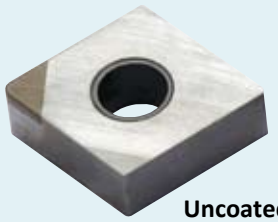
CBN Turning Application Guide

CBN (Cubic Boron Nitride) is the most economical way of high speed turning of hardened steel, heat resistant alloys, cast iron & sintered alloys.

Stable and long tool life is achieved due to the ultra high wear resistant CBN tip technology. CBN also replaces the need for any grinding operations providing ultra smooth surface finish.

CBN is made more economical by the **new** coated multi-corner insert, reducing the cost per edge and increasing overall tool life.



Uncoated regrindable CBN

Coated multi-edge CBN

CBN Grade Guide

Grade	Applications	Features
KB320	Continuous cutting and interrupted cutting of hardened steel.	CBN with ceramic binder for higher wear resistance and toughness.
KB330	Heavy interrupted cutting of hardened steel.	Toughest CBN grade for highest fracture resistance.
KB360	High speed machining of cast iron, heat resistant alloy, sintered alloy and carbide roll.	Highest combined hardness and toughness for high performance on difficult to cut materials.
DNC200	High speed continuous and medium interrupted cutting of hardened steel.	Excellent wear resistance and cost effective by using new coating technology and multi-edge insert.

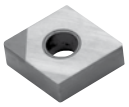
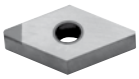
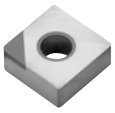
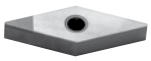
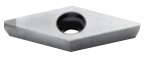
Recommended cutting conditions (Hardened Steel)

Grade	Cutting Speed vc(m/min) 50 / 100 / 150 / 200	Feed fn(mm/rev)	Depth of Cut ap(mm)
KB320	80~120	0.03~0.20	0.03~0.3
KB330	80~110	0.03~0.20	0.03~0.3
DNC200	130~170	0.05~0.3	0.05~0.3

Recommended cutting conditions (Cast Iron)

Grade	Workpiece	Cutting Speed vc(m/min) 100 / 750 / 1500	Feed fn(mm/rev)	Depth of Cut ap(mm)
KB360	**Grey cast iron**	400~1000	0.1~0.50	≤1.0
	Alloyed cast iron	200~800	0.03~0.20	≤0.5
	Ductile cast iron	100~350	0.05~0.3	≤0.5

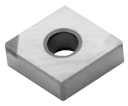
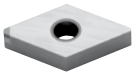
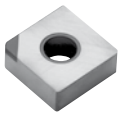
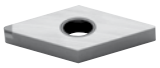
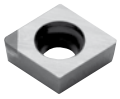
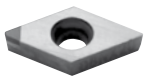
CBN Turning Inserts (Single Edge Regrindable)

	Figure	Designation	Price £	Grades			Dimensions (mm)				Available Toolholders	Page
				KB320	KB330	KB360	Inscribed Circle	Thickness	Nose R	Hole Size		
CNMA 80° Nega		CNMA 120404	£25.00	●	●	●	12.7	4.76	0.4	5.16	MCLNR/L PCLNR/L PCBNR/L	D30 D32 D46
		CNMA 120408	£25.00	●	●	●	12.7	4.76	0.8	5.16		
		CNMA 120412	£25.00	●	●	●	12.7	4.76	1.2	5.16		
DNMA 55° Nega		DNMA 150604	£25.00	●	●	●	12.7	6.35	0.4	5.16	MDJNR/L PDJNR/L PDUNR/L PDNNR/L	D30 D33 D46
		DNMA 150608	£25.00	●	●	●	12.7	6.35	0.8	5.16		
		DNMA 150612	£25.00				12.7	6.35	1.2	5.16		
SNMA 90° Nega		SNMA 120404	£25.00	●	●	●	12.7	4.76	0.4	5.16	PSBNR/L PSKNR/L PSDNN PSSNR/L	D35 D47
		SNMA 120408	£25.00	●	●	●	12.7	4.76	0.8	5.16		
		SNMA 120412	£25.00				12.7	4.76	1.2	5.16		
TNMA 60° Nega		TNMA 160404	£25.00	●	●	●	9.525	4.76	0.4	3.81	PTFNR/L PTTNR/L PTGNR/L	D23 D47
		TNMA 160408	£25.00	●	●	●	9.525	4.76	0.8	3.81		
		TNMA 160412	£25.00				9.525	4.76	1.2	3.81		
VNMA 35° Nega		VNMA 160404	£25.00	●	●	●	9.525	4.76	0.4	3.81	MVJNR/L MVQNR/L MVVNN MVUNR/L	D31
		VNMA 160408	£25.00	●	●	●	9.525	4.76	0.8	3.81		
VBMW 35° Posi		VBMW 160404	£25.00	●	●	●	9.525	4.76	0.4	4.4	SVHBR/L SVJBR/L SVQBR/L SVUBR/L SVVBN	D40 D41 D42 D51
		VBMW 160408	£25.00	●	●	●	9.525	4.76	0.8	4.4		

Multi-Edge Type CBN Turning Inserts (4-6 Usable Corners)

	Figure	Designation	Price £	Grades	Dimensions (mm)				Available Toolholders	Page
				DNC200	Inscribed Circle	Thickness	Nose R	Hole Size		
CNGA 80° Nega		4NU-CNGA 120404	£55.00	●	12.7	4.76	0.4	5.16	MCLNR/L PCLNR/L PCBNR/L	D30 D32 D46
		4NU-CNGA 120408	£55.00	●	12.7	4.76	0.8	5.16		
		4NU-CNGA 120412	£55.00	●	12.7	4.76	1.2	5.16		
DNGA 55° Nega		4NU-DNGA 150404	£55.00	●	12.7	4.76	0.4	5.16	MDJNR/L PDJNR/L PDUNR/L PDNNR/L PDSNR/L	D30 D33 D35 D46
		4NU-DNGA 150408	£55.00	●	12.7	4.76	0.8	5.16		
		4NU-DNGA 150412	£55.00		12.7	4.76	1.2	5.16		
TNGA 60° Nega		6NU-TNGA 160404	£69.00	●	9.525	4.76	0.4	3.81	PTFNR/L PTTNR/L PTGNR/L	D23 D36 D47
		6NU-TNGA 160408	£69.00	●	9.525	4.76	0.8	3.81		
		6NU-TNGA 160412	£69.00		9.525	4.76	1.2	3.81		
VNGA 35° Nega		4NU-VNGA 160404	£59.00	●	9.525	4.76	0.4	3.81	MVJNR/L MVQNR/L MVVNN	D31
		4NU-VNGA 160408	£59.00	●	9.525	4.76	0.8	3.81		

CBN Turning Inserts (Single Edge Non-Regrindable)

	Figure	Designation	Price £	Grades			Dimensions (mm)				Available Toolholders	Page
				KB320	KB330	KB360	Inscribed Circle	Thickness	Nose R	Hole Size		
CNMA 80° Nega		NU-CNMA 120404	£17.00	●	●	●	12.7	4.76	0.4	5.16	MCLNR/L PCLNR/L PCBNR/L	D30 D32 D46
		NU-CNMA 120408	£17.00	●	●	●	12.7	4.76	0.8	5.16		
		NU-CNMA 120412	£17.00	●	●	●	12.7	4.76	1.2	5.16		
DNMA 55° Nega		NU-DNMA 150604	£17.00	●	●	●	12.7	6.35	0.4	5.16	MDJNR/L PDJNR/L PDNNR/L PDSNR/L	D30 D33 D46
		NU-DNMA 150608	£17.00	●	●	●	12.7	6.35	0.8	5.16		
		NU-DNMA 150612	£17.00				12.7	6.35	1.2	5.16		
SNMA 90° Nega		NU-SNMA 120404	£17.00	●	●	●	12.7	4.76	0.4	5.16	PSBNR/L PSKNR/L PSDNN PSSNR/L	D35 D47
		NU-SNMA 120408	£17.00	●	●	●	12.7	4.76	0.8	5.16		
		NU-SNMA 120412	£17.00				12.7	4.76	1.2	5.16		
TNMA 60° Nega		NU-TNMA 160404	£17.00	●	●	●	9.525	4.76	0.4	3.81	PTFNR/L PTGNR/L	D23 D36 D47
		NU-TNMA 160408	£17.00	●	●	●	9.525	4.76	0.8	3.81		
		NU-TNMA 160412	£17.00		●		9.525	4.76	1.2	3.81		
VNMA 35° Nega		NU-VNMA 160404	£17.00	●	●	●	9.525	4.76	0.4	3.81	MVJNR/L MVQNR/L MVVNN MVUNR/L	D31
		NU-VNMA 160408	£17.00	●	●	●	9.525	4.76	0.8	3.81		
CCMW 80° Posi		NU-CCMW 060202	£18.00	●	●	●	6.35	2.38	0.2	2.8	SCACL/L SCLCR/L	D37 D48
		NU-CCMW 060204	£18.00	●	●	●	6.36	2.38	0.4	2.8		
		NU-CCMW 060208	£18.00	●	●	●	6.35	2.38	0.8	2.8		
		NU-CCMW 09T302	£18.00	●	●	●	9.525	3.97	0.2	4.4		
		NU-CCMW 09T304	£18.00	●	●	●	9.525	3.97	0.4	4.4		
		NU-CCMW 09T308	£18.00	●	●	●	9.525	3.97	0.8	4.4		
DCMW 55° Posi		NU-DCMW 070202	£18.00	●	●	●	6.35	2.38	0.2	2.8	SSDCN SDJCR/L SDQCR/L SDZCR/L	D38 D39 D49 D50
		NU-DCMW 070204	£18.00	●	●	●	6.35	2.38	0.4	2.8		
		NU-DCMW 11T304	£18.00	●	●	●	9.525	3.97	0.4	4.4		
		NU-DCMW 11T308	£18.00	●	●	●	9.525	3.97	0.8	4.4		
		NU-DCMW 11T312	£18.00				9.525	3.97	1.2	4.4		
TCMW 60° Posi		NU-TCMW 110204	£18.00				6.35	2.38	0.4	2.8	STFCR/L STGCR/L	D40 D50
		NU-TCMW 110208	£18.00	●	●	●	6.35	2.38	0.8	2.8		
		NU-TCMW 16T304	£18.00	●	●	●	9.525	3.97	0.4	2.8		
		NU-TCMW 16T308	£18.00	●	●	●	9.525	3.97	0.8	2.8		