


HX5

For Hard Turning in continuous cuts | NTK CeramiX

NTK
CUTTING TOOLS





The ultimate ceramic grade for finishing hardened materials - "NTK CeramiX"

NTK developed this latest game changing ceramic material "NTK CeramiX" to replace CBN.

As a ceramic cutting tool specialist, NTK researches new advancements for ceramics in the industry. We are excited to introduce a new grade that matches CBN on performance.

NTK's CeramiX "HX5" grade provides a cost saving solution for hard turning applications.

HX5

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NTK CeramiX HX5

- Wins against CBN with the combination of performance and price.

Matches the excellent wear resistant characteristics of CBN
Significant cost savings compared to CBN

Key points

- NTK CeramiX is an advanced ceramic material achieving the performance to compete with CBN.
- New TiAlN coating offers excellent wear resistance for hard turning.
- In continuous machining materials with a hardness of 55 to 65 HRC, HX5 matches the performance of CBN with the benefit of cost reductions.

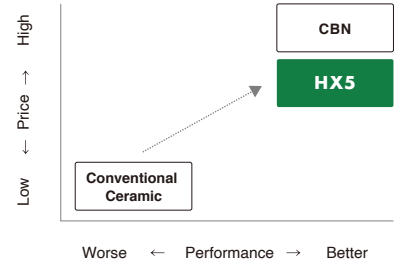
Application area

Hard Turning with continuous cut Hardness range : HRC 55 to 66

Recommended Cutting conditions

Grade	Material	Application	Process	Cutting Speed (SFM)	Feed (IPR)	DOC (inch)	Without coolant	With coolant
HX5	Hardened materials (HRC55 to 65)	Turning	Finishing	330-660	.003-.006	.004-.020	●	●
				The same conditions as current CBN				

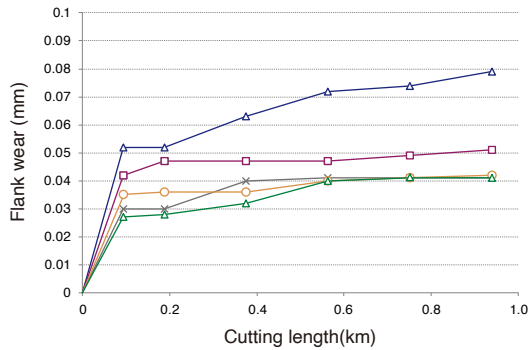
Price and Performance comparison



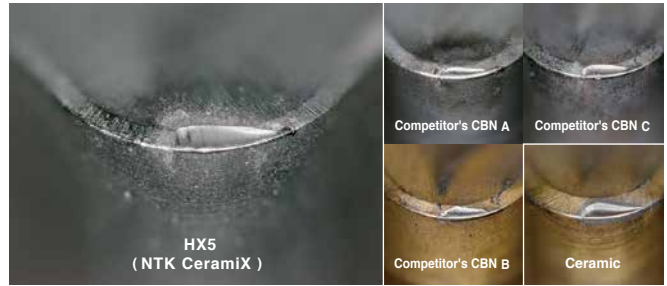
Material characteristic

Grade	Coating	Density (g/cm ³)	Bending Strength (MPa)	Hardness (Hv)	Fracture Toughness (Mpa · √m)	Structure
HX5	TiAlN Specialized for HX5	7.5	1200	2290	5.7	
Conventional Ceramic	TiN	4.6	1100	2060	4.3	

Wear comparison vs. CBN



500 SFM
.004 IPR
.008 DOC
With coolant
Material : 4120
(HRC62 – 64)



Insert Item List












Geometry	Unit : 1pc/case *		Unit : 10pcs/case *		Corner R (inch)	Grade	Dimensions (inch)			
	EDP	Item number	EDP	Item number			HX5	IC	Thickness	Edge preparation
	5106125	CNGA 431X03	5109186	CNGA 431X03 -10	.016	●	1/2	3/16	.004×15° + Honed edge	
	5106117	432X03	5109194	432X03 -10	.031	●				
	5106091	433X03	5109202	433X03 -10	.047	●				
	5106083	DNGA 431X03	5109236	DNGA 431X03 -10	.016	●				
	5106075	432X03	5109301	432X03 -10	.031	●				
	5106042	433X03	5109327	433X03 -10	.047	●				
	5106034	TNGA 331X03	5109343	TNGA 331X03 -10	.016	●	3/8	3/16	.004×15° + Honed edge	
	5106026	332X03	5109392	332X03 -10	.031	●				
	5106018	333X03	5109418	333X03 -10	.047	●				
	5106000	VNGA 331X03	5109426	VNGA 331X03 -10	.016	●				
	5105994	332X03	5109434	332X03 -10	.031	●				
	5105986	333X03	5109442	333X03 -10	.047	●				

* Please order Qty. you need in either item number. Insert case is the only difference.



NTK Cutting Tools USA

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