

# NTK450

For Hard Turning in Continuous Cuts | NTK CeramiX

**NTK**  
CUTTING TOOLS



# The ultimate ceramic grade for finish turning of hardened materials - NTK CeramiX 450

Our latest game changing ceramic material "NTK CeramiX" developed 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 "450" grade is a cost saving solution for hard turning applications.

## NTK450

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# NTK CeramiX 450

## New cost saving option for hard turning applications

## Significant tooling cost reduction compared to CBN

### Key points

- New TiAlN coating offers excellent wear resistance for hard turning.
- The best option when a balance of tool cost and performance is essential, like small production runs.

### Application area

Continuous hard turning cuts Hardness range: 55 to 66 HRC

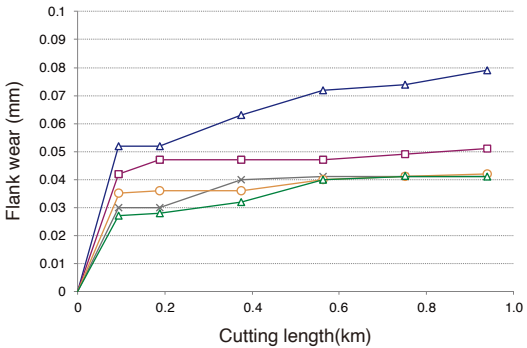
### Recommended Cutting Conditions

Grade	Material	Application	Process	Cutting Speed (SFM)	Feed (IPR)	DOC (inch)	Without coolant	With coolant
NTK450	Hardened materials (55 to 65 HRC)	Turning	Finishing	330-660	.003-.006	.004-.020	●	●
				The same conditions as current CBN				

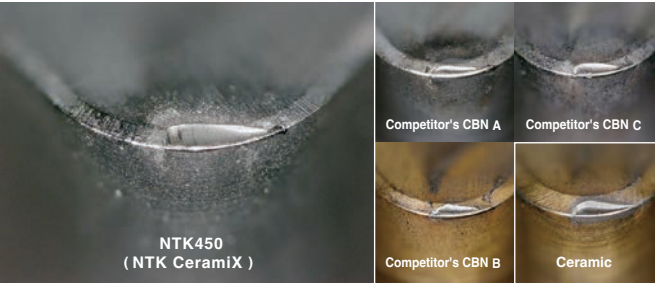
### Material characteristic

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



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

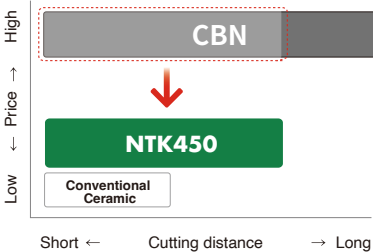


### Insert Item List

Geometry	Unit : 1pc/case *		Unit : 10pcs/case *		Corner R (Inch)	Grade	Dimensions (Inch)		
	EDP	Item number	EDP	Item number		NTK450	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	●	3/8	3/16	.004×15° + Honed edge
	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	●	3/8	3/16	.004×15° + Honed edge
	5105994	332X03	5109434	332X03 -10	.031	●			
	5105986	333X03	5109442	333X03 -10	.047	●			

※ Please order with EDP and Item Number that corresponds to desired package quantity.

### Price and Performance Comparison







**NTK Cutting Tools USA**

46929 Magellan Dr., Wixom, MI 48393 U.S.A.

	Official Website	<a href="http://www.ntkcuttingtools.com">www.ntkcuttingtools.com</a>	
	YouTube Channel	<a href="http://www.youtube.com/NTKCUTTINGTOOLS">www.youtube.com/NTKCUTTINGTOOLS</a>	
	LinkedIn	<a href="http://www.linkedin.com/company/ntk-cutting-tools">www.linkedin.com/company/ntk-cutting-tools</a>	
	Facebook	<a href="http://www.facebook.com/NTKUS">www.facebook.com/NTKUS</a>	

	Instagram	<a href="http://www.instagram.com/ntk_cuttingtools/">www.instagram.com/ntk_cuttingtools/</a>	
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	Contact us	<a href="mailto:ctinfo@ntktech.com">ctinfo@ntktech.com</a>
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Please note that specifications of the products listed in this brochure may be changed without notice due to continuous research & development and product improvements.

This brochure lists products as of September 2022

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