

KBN05M

Double-sided Multi-edge CBN Inserts



Economical Double-sided Multi-edge Inserts Added to the KBN05M Lineup

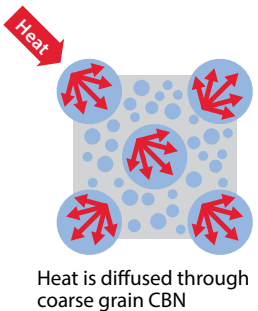
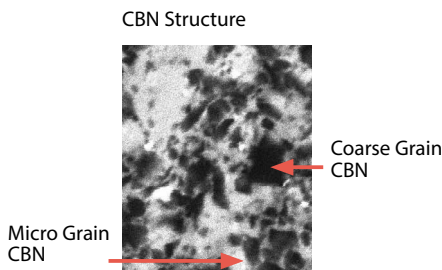
KBN05M is used in a wide range of applications from continuous (high-speed finishing) to interrupted machining.

Save on insert costs with economical double-sided multi-edge inserts.

Hybrid Grain Structure (KBN05M)
Mixed Structure of Micro Grain CBN and Coarse Grain CBN

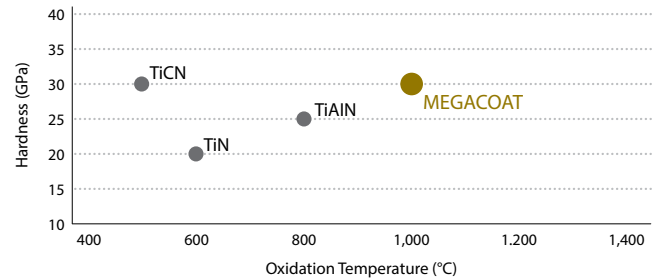
CBN possesses high hardness, toughness and thermal resistance characteristics

High Thermal Conductivity

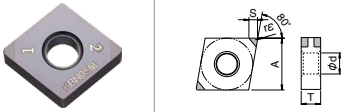
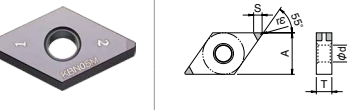
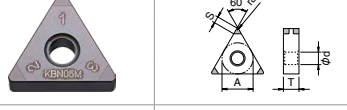
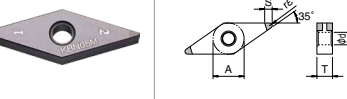


Superior Wear and Oxidation Resistance with MEGACOAT

Coating Properties



Negative Inserts

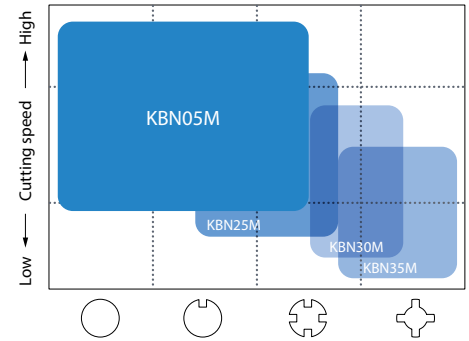
Shape	Part Number	Edge Specification	Dimensions (in)					No. of Edges	KBN05M			
			I.C.	Thickness	Hole	Corner-R (rε)	S					
	CNGA 431ME4	S00525	1/2	3/16	0.203	1/64	0.102	4	●			
	432ME4					1/32	0.102		●			
	433ME4					3/64	0.098		●			
	DNGA 431ME4					1/64	0.102		●			
	432ME4					1/32	0.087		●			
	433ME4					3/64	0.075		●			
	TNGA 331ME6					3/8	0.150		1/64	0.106	6	●
	332ME6								1/32	3/32		●
	333ME6								3/64	0.083		●
	VNGA 331ME4	1/64	0.079	4	●							
	332ME4	1/32	0.071		●							

S00525: 0.005" X 25° Chamfered + Honed Cutting Edge

● : U.S. Stock

Recommended Cutting Conditions

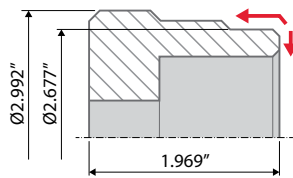
Workpiece	Hardness	Application		Cutting Conditions		
				Vc (sfm)	D.O.C. (mm)	(ipr)
Hardened Material	> 55 HRC	General Finishing	Continuous to Interrupted	330 – 490 – 660	0.002 – 0.012 – 0.020	0.002 – 0.003 – 0.004



Case Studies (KBN05M Single-sided)

Gear 20Cr4 (58HRC)

External Facing and Chamfering
 Vc = 430 sfm
 D.O.C. = 0.024"
 f = 0.005 ipr
 Wet
 CNGA432S00525ME
 KBN05M



Tool Life

KBN05M 300 pcs/edge ↑ x15 Tool Life

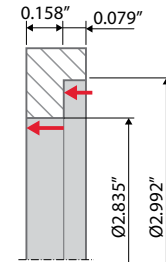
Competitor A 200 pcs/edge

KBN05M achieved 1.5 times longer tool life than Competitor A

(User Evaluation)

Stator 15CrMo5 (55HRC)

Internal Machining
 Vc = 560 sfm
 D.O.C. = 0.016"
 f = 0.004 ipr
 Wet
 CNGA432S00525ME
 KBN05M



Tool Life

KBN05M 600 pcs/edge ↑ x2 Tool Life

Competitor B 300 pcs/edge

KBN05M tool life was twice that of Competitor B

(User Evaluation)



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