

# 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

For Hard Turning in continuous cuts | NTK CeramiX

# 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.

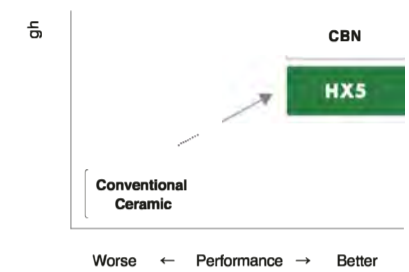
### Application area

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

### Recommended Cutting conditions

Grade	Material	Application	Process	Cutting speed (m/min)	Feed (mm/rev)	DOC (mm)	Without coolant	With coolant
HX5	Hardened materials (HRC55 to 65)	Turning	Finishing	100-200	0.08-0.15	0.1-0.5	●	●
The same conditions as current CBN								

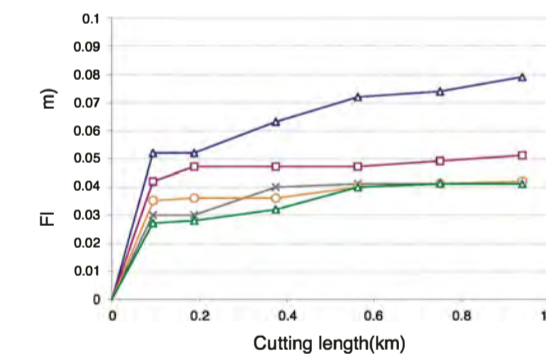
### Price and Performance comparison



### Material characteristic

Grade	Coating	Density (g/cm <sup>3</sup> )	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



### Insert Item List

Geometry	Unit : 1pc/case #			Unit : 10pcs/case #			Grade	Dimensions (mm)		
	EDP	Item number		EDP	Item number			Corner R (mm)	IC	Thickness (mm)
	5106125	CNGA 120404 X03		5109186	CNGA 120404 X03-10		●	12.7	4.76	0.1x15° Honed edge
	5106117	120408 X03		5109194	120408 X03-10		●			
	5106091	120412 X03		5109202	120412 X03-10		●			
	5106083	DNGA 150404 X03		5109236	DNGA 150404 X03-10		●	9.525	4.76	0.1x15° Honed edge
	5106075	150408 X03		5109301	150408 X03-10		●			
	5106042	150412 X03		5109327	150412 X03-10		●			
	5106034	TNGA 160404 X03		5109343	TNGA 160404 X03-10		●	9.525	4.76	0.1x15° Honed edge
	5106026	160408 X03		5109392	160408 X03-10		●			
	5106018	160412 X03		5109418	160412 X03-10		●			
	5106000	VNGA 160404 X03		5109426	VNGA 160404 X03-10		●			
	5105994	160408 X03		5109434	160408 X03-10		●			
	5105986	160412 X03		5109442	160412 X03-10		●			

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