

PCBN

Polycrystalline Cubic Boron Nitride



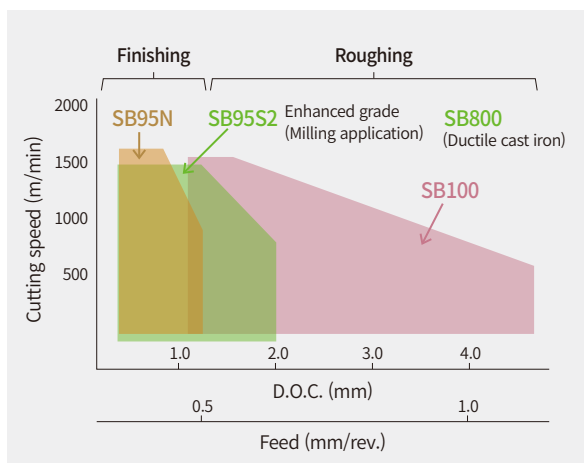
IBON

ILJIN Polycrystalline Cubic Boron Nitride

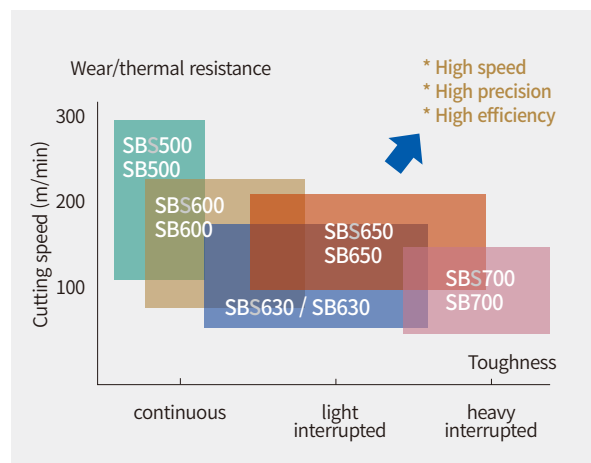
Carbide backed
 Solid form

	Type	Grade	Property	Application
High CBN content		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 content CBN and fine CBN size	Machining most kinds of cast iron and powder metal alloy
		SB95N	Extreme wear resistance due to high content of CBN and metal binder	Machining most kinds of cast iron
		SB800	Combination of wear resistance and thermal properties	Machining non-homogeneous cast iron
Low CBN content	 	SB700 SBS700	High degree of toughness due to fine CBN and ceramic binder matrix	Heavy interrupted machining of hardened steel
	 	SB650 SBS650	Combination of wear resistance and thermal stability	High speed and interrupted machining of hardened steel
	 	SB630 SBS630	Combination of wear resistance and impact strength	General use in continuous and light interrupted machining of hardened steel
	 	SB600 SBS600	Combination of wear resistance and thermal stability	General use in continuous and light interrupted machining of hardened steel
	 	SB500 SBS500	Good thermal stability and crater wear resistance	High speed continuous machining of hardened steel

Cutting condition of PCBN with High CBN content



Cutting condition of PCBN with Low CBN content



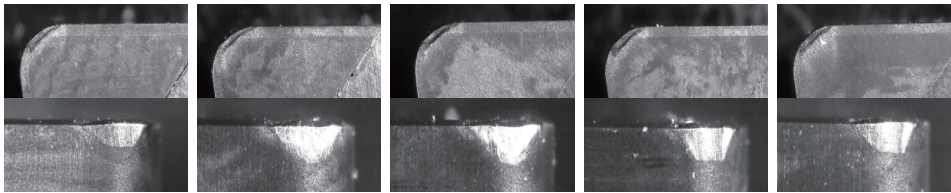
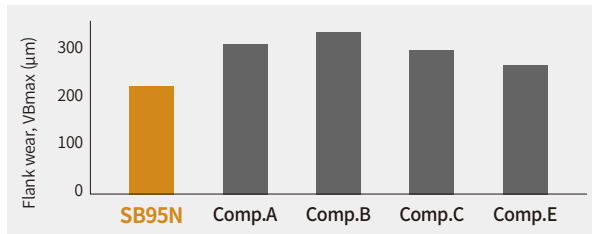
Performance Test

SB95N

Cast Iron

Continuous turning

Material	Gray cast iron
Speed	500m/min
D.O.C	0.25mm
Feed	0.1mm/rev
Coolant	Dry
Insert type	CNGA120408
Holder type	PCLNR2525-M12



SB95N

Comp.A

Comp.B

Comp.C

Comp.E

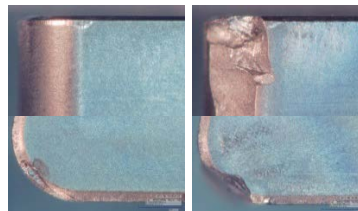
Performance Test

SB650 / SBS650

Hardened Steel

Interrupted turning

Material	Alloy steel / SCM440(H)
Hardness	HRC 55~60
Size	Ø100 × 300 mm
Path	Flank wear after 10 path cutting
Speed	150m/min
D.O.C	0.4mm
Feed	0.1mm/rev
Coolant	Dry
Insert type	CNGA120408 T01225



SB650

Comp.B

Result	SB650	Comp.B
Cutting time	117.90 min	6.02 min.
Cutting length	2.68 km	0.90 km

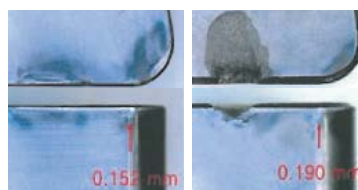
Performance Test

SB600 / SBS600

Hardened Steel

Cross section, Internal rough machining

Material	Annulus gear(Ø145) SCr420H
Hardness	>HV650
Speed	80m/min
N	180rev/min
Feed	0.12mm/rev
Coolant	Wet



SB600

Comp.S

Result	SB600	Comp.S
Tool life	4,000	2,500

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	SB100	SB100	SB100
SB95S2	SB95S2	SB95S2 *	SB95S2
SB95N	SB95N	SB95N *	SB95N
SB800	SB800	SB800	SB800
SBS700	SBS700	SBS700 **	SBS700
SB650/SBS650	SB650/SBS650	SB650/SBS650	SB650/SBS650
SB630/SBS630	SB630/SBS630	SB630/SBS630	SB630/SBS630
SB600/SBS600	SB600/SBS600	SB600/SBS600	SB600/SBS600
SB500/SBS500	SB500/SBS500	SB500/SBS500	SB500/SBS500