

Application guideline

Hardened steel	Cast iron	Powder metal	Super alloy
Transmission spider Bearing Gear Shaft Connection coupling	Brake disc Brake drum Cylinder liner Flywheel Clutch plate Pump impeller	Transmission part Sprocket * < HRc 45 ** > HRc 45	Aircraft fastener Turbine disc
SB100, K200	SB100, K200	SB100, K200	SB100, K200
SB95S2	SB95S2	SB95S2 *	SB95S2
SB95N	SB95N	SB95N *	SB95N
SB75PC/75PS	SB75PC/75PS	SB75PC/75PS **	SB75PC/75PS
SB650/SBS650	SB650/SBS650	SB650/SBS650	SB650/SBS650
SBX6020	SBX6020	SBX6020	SBX6020
SB600/SBS600	SB600/SBS600	SB600/SBS600	SB600/SBS600
SBX5010	SBX5010	SBX5010	SBX5010

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PCBN

Polycrystalline Cubic Boron Nitride



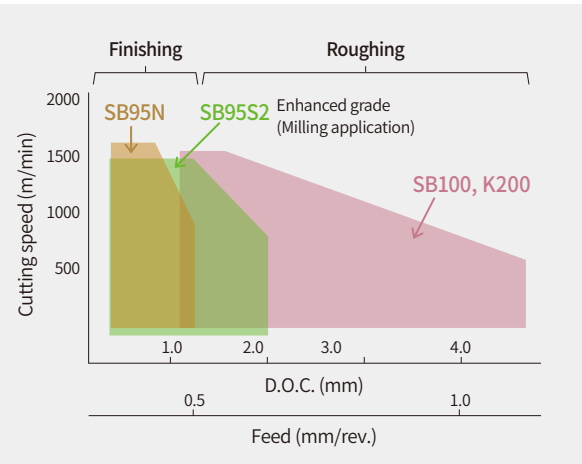
IBON

ILJIN Polycrystalline Cubic Boron Nitride

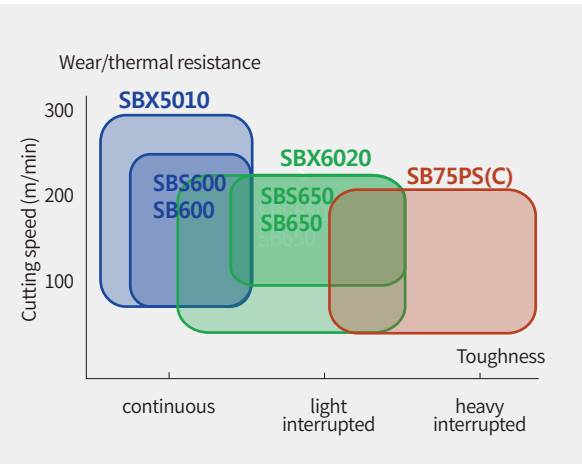
 Carbide backed  Solid form

	Type	Grade	Property	Application
High cBN content		K200 SB100	Extreme wear resistance due to high content of coarse cBN grain	Rough machining of cast iron and powder metal alloys
		SB95S2	Extreme wear resistance and high chipping resistance due to high contents of fine cBN	Machining the most kinds of cast iron and powder metal alloy
		SB95N	Extreme wear resistance due to high	Machining the most kinds of cast iron
Low cBN content		SB75PC SB75PS	High toughness due to fine cBN and ceramic binder matrix	Heavy interrupted machining of hardened steel
		SB650 SBS650 SBX6020	Combination of wear resistance and thermal stability	High speed and interrupted machining of hardened steel
		SB600 SBS600	Combination of wear resistance and impact strength	General use in continuous and light interrupted machining of hardened steel
		SBX5010	Combination of wear resistance and thermal stability	General use in continuous and light interrupted machining of hardened steel

Cutting conditions of high cBN content



Cutting conditions of low cBN content



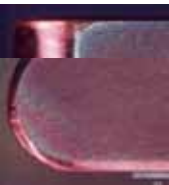
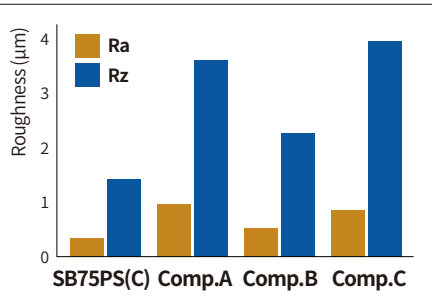
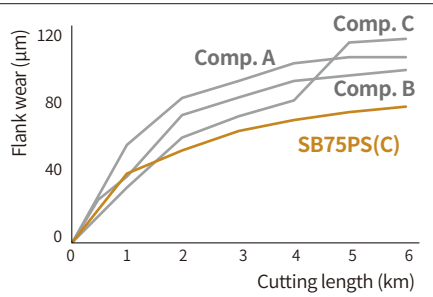
Performance Test

75PS/75PC

Hardened Steel

Heavy Interrupted Turning

Material	41CrMo4 (DIN) 4140 (ASTM) SCM440H (JIS)
Type	Heavy Interrupted Turning
Speed	170 m/min
Feed	0.1 mm/rev
D.O.C	0.2 mm
Coolant	Dry
Insert type	DNGA150408



SB75PS(C)



Comp.A



Comp.B



Comp.C

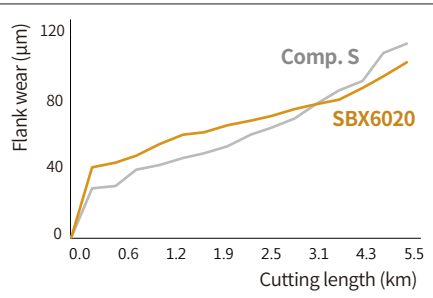
Performance Test

SBX6020

Hardened Steel

Light Interrupted Turning

Material	15CrMo4 (DIN) B25 (ASTM) SCM415H (JIS)
Type	Light Interrupted Turning
Speed	180 m/min
Feed	0.1 mm/rev
D.O.C	0.2 mm
Coolant	Dry
Insert type	GNGA120408



Result	SBX6020	Comp.S
Flank wear	104 μm	115 μm



SBX6020



Comp.S

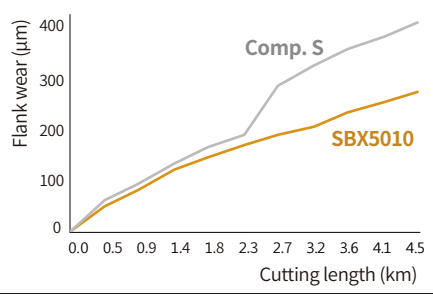
Performance Test

SBX5010

Hardened Steel

Continuous Turning

Material	100Cr6 (DIN) 52100 (ASTM) SUJ2 (JIS)
Type	Continuous Turning
Speed	250 m/min
Feed	0.1 mm/rev
D.O.C	0.1 mm
Coolant	Dry
Insert type	GNGA120408



Result	SBX6020	Comp.S
Flank wear	251 μm	377 μm



SBX5010



Comp.S