with interruptions.

Drilling stainless steel materials can be challenging, and that challenge gets amplified when the cut is interrupted. Our customer was machining coils from 316 stainless steel tubes. Using a vertical machining center, they drilled into the outer curved surface of the tubing. Sometimes the drilled holes were on the tubing centerline, but other times the holes were off-center, creating a severely interrupted cut on the angled surface.



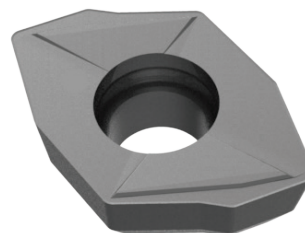
The customer's current tooling performed well enough to achieve the required cuts in other materials, but not in stainless. Then, when the tool experienced a catastrophic failure, the customer decided enough was enough.

They tested the **4TEX Indexable Carbide Drill** using the "M" geometry inserts with AM485 coating designed to resist heat and a higher rake geometry that provides excellent chip formation in stainless steels. The 4TEX performed exceptionally well in the angled cut, drilling every hole with consistent results: quiet operation, no chatter, excellent hole size and finish, no exit burrs, and ideal chip formation.

The customer was impressed with the 4TEX Drill's performance in the angled cut, and they were especially thrilled that the tooling cost 26.67% less than their previous solution. Some tools can handle interruptions, and some can't. **Find the right tool for your difficult applications** (for assistance, contact your local area Allied Field Sales Engineer).

Product:	4TEX® Drill	Measure	Competitor IC Drill	4TEX® Drill
Objectives:	(1) Eliminate tool failure (2) Successful operation in difficult interrupted cut	RPM	2058	2352
Industry:	Heat exchangers/tube sheets	Speed Rate	350 SFM (106.68 M/min)	400 SFM (121.92 M/min)
Part:	Coils	Feed Rate	0.002 IPR (0.0508 mm/rev)	0.0024 IPR (0.061 mm/rev)
Material:	316 Stainless Steel Tube	Penetration Rate	4.1 IPM (104.14 mm/min)	5.6 IPM (142.24 mm/min)
Thickness:	0.375" (9.525 mm)	Cycle Time	5 sec	4 sec
Hole Ø:	0.650" (16.50mm)	Tool Failure	Yes	No
4TEX offered 26.67% tooling cost savings over the competitor tooling.				

- ▶ 4TEX Drill holder
3xD length
Item No. D3051650M-100F
- ▶ 4TEX Drill inserts
M geometry (stainless steel)
Item No. 4T-05T203-M



The 4-sided indexable inserts with heat-resistant coating and higher rake geometry provided:

- ✓ Eliminated tool failure
- ✓ Successful results in difficult conditions
- ✓ Decreased tooling costs
- ✓ Worry-free machining

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