



Hardcut™ Plus TiSiN



Advanced Arc Technology

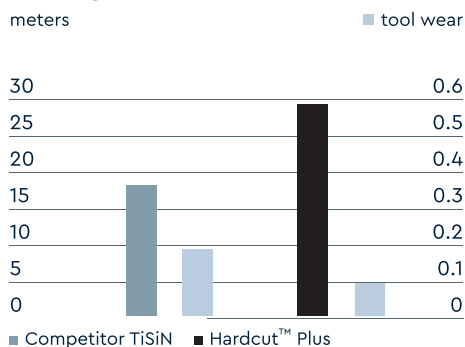
Ionbond has developed a new series of premium cutting tool coatings using an advanced arc technology. The new process deposits the coatings at far higher energy levels than possible with conventional arc sources. The coatings have a significantly increased density, which leads to improved abrasion resistance and reduced tendency for chipping at the edge of the cutting tool. It has fewer growth defects resulting in a smoother surface, which can be further improved with the appropriate post treatment.

The cutting performance is enhanced due to the highly controlled compositions and internal stress gradients. The coatings are suitable for HSS and tungsten carbide tools and show the increased performance in dry and wet machining.

Hardcut™ Plus

Hardcut™ Plus, a TiSiN based multi-layer coating, has been developed for high speed end-milling and gear hobbing of the hardest and toughest materials including exotic nickel and titanium alloys under low lubrication and dry conditions. It performs best on tungsten carbide tools where it withstands temperatures of up to 1100°C at the cutting edge.

Milling



Technical Data

Material	TiSiN
Technology	PVD Advanced Arc
Thickness range	2 - 4 µm
Microhardness HV 0.02	3800
Friction vs. steel (dry)	0.4
Max. service temperature	1100°C
Process temperature	450 - 500°C
Color	Copper

Coating Performance

Tool	CC end mill
Dimension	Ø 16mm
Workpiece material	1.4418
Cutting speed m/min	180
Machining condition	low lubrication
Source of data	costumer