


# NTK450

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 "NTK450" grade provides a cost saving solution for hard turning applications.

# NTK450

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# NTK CeramiX NTK450

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

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

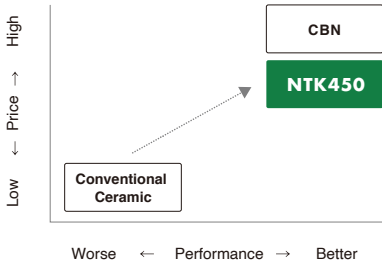
Key points

- 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, NTK450 matches the performance of CBN with the benefit of cost reductions.

Application area

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

Price and Performance comparison



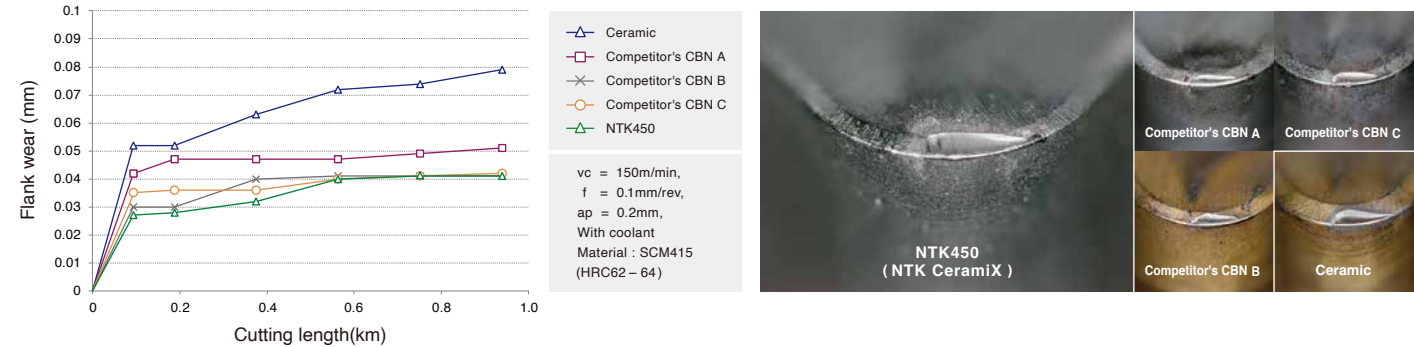
Recommended Cutting conditions

Grade	Material	Application	Process	Cutting speed (m/min)	Feed (mm/rev)	DOC (mm)	Without coolant	With coolant
NTK450	Hardened materials (HRC55 to 65)	Turning	Finishing	100-200	0.08-0.15	0.1-0.5		
				The same conditions as current CBN				

Material characteristic

Grade	Coating	Density (g/cm³)	Bending Strength (MPa)	Hardness (Hv)	Fracture Toughness (Mpa · √m)	Structure
NTK450	TiAlN Specialized for NTK450	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 *		Corner R (mm)	Grade	Dimensions (mm)		
	EDP	Item number	EDP	Item number		NTK450	IC	Thickness (mm)	Edge preparation
	5106125	CNGA 120404 X03	5109186	CNGA 120404 X03-10	0.4	●	12.7	4.76	0.1×15° + Honed edge
	5106117	120408 X03	5109194	120408 X03-10	0.8	●			
	5106091	120412 X03	5109202	120412 X03-10	1.2	●			
	5106083	DNGA 150404 X03	5109236	DNGA 150404 X03-10	0.4	●			
	5106075	150408 X03	5109301	150408 X03-10	0.8	●			
	5106042	150412 X03	5109327	150412 X03-10	1.2	●			
	5106034	TNGA 160404 X03	5109343	TNGA 160404 X03-10	0.4	●	9.525	4.76	0.1×15° + Honed edge
	5106026	160408 X03	5109392	160408 X03-10	0.8	●			
	5106018	160412 X03	5109418	160412 X03-10	1.2	●			
	5106000	VNGA 160404 X03	5109426	VNGA 160404 X03-10	0.4	●			
	5105994	160408 X03	5109434	160408 X03-10	0.8	●			
	5105986	160412 X03	5109442	160412 X03-10	1.2	●			

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



**NTK CUTTING TOOLS JAPAN**

Iwasaki, Komaki, Aichi 485-8510, Japan



Official Website

[www.ntkcuttingtools.com/jp/](http://www.ntkcuttingtools.com/jp/)



YouTube Channel

[www.youtube.com/NTKCUTTINGTOOLS](http://www.youtube.com/NTKCUTTINGTOOLS)



LINE Technical consultation @ntktech



Contact us

[ntkcuttingtools@mg.ngkntk.co.jp](mailto:ntkcuttingtools@mg.ngkntk.co.jp)

