

# **KBN510 & KBN525**


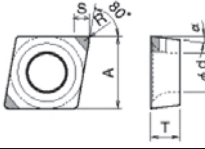
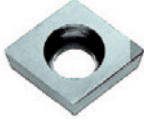
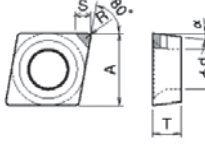
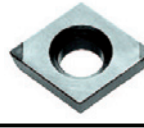
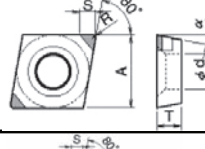
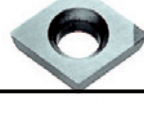
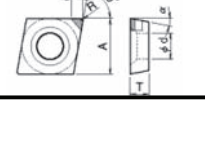
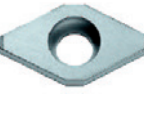
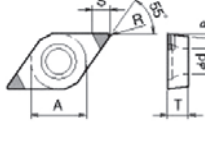
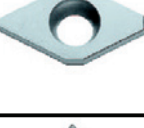
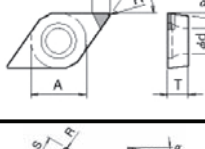

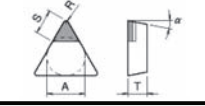

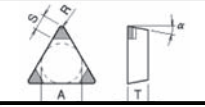

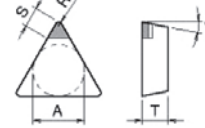
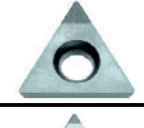
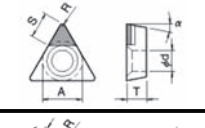


## **Micro-grain CBN Grades**



**Uniform distribution of the CBN material improves both wear resistance and toughness**

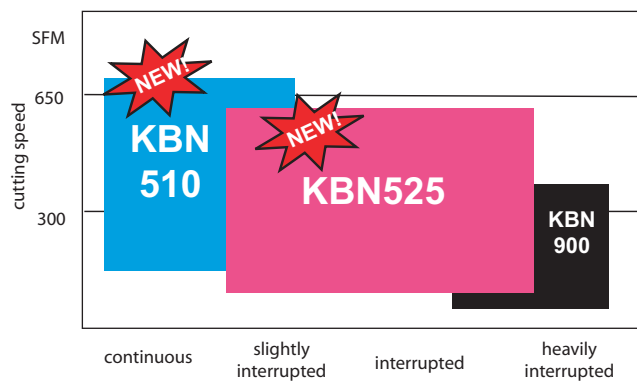
- **KBN510- General purpose and finishing of hardened steels.**
- **KBN525- Interrupted machining of hardened steels.**

		Description	Edge Prep	A	T	φ d	R	S	α	KBN510	KBN525	
		CNGA430.5ME	S00525	.500	.187	.203	.008	.102	-	•	•	
		CNGA431ME		.500	.187	.203	.016	.098	-	•	•	
		CNGA432ME		.500	.187	.203	.031	.102	-	•	•	
		CNGA433ME		.500	.187	.203	.047	.098	-	•	•	
		CNGA431ME-T	S00730	.500	.187	.203	.016	.098	-		•	
		CNGA432ME-T		.500	.187	.203	.031	.102	-		•	
CNGA433ME-T	.500	.187		.203	.047	.098	-		•			
		CNGA430.5SE	S00525	.500	.187	.203	.008	.102	-	•	•	
		CNGA431SE		.500	.187	.203	.016	.098	-	•	•	
		CNGA432SE		.500	.187	.203	.031	.102	-	•	•	
		CNGA433SE		.500	.187	.203	.047	.098	-	•	•	
		CNGA432SE-T	S00730	.500	.187	.203	.031	.102	-		•	
		CNGM431BB1	S00325	.500	.187	.203	.016	.098	-	•	•	
		CNGM432BB1	.500	.187	.203	.031	.102	-	•	•		
		CNGM431BB2	S00525	.500	.187	.203	.016	.098	-	•	•	
		CNGM432BB2		.500	.187	.203	.031	.102	-	•	•	
		CNGM433BB2		.500	.187	.203	.047	.098	-	•	•	
		CNGM432BB3	S00625	.500	.187	.203	.031	.102	-	•	•	
CNGM433BB3	.500	.187		.203	.047	.098	-	•	•			
		DNGA430.5ME	S00525	.500	.187	.203	.008	.098	-	•	•	
		DNGA431ME		.500	.187	.203	.016	.091	-	•	•	
		DNGA432ME		.500	.187	.203	.031	.075	-	•	•	
		DNGA431ME-T	S00730	.500	.187	.203	.016	.091	-		•	
		DNGA432ME-T		.500	.187	.203	.031	.075	-		•	
		DNGA430.5SE	S00525	.500	.187	.203	.008	.098	-	•	•	
		DNGA431SE		.500	.187	.203	.016	.091	-	•	•	
		DNGA432SE		.500	.187	.203	.031	.075	-	•	•	
		DNGA433SE		.500	.187	.203	.047	.075	-	•	•	
		DNGA432SE-T	S00730	.500	.187	.203	.031	.075	-		•	
		DNGM431BB1	S00325	.500	.187	.203	.016	.063	-	•	•	
		DNGM432BB1	.500	.187	.203	.031	.067	-	•	•		
		DNGM431BB2	S00525	.500	.187	.203	.016	.075	-	•	•	
		DNGM432BB2		.500	.187	.203	.031	.079	-	•	•	
		DNGM433BB2		.500	.187	.203	.047	.087	-	•	•	
		DNGM432BB3	S00625	.500	.187	.203	.031	.094	-	•	•	
DNGM433BB3	.500	.187		.203	.047	.098	-	•	•			
		SNGA433ME-T	S00525	.500	.187	.203	.047	.071	-		•	
		TNGA331ME	S00525	.375	.187	.150	.016	.094	-	•	•	
		TNGA332ME		.375	.187	.150	.031	.098	-	•	•	
		TNGA333ME		.375	.187	.150	.047	.087	-	•	•	
		TNGA332ME-T	S00730	.375	.187	.150	.031	.098	-		•	
		TNGA330.5SE	S00525	.375	.187	.150	.008	.102	-		•	
		TNGA331SE		.375	.187	.150	.016	.094	-	•	•	
		TNGA332SE		.375	.187	.150	.031	.098	-	•	•	
		TNGA331SE-T	S00730	.375	.187	.150	.016	.094	-		•	
		TNGA332SE-T		.375	.187	.150	.031	.098	-		•	
		VNGA331ME	S00525	.375	.187	.150	.016	.075	-	•	•	
		VNGA331ME-T	S00730	.375	.187	.150	.016	.079	-		•	
		VNGA332ME-T		.375	.187	.150	.031	.075	-		•	
		VNGA330.5SE	S00525	.375	.187	.150	.008	.087	-		•	
		VNGA331SE		.375	.187	.150	.016	.075	-	•	•	
		VNGA332SE		.375	.187	.150	.031	.063	-	•	•	
		WNGA431ME	S00525	.500	.187	.203	.016	.079	-		•	
		WNGA432ME		.500	.187	.203	.031	.075	-	•	•	
		WNGA431SE	S00525	.500	.187	.203	.016	.079	-	•		
		WNGA432SE		.500	.187	.203	.031	.075	-	•		
		WNGA431SE-T	S00730	.500	.187	.203	.016	.079	-		•	
		WNGA432SE-T		.500	.187	.203	.031	.075	-		•	

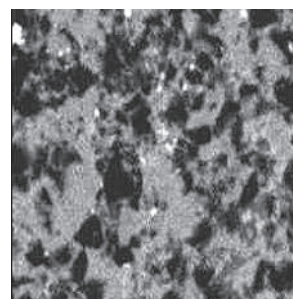
		Description	Edge Prep	A	T	$\phi$ d	R	S	$\alpha$	KBN510	KBN525
		CCMW21.51ME	T00315	.250	.094	.110	.016	.075	7°	•	•
		CCMW21.52ME		.250	.094	.110	.031	.067	7°	•	•
		CCMW32.50.5ME	T00315	.375	.156	.173	.008	.079	7°		•
		CCMW32.51ME		.375	.156	.173	.016	.075	7°	•	•
		CCMW32.52ME		.375	.156	.173	.031	.067	7°	•	
		CCMW32.51ME-T		S00435	.375	.156	.173	.016	.075	7°	
		CCMW1.10.91SE	T00315	.138	.055	.075	.016	.055	7°	•	
		CCMW21.50.5SE	T00315	.250	.094	.110	.008	.079	7°	•	•
		CCMW21.51SE		.250	.094	.110	.016	.075	7°	•	•
		CCMW32.50.5SE	T00315	.375	.156	.173	.008	.079	7°		•
		CCMW32.51SE		.375	.156	.173	.016	.075	7°	•	•
		CCMW21.51SE-T	S00435	.250	.094	.110	.016	.075	7°		•
CCMW32.51SE-T	S00435	.375	.156	.173	.016	.075	7°		•		
		CPGB2.51.51ME	T00315	.313	.094	.138	.016	.075	11°	•	•
		CPGB320.5ME	T00315	.375	.125	.177	.008	.075	11°	•	
		CPGB321ME		.375	.125	.177	.016	.075	11°	•	•
		CPGB2.51.51ME-T	S00435	.313	.094	.138	.016	.075	11°		•
		CPGB321ME-T	S00435	.375	.125	.177	.016	.075	11°		•
				CPGB2.51.50.5SE	T00315	.313	.094	.138	.008	.075	11°
CPGB2.51.51SE	.313			.094		.138	.016	.075	11°	•	
CPGB320.5SE	T00315			.375	.125	.177	.008	.075	11°	•	
CPGB321SE				.375	.125	.177	.016	.075	11°	•	•
		DCMW21.50.5ME	T00315	.250	.094	.110	.008	.075	7°	•	•
		DCMW21.51ME		.250	.094	.110	.016	.067	7°	•	•
		DCMW21.52ME	T00315	.250	.094	.110	.031	.075	7°	•	•
		DCMW32.50.5ME		.375	.156	.173	.008	.075	7°	•	•
		DCMW32.51ME		.375	.156	.173	.016	.067	7°	•	•
		DCMW32.52ME		.375	.156	.173	.031	.075	7°	•	•
		DCMW32.50.5ME-T	S00435	.375	.156	.173	.008	.075	7°		•
		DCMW32.51ME-T		.375	.156	.173	.016	.067	7°		•
DCMW32.52ME-T	S00435	.375	.156	.173	.031	.075	7°		•		
		DCMW21.50.5SE	T00315	.250	.094	.110	.008	.075	7°	•	
		DCMW21.51SE	T00315	.250	.094	.110	.016	.067	7°	•	•
		DCMW32.51SE		.375	.156	.173	.016	.067	7°	•	•
		DCMW32.52SE	T00315	.375	.156	.173	.031	.075	7°		•
		DCMW32.51SE-T		S00435	.375	.156	.173	.016	.067	7°	
		DCMW32.52SE-T	S00435		.375	.156	.173	.031	.075	7°	
		TPG222	T00315	.250	.125	-	.031	.138	11°		•
		TPG322	T00315	.375	.125	-	.031	.142	11°		•
		TPG221ME	T00315	.250	.125	-	.016	.098	11°		•
		TPG222ME		.250	.125	-	.031	.095	11°		•
		TPG221SE	T00315	.250	.125	-	.016	.098	11°		•
		TPG222SE		.250	.125	-	.031	.094	11°		•
		TPG320.5SE	T00315	.375	.125	-	.008	.102	11°	•	•
		TPG321SE		.375	.125	-	.016	.094	11°	•	•
		TPG322SE		.375	.125	-	.031	.083	11°		•
		TPG322SE-T		S00435	.375	.125	-	.031	.082	11°	
		TPGB221	T00315	.250	.125	.138	.016	.150	11°	•	•
		TPGB222		.250	.125	.138	.031	.138	11°	•	•
		TPGB321	T00315	.375	.125	.177	.016	.150	11°	•	•
		TPGB322		.375	.125	.177	.031	.138	11°	•	•
		TPGB221ME	T00315	.250	.125	.138	.016	.071	11°	•	•
		TPGB222ME		.250	.125	.138	.031	.059	11°	•	•

		Description	Edge Prep	A	T	φ d	R	S	α	KBN510	KBN525		
		TPGB1.51.50.5SE	T00315	.187	.094	.098	.008	.071	11°	•			
		TPGB1.51.51SE		.187	.094	.098	.016	.067	11°	•			
		TPGB1.81.50.5SE	T00315	.219	.094	.118	.008	.071	11°	•	•		
		TPGB1.81.51SE		.219	.094	.118	.016	.063	11°	•	•		
		TPGB220.5SE	T00315	.250	.125	.137	.008	.075	11°	•			
		TPGB221SE		.250	.125	.137	.016	.071	11°	•	•		
		TPGB222SE		.250	.125	.137	.031	.059	11°	•	•		
		VBGW221ME	T00315	.250	.125	.110	.016	.079	5°	•	•		
		VBGW222ME		.250	.125	.110	.031	.067	5°	•	•		
		VBGW330.5ME	T00315	.375	.187	.173	.008	.094	5°	•	•		
		VBGW331ME		.375	.187	.173	.016	.079	5°	•	•		
		VBGW332ME		.375	.187	.173	.031	.067	5°	•	•		
				VBGW220.5SE	T00315	.250	.125	.110	.008	.094	5°	•	•
				VBGW221SE		.250	.125	.110	.016	.079	5°	•	•
VBGW222SE				.250	.125	.110	.031	.067	5°	•	•		
VBGW330.5SE	T00315			.375	.187	.173	.008	.094	5°	•	•		
VBGW331SE				.375	.187	.173	.016	.079	5°	•	•		
VBGW332SE				.375	.187	.173	.031	.067	5°	•	•		
				VBGW221SE-T	S00435	.250	.125	.110	.016	.079	5°		•
		VBGW222SE-T		.250	.125	.110	.031	.067	5°		•		
		WBGW1.210.5L-SE	T00315	.156	.063	.091	.008	.075	5°		•		
		WBGW1.211L-SE		.156	.063	.091	.016	.075	5°		•		
		WBGW1.51.50.5L-SE	T00315	.187	.094	.091	.008	.091	5°	•	•		
		WBGW1.51.51L-SE		.187	.094	.091	.016	.091	5°	•	•		

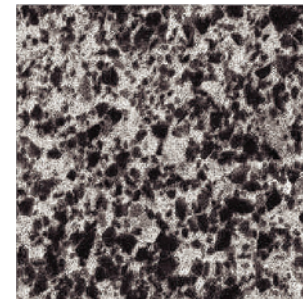
**CBN Application Range**



**Grain Structure (x7000)**



Conventional CBN



Improved KBN525

Grade	Binder	μm Avg. Grain Diameter	GPa Substrate Hardness	MPa m <sup>1/2</sup> Fracture Toughness	MPa Fracture Strength	
KBN510	TiC	2	28	5.0	90-110	General purpose to finishing of steels.
KBN525	TiN	<1	25	5.0	120-130	General purpose to interrupted cutting of hardened steels