High Performance Coatings for Milling Applications

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In addition to standard coatings for milling applications (TiN, TiAlN, TiCN…) IonBond offers a targeted range of high performance coatings from our Innovative Performance Coating (IPC) portfolio specifically designed for milling applications.

IPC coatings are designed to offer properties and performance tailored to respond to the needs of specific milling conditions and to provide maximum productivity and optimal machine-tool use.

High Advance Roughing with IonBond Dominizer
IonBond Dominizer combines the exceptional performance characteristics of our high aluminum content AlTi based coatings with the high oxidation resistance and low frictional properties of chromium. The key to Dominizer's exceptional performance is its excellent hot hardness and elevated oxidation stability (1000ºC). IonBond Dominizer is especially suited towards machining stainless steels, cast iron and steels having a hardness of 30-45 HRC.

Efficient Semi-Finishing and Finishing with IonBond Maximizer Nano
IonBond Maximizer is a multi-layer, nano-composite coating which gives excellent results in high speed milling of nickel alloys and alloyed steels having a hardness of 40-50 HRC. The multi-layer structure reduces crack propagation and the excellent ductility makes coated tools less susceptible to chipping.

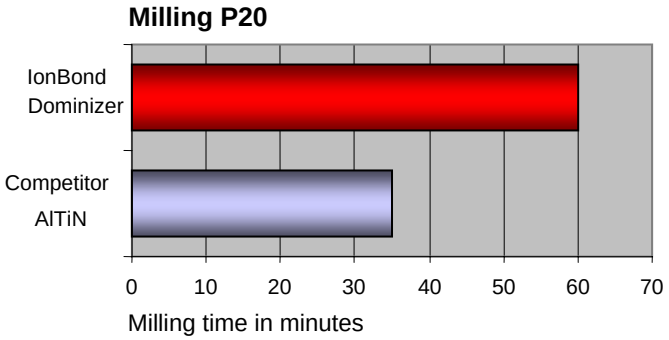
Hard Milling and High Performance Finishing with IonBond HardCut
The IonBond HardCut coating is ideal for high speed, high efficiency machining of hardened steels (typically HRC 50 and above), especially hot forging and die steels. The coating is designed for carbide tools and for severe machining conditions, especially finishing and semi-finishing operations that involve high temperatures at the chip/cutting edge interface. The surface properties protect the cutting edge against heat transfer, oxidation and abrasion.

IonBond has over 50 coating centers worldwide. To find the coating center closest to you, please visit www.ionbond.com or write us info@ionbond.com.

Performance Results - Milling

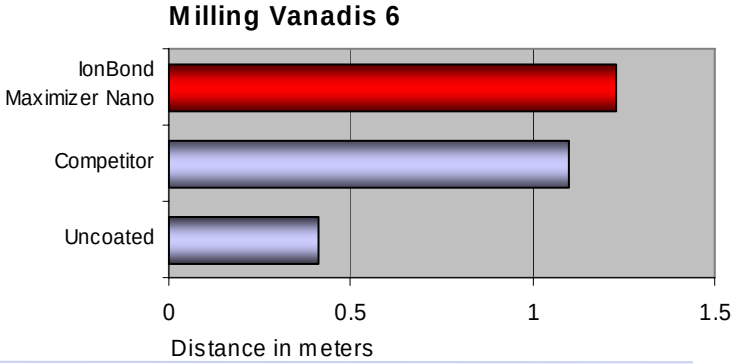
IonBond Dominizer

Tool:	Solid carbide end mill Ø 12mm
Workpiece:	P20 / 1.2311 tool steel
Cutting Data:	Vc = 90m/min fz = 0.25 mm/tooth) Coolant: yes



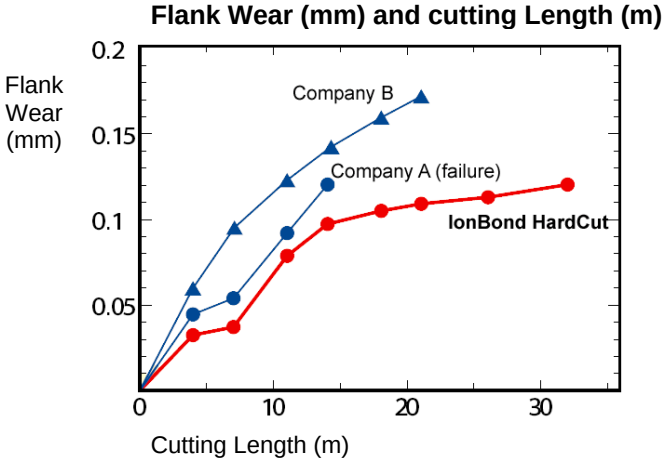
IonBond Maximizer Nano

Tool:	M42 Ø 10mm 3 flute end mill
Workpiece:	Vanadis 6 (X210CrVMo7-5)
Cutting Data:	Vc = 30 m/min 954 rpm Fz = 0.065 mm / tooth External lubrication



IonBond Hard Cut

Tool:	Solid carbide end mill, Ø 6mm
Workpiece:	X40CrMoV5 / SKD61 / H13 (50 HRC)
Cutting Data:	Vc = 60m/min Vf = 450mm/min (fz = 0.035mm/tooth) Air blow



IonBond Coating	Coating Structure	Thickness (microns)	Hardness (HV 0.05)	Oxidation Temp (°C / °F)	Coef. of Friction vs. Dry Steel	Color
IonBond Dominizer	AlTiCrN based	2 to 4	3100	1000 / 1830	0.3	Black Violet
IonBond MaximizerNano	AlTiN based	2 to 3	3400	900 / 1650	0.3	Gray Purple
IonBond HardCut	TiSi based	3.5 ± 1	3600	1200 / 2190	0.4	Bronze

Coating selection is application specific and selection criteria are dependent on process parameters. An IonBond Sales Engineer will help you choose the best coating to suit your needs. IonBond Global Headquarters are located in Olten, Switzerland. www.ionbond.com.