



KS6015 KS6050 / CS7050

Silicon Nitride Ceramic for Cast Iron



Efficient and Reliable Cast Iron Machining

Prevents chipping during scale removal and interrupted cuts
Excellent wear resistance with reduced grain boundary phase

- NEW** **KS6015** Wear Resistant Machining
- KS6050** General Purpose and Interrupted Machining
- CS7050** High Speed Machining



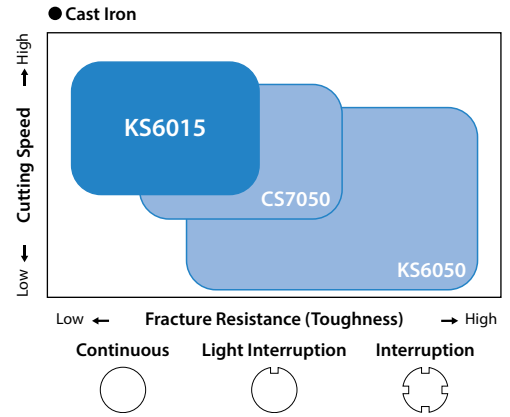
NEW **KS6015**

KS6015 NEW

Wear Resistant Machining

Crystallization of grain boundary phase improves thermal conductivity

Excellent wear resistance with reduced heat at the cutting edge



1 Excellent Wear Resistance

Crystallization of Grain Boundary Phase Provides Better Temperature Strength and Wear Resistance

Grain Boundary Phase Comparison

KS6015

- The grain boundary phase is crystallized
- Increased temperature strength prevents deterioration
- Improved thermal conductivity

Si_3N_4

Crystallization

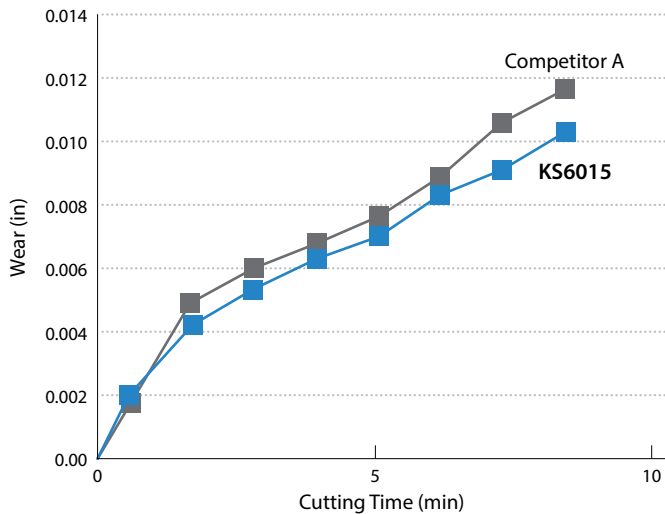
Conventional Grade A

- The grain boundary phase is vitrified
- Deteriorated by softening due to high temperature

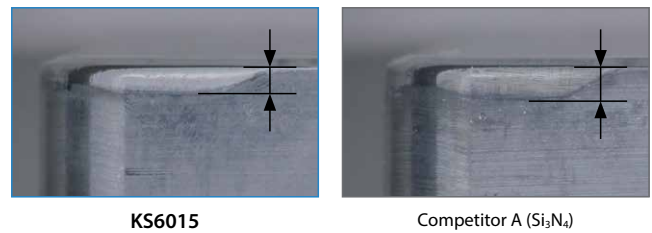
Si_3N_4

Glass

Wear Resistance Comparison (Internal Evaluation)



Cutting Edge Comparison (after 8.5 min)



Good Surface Condition

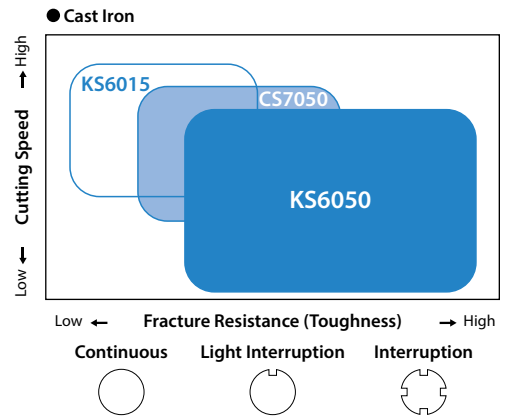
Cutting Conditions: $V_c = 1,970$ sfm, D.O.C. = 0.079", $f = 0.012$ ipr, Dry
Workpiece: NO.45



KS6050

1st Recommendation for General Purpose and Interrupted Machining

High fracture resistance and wear resistance by reducing the grain boundary phase and high aspect ratio structure of Si_3N_4

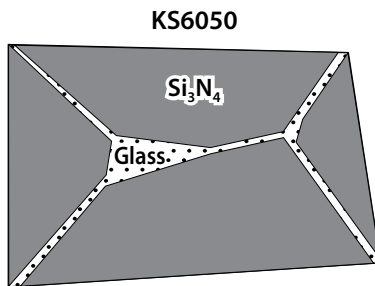


1 Stable Machining of Cast Iron

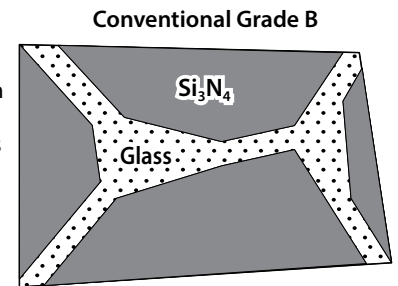
High fracture resistance and wear resistance by reducing the grain boundary phase and high aspect ratio structure of Si_3N_4

Grain Boundary Phase Comparison

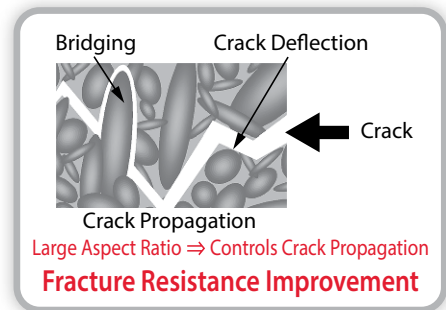
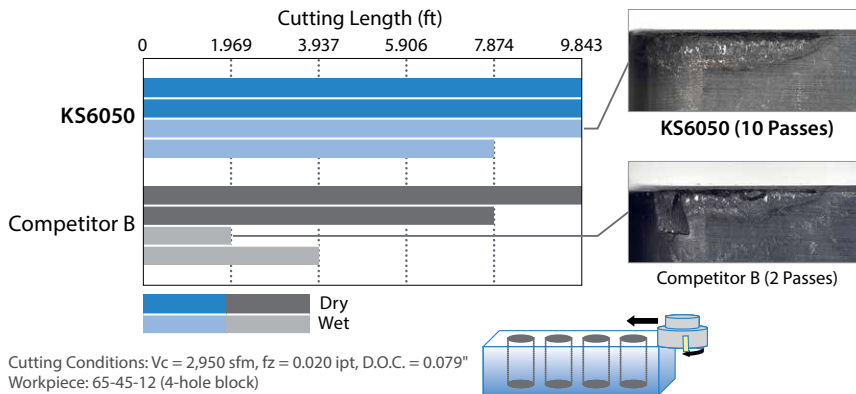
- Mechanical and thermal property is improved by controlling grain boundary phase



- The grain boundary phase contained a high proportion of glass, therefore its toughness will be weakened by cutting heat



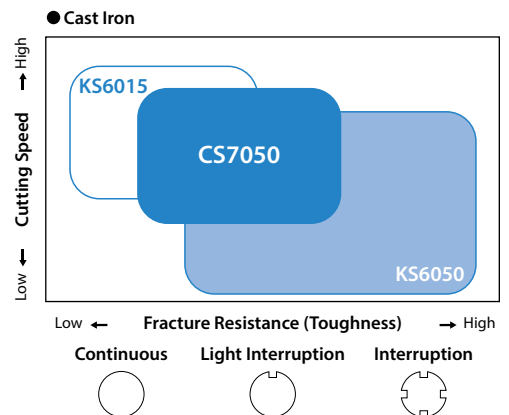
Fracture Resistance Comparison (Internal Evaluation)



CS7050

High Speed Machining

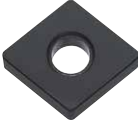
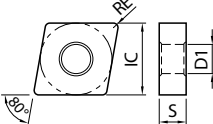

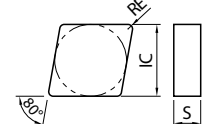

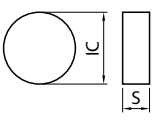

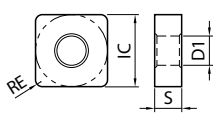

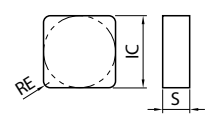

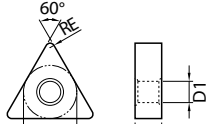

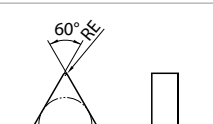
Improved coating adhesion provides better wear resistance



1 For High Speed Finishing of Cast Iron

Silicon nitride ceramic with CVD coating
Ensures a higher level of productivity

Inserts

Shape		Part Number	Edge Prep.	Dimensions (in)				Silicon Nitride Ceramic		CVD Coated Silicon Nitride Ceramic
				IC	S	D1	RE	KS6015	KS6050	CS7050
		CNGA 432T00825	T00825	1/2	3/16	0.203	1/32	●	●	●
		433T00825					3/64		●	●
		CNG 432T00825	T00825	1/2	3/16	-	1/32	●	●	●
		433T00825					3/64	●	●	●
		434T00825					1/16		●	
		RNG 43T00825	T00825	1/2	3/16	-	-	●	●	●
		RNG 45T00825	T00825	1/2	5/16	-	-	●	●	●
		SNGA 432T00825	T00825	1/2	3/16	0.203	1/32	●	●	●
		433T00825					3/64	●	●	●
		434T00825					1/16	●	●	●
		SNG 432T00825	T00825	1/2	3/16	-	1/32	●		
		433T00825					3/64	●	●	●
		434T00825					1/16	●	●	●
		435T00825					5/64	●	●	●
		SNG 454T00825	T00825	1/2	5/16	-	1/16	●	●	●
		TNGA 332T00825	T00825	3/8	3/16	0.150	1/32	●	●	●
		333T00825					3/64	●	●	●
		TNG 332T00825	T00825	3/8	3/16	-	1/32	●	●	
		333T00825					3/64	●		

● : Standard Item

Inserts sold in 10 piece boxes



KYOCERA Precision Tools

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