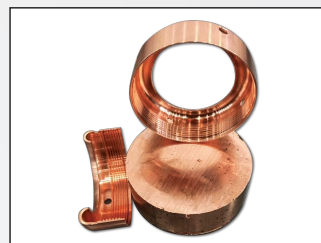




The good kind of ‘when it rains, it pours.’

Reliability and cycle time are key if you’re running lights-out. Our customer’s machinists set up their machines during the day to run unmanned and unwatched the remainder of the shift. They were machining electrical harness mounts from copper 110, and their tooling seemed to be performing well enough. However, when they saw an opportunity to potentially increase their penetration rates, they decided to investigate.



The customer tested the **4TEX Indexable Carbide Drill** using the “N” geometry—designed specifically for non-ferrous materials—with a TiCN coating giving them high lubricity. Originally, the customer was hoping for a 15% increase in penetration rate. The 4TEX blew past that expectation and increased the penetration rate by 158%. Along with that, the 4TEX decreased cycle time by 63%, all while providing a reliable process that produced better chips in a very difficult chip-forming material.

Already thrilled with the results, the customer also achieved improved tool life with the 4TEX. In fact, the previous tooling provided 50 parts per index, but the 4TEX crushed that number with 150 parts per index (a 200% increase in life).

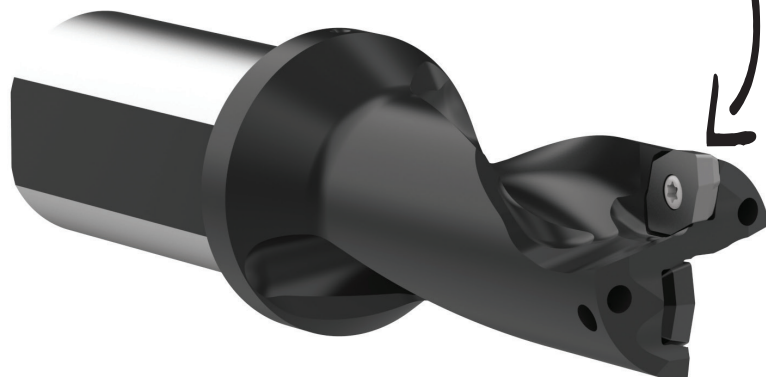
When testing began, the customer was hoping for a slight increase in penetration rate while maintaining their tool life. When all was said and done, the 4TEX Drill had not only drastically increased penetration rate, it had also decreased cycle time, increased tool life, and improved chip formation. **Sometimes, when it rains, it pours – and that doesn’t always have to be a bad thing.**

		Measure	Competitor IC Drill	4TEX® Drill
Product:	4TEX® Drill			
Objectives:	(1) Increase penetration rate by 15% (2) Maintain tool life	RPM	978	1146
Industry:	Renewable energy/energy (electrical)	Speed Rate	320 SFM (97.536 M/min)	375 SFM (114.3 M/min)
Part:	Electrical harness mount	Feed Rate	0.0055 IPR (0.1397 mm/rev)	0.012 IPR (0.3048 mm/rev)
Material:	Copper 110	Penetration Rate	5.3 IPM (134.62 mm/min)	13.7 IPM (347.98 mm/min)
Hole Ø:	1.250" (31.75 mm)	Cycle Time	22 sec	8 sec
Hole Depth:	2.000" (50.8 mm)	Tool Life	50 parts	150 parts

▶ 4TEX Drill holder
2xD length
Item No. D2091250I-125F

▶ 4TEX Drill inserts
N geometry (non-ferrous materials)
Item No. 4T-09T306-N

200% tool life increase



The 4-sided indexable inserts with non-ferrous geometry provided:

- ✓ Increased penetration rate
- ✓ Decreased cycle time
- ✓ Increased tool life
- ✓ Worry-free machining

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