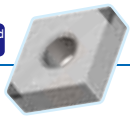
BN7125 NEW/BN7115

Features

Improved wear resistance through high CBN content. Further, with improved CBN particle/binder boundary strength due to the special binder and improved binding strength between CBN particles thanks to our proprietary sintering process, excellent fracture resistance is achieved.Provides stable performance for high-speed machining of cast iron and sintered alloy.

BN7125 NEW

K Sintered Alloy

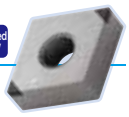


General-purpose Grade for Cast Iron/
Sintered Alloy Machining

- High-efficiency machining of sintered alloy with the standard cutting edge + 3 variations
- Excellent thermal crack resistance in high-speed finishing of cast iron
- Also supports the machining of exotic alloys such as rolls, HSS, heat-resistant alloys, etc.

BN7115

Sintered Alloy

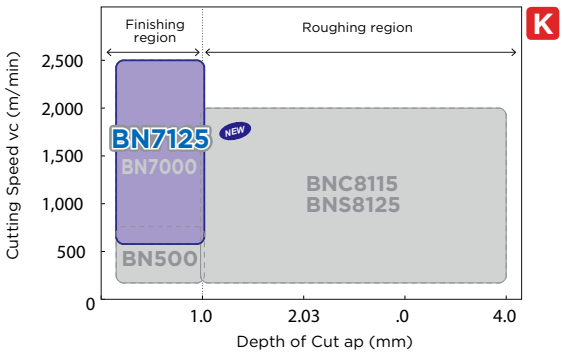


Grade for Finishing Sintered Alloy

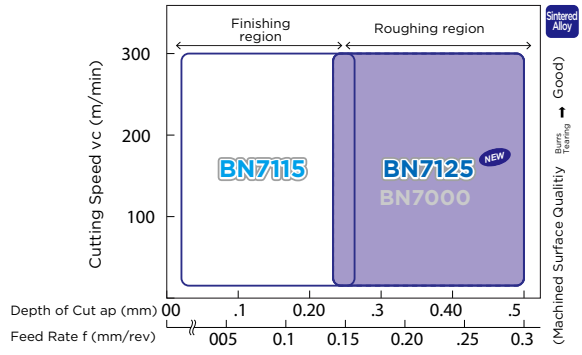
- Achieves both excellent cutting edge sharpness and fracture resistance
- Stable edge sharpness suppresses burrs and tearing

Application Range for BN7125 / BN7115

Cast Iron



Sintered Alloy



Recommended Cutting Conditions

Cast Iron — K

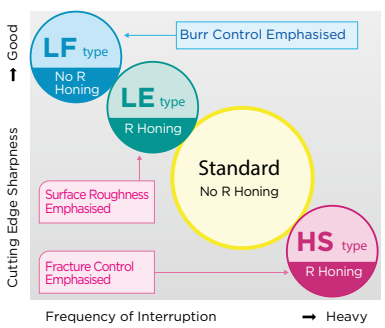
Work Material	Grade	Recommended Cutting Conditions Min. - **Optimum** - Max.		
		Cutting Speed vc (m/min)	Feed Rate f (mm/rev)	Depth of Cut ap (mm)
Cast Iron	BN7125	100-**1,000**-2,500	0.05-**0.30**-0.60	0.05-**0.50**-1.00

Sintered Alloy — Sintered Alloy

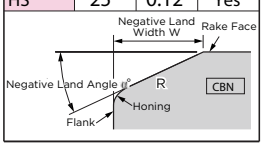
Work Material	Grade	Recommended Cutting Conditions Min. - **Optimum** - Max.		
		Cutting Speed vc (m/min)	Feed Rate f (mm/rev)	Depth of Cut ap (mm)
General	BN7115	10 - **150** - 300	0.01 - **0.08** - 0.15	0.05 - **0.13** - 0.25
Sintered Alloy	BN7125	10 - **150** - 300	0.01 - **0.15** - 0.30	0.05 - **0.25** - 0.50
High-density	BN7115	10 - **100** - 200	0.01 - **0.06** - 0.12	0.05 - **0.10** - 0.20
Sintered Alloy	BN7125	10 - **100** - 200	0.01 - **0.15** - 0.30	0.05 - **0.25** - 0.50

Recommended Cutting Edge Treatment

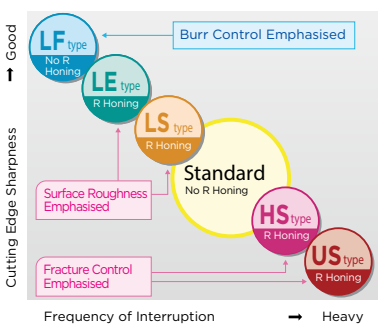
BN7125



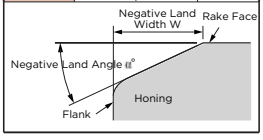
Type	α°	W(mm)	Honing
Standard	15°	0.12	No
LF	--		No
LE	--		Yes
HS	25°	0.12	Yes



BN7115

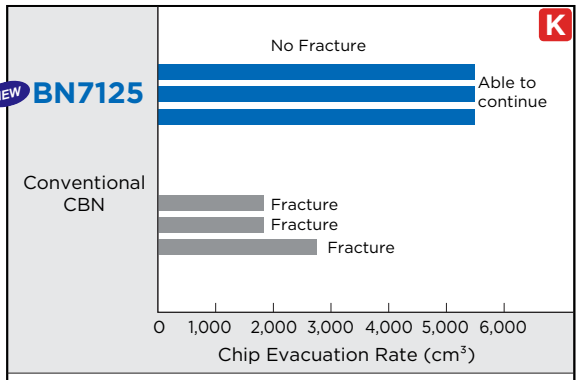


Type	α°	W(mm)	Honing
Standard	15°	0.12	No
LF	-	-	No
LE	-	-	Yes
LS	15°	0.07	Yes
HS	25°	0.05	Yes
US	25°	0.12	Yes



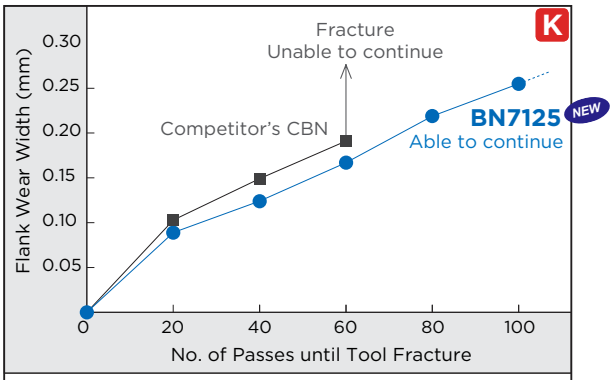
Cutting Performance (Cast Iron)

BN7125 Milling (Fracture Resistance)



Work Material : FC250 (Pearlite)
Tool : FMU408R, Insert: SNEW1203ADTR
Cutting Condition : vc = 1,500m/min fz = 0.13mm/t ap = 0.3mm Remainder Wet

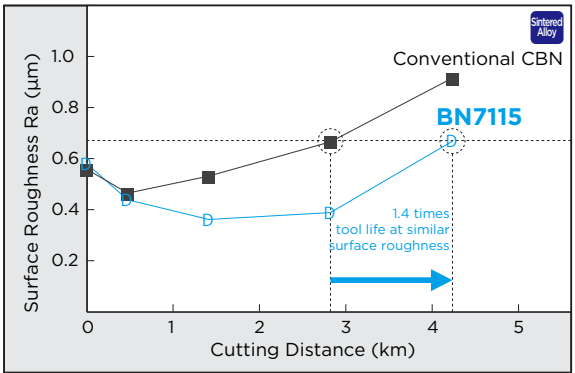
BN7125 Interrupted Cutting (Fracture Resistance)



Work Material : FC250 with 6 grooves
Tool : 2NU-CNGA120408
Cutting Condition : vc = 750m/min f = 0.15mm/rev ap = 0.2mm Wet

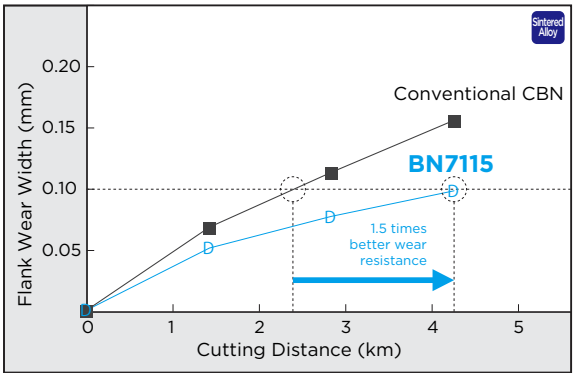
Cutting Performance (Sintered Alloy)

BN7115 Continuous Cutting (Surface Roughness)

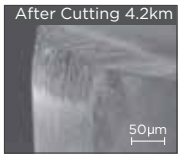


Work Material : Sintered Alloy F-08C2 equivalent (150HV)
Tool Cat. No. : 2NU-CNGA120408
Cutting Condition : vc = 200m/min f = 0.1mm/rev ap = 0.2mm Wet

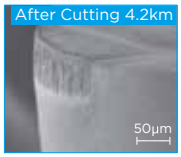
BN7115 Continuous Cutting (Wear Resistance)



Work Material : Sintered Alloy F-08C2 equivalent (150HV)
Tool Cat. No. : 2NU-CNGA120408
Cutting Condition : vc = 200m/min f = 0.1mm/rev ap = 0.2mm Wet

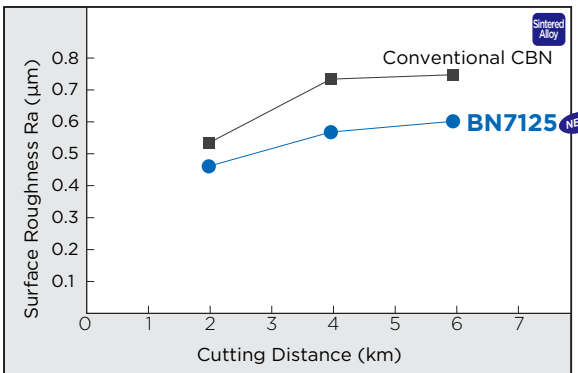


Conventional CBN



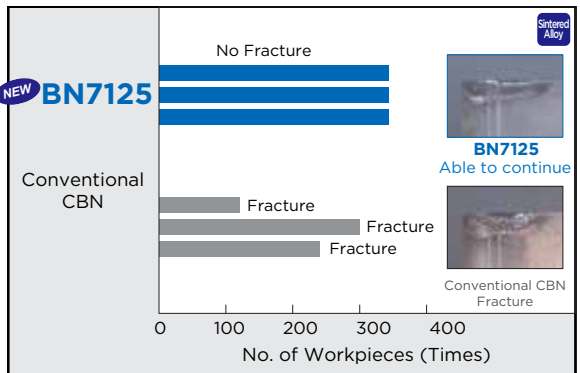
BN7115
Maintain sharp cutting edge

BN7125 Continuous Cutting (Surface Roughness)



Work Material : Sintered Alloy F-08C2 equivalent (150HV)
Tool Cat. No. : 2NU-CNGA120408
Cutting Condition : vc = 200m/min f = 0.1mm/rev ap = 0.2mm Wet

BN7125 Interrupted Cutting (Fracture Resistance)



Work Material : Hardened Sintered Alloy FLA-07C2M equivalent (500HV)
Tool Cat. No. : 3NU-TNGA160404LE
Cutting Condition : vc = 250m/min f = 0.08mm/rev ap = 0.5mm Wet