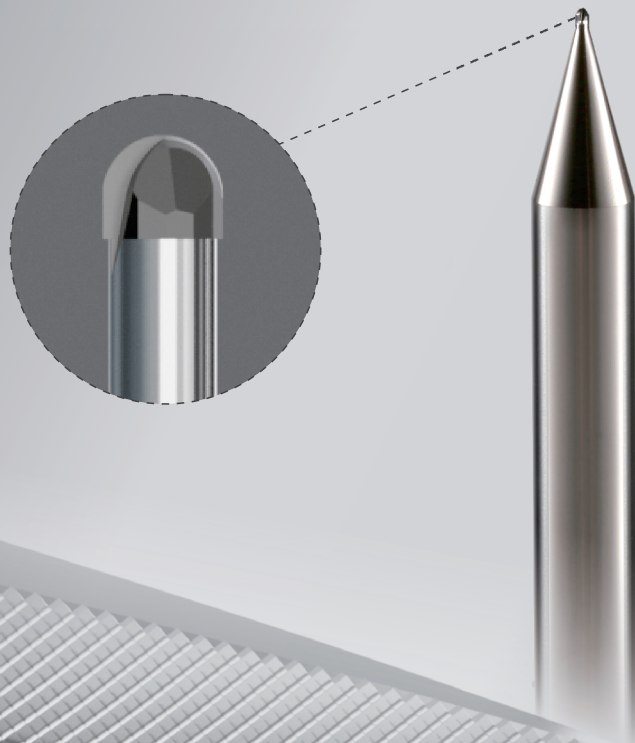


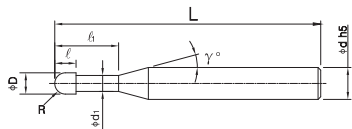
CBN SERIES

The Speciality of CBN Series

- Newly developed brazing technology ensures high stability.
- High CBN content provides excellent wear resistance for hard materials.
- Cutting edges designed to reduce cutting forces.
- Combined with suitable cutting conditions, can achieve shiny surface finishes.



SCBN-B2 2-Flute CBN Deep Ball Nose End mill



φD	D Tol. [mm]	φD	R Tol. [mm]
D<3	0~-0.010	D<1	±0.003
3<D≤6	0~-0.012	1<D≤6	±0.005



Unit : mm

Type No.	Dia.	Radius	Length of Cut	Under Neck Length	Neck Dia.	Neck Taper Angle	Overall Length	Shank Dia.	
	φD	R	ℓ	ℓ ₁	φd ₁	γ/°	L	φd	
SCBN-B2001L0.3 0450	0.1	R0.05	0.07	0.3	0.09	15	50	4	★
SCBN-B2001L0.5 0450	0.1	R0.05	0.07	0.5	0.09	15	50	4	★
SCBN-B20015L0.45 0450	0.15	R0.075	0.1	0.45	0.14	15	50	4	★
SCBN-B20015L0.75 0450	0.15	R0.075	0.1	0.75	0.14	15	50	4	★
SCBN-B2002L0.3 0450	0.2	R0.1	0.15	0.3	0.19	15	50	4	
SCBN-B2002L0.6 0450	0.2	R0.1	0.15	0.6	0.19	15	50	4	
SCBN-B2002L0.8 0450	0.2	R0.1	0.15	0.8	0.19	15	50	4	
SCBN-B2002L1 0450	0.2	R0.1	0.15	1	0.19	15	50	4	
SCBN-B2003L0.3 0450	0.3	R0.15	0.2	0.3	0.28	15	50	4	
SCBN-B2003L0.5 0450	0.3	R0.15	0.2	0.5	0.28	15	50	4	
SCBN-B2003L0.75 0450	0.3	R0.15	0.2	0.75	0.28	15	50	4	
SCBN-B2003L0.9 0450	0.3	R0.15	0.2	0.9	0.28	15	50	4	
SCBN-B2003L1.2 0450	0.3	R0.15	0.2	1.2	0.28	15	50	4	
SCBN-B2003L1.5 0450	0.3	R0.15	0.2	1.5	0.28	15	50	4	
SCBN-B2004L0.5 0450	0.4	R0.2	0.3	0.5	0.37	15	50	4	
SCBN-B2004L0.75 0450	0.4	R0.2	0.3	0.75	0.37	15	50	4	
SCBN-B2004L1 0450	0.4	R0.2	0.3	1	0.37	15	50	4	
SCBN-B2004L1.2 0450	0.4	R0.2	0.3	1.2	0.37	15	50	4	
SCBN-B2004L1.5 0450	0.4	R0.2	0.3	1.5	0.37	15	50	4	
SCBN-B2004L2 0450	0.4	R0.2	0.3	2	0.37	15	50	4	
SCBN-B2004L2.5 0450	0.4	R0.2	0.3	2.5	0.37	15	50	4	
SCBN-B2004L3 0450	0.4	R0.2	0.3	3	0.37	15	50	4	★
SCBN-B2005L1 0450	0.5	R0.25	0.35	1	0.46	15	50	4	
SCBN-B2005L1.5 0450	0.5	R0.25	0.35	1.5	0.46	15	50	4	
SCBN-B2005L2.5 0450	0.5	R0.25	0.35	2.5	0.46	15	50	4	
SCBN-B2005L3.5 0450	0.5	R0.25	0.35	3.5	0.46	15	50	4	★
SCBN-B2006L1.2 0450	0.6	R0.3	0.45	1.2	0.56	15	50	4	
SCBN-B2006L1.5 0450	0.6	R0.3	0.45	1.5	0.56	15	50	4	



SCBN-B2 2-Flute CBN Deep Ball Nose End mill



Ø D	D Tol. (mm)	Ø D	R Tol. (mm)
D < 3	0 ~ -0.010	D < 1	± 0.003
3 < D < 6	0 ~ -0.012	1 < D < 6	± 0.005

Unit : mm

Type No.	Dia.	Radius	Length of Cut	Under Neck Length	Neck Dia.	Neck Taper Angle	Overall Length	Shank Dia.	
	φD	R	ℓ	ℓ ₁	φd ₁	γ/°	L	φd	
SCBN-B2006L3 0450	0.6	R0.3	0.45	3	0.56	15	50	4	
SCBN-B2006L4 0450	0.6	R0.3	0.45	4	0.56	15	50	4	★
SCBN-B2006L5 0450	0.6	R0.3	0.45	5	0.56	15	50	4	★
SCBN-B2006L6 0450	0.6	R0.3	0.45	6	0.56	15	50	4	★
SCBN-B2008L1.6 0450	0.8	R0.4	0.6	1.6	0.76	15	50	4	
SCBN-B2008L2 0450	0.8	R0.4	0.6	2	0.76	15	50	4	
SCBN-B2008L4 0450	0.8	R0.4	0.6	4	0.76	15	50	4	★
SCBN-B2008L6 0450	0.8	R0.4	0.6	6	0.76	15	50	4	★
SCBN-B2010L2 0450	1	R0.5	0.7	2	0.95	15	50	4	
SCBN-B2010L2.5 0450	1	R0.5	0.7	2.5	0.95	15	50	4	
SCBN-B2010L4 0450	1	R0.5	0.7	4	0.95	15	50	4	
SCBN-B2010L6 0450	1	R0.5	0.7	6	0.95	15	50	4	★
SCBN-B2010L8 0450	1	R0.5	0.7	8	0.95	15	50	4	★
SCBN-B2010L10 0450	1	R0.5	0.7	10	0.95	15	50	4	★

★ Available on Request

SCBN-B2 2-Flute CBN Deep Ball Nose End mill 3D Milling Finishing

Workpiece	Radius mm	Underneck mm	Pre-Hardened Steels (48-52HRC)				Hardened Steels (58-62HRC)				Hardened Steels (63-68HRC)			
			n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm
R0.05	0.3		50000	200	0.005	0.005	50000	140	0.005	0.005	50000	100	0.003	0.003
	0.5		50000	120	0.003	0.003	50000	84	0.002	0.002	50000	60	0.001	0.002
R0.075	0.45		50000	300	0.005	0.005	50000	210	0.005	0.005	50000	150	0.003	0.003
	0.75		50000	200	0.003	0.003	50000	140	0.003	0.003	50000	100	0.002	0.002
R0.1	0.3		40000	300	0.007	0.01	40000	210	0.007	0.01	40000	150	0.003	0.005
	0.6		40000	260	0.006	0.01	40000	182	0.006	0.01	40000	130	0.003	0.005
	0.8		40000	220	0.005	0.005	40000	154	0.005	0.005	40000	110	0.003	0.003
	1		40000	200	0.003	0.003	40000	140	0.003	0.003	40000	100	0.003	0.003
R0.15	0.3		35000	500	0.006	0.01	35000	350	0.006	0.01	35000	250	0.006	0.005
	0.5		35000	462	0.006	0.01	35000	325	0.006	0.01	35000	231	0.006	0.005
	0.75		35000	428	0.006	0.01	35000	300	0.006	0.01	35000	214	0.006	0.005
	0.9		35000	384	0.006	0.01	35000	265	0.006	0.01	35000	192	0.006	0.005
	1.2		35000	384	0.005	0.007	35000	265	0.005	0.007	35000	192	0.005	0.003
	1.5		35000	384	0.005	0.005	35000	265	0.005	0.005	35000	192	0.005	0.003

TABLE OF RECOMMENDED MILLING MATERIALS

Very suitable Suitable

CARBON STEELS	ALLOY STEELS	PRE-HARDENED STEELS	HARDENED STEELS				CAST IRON DUCTILE CAST IRON	COPPER ALLOYS	ALUMINUM ALLOY	GRAPHITE	TITANIUM ALLOY	HEAT RESISTANT ALLOYS	PLASTIC
			~55HRC	~60HRC	~65HRC	~70HRC							





Cutting Parameter

SCBN-B2 2-Flute CBN Deep Ball Nose End mill 3D Milling Finishing

Workpiece		Pre-Hardened Steels (48-52HRC)					Hardened Steels (58-62HRC)				Hardened Steels (63-68HRC)			
Radius mm	Underneck mm	n min ⁻¹	Vf mm/min	ap mm	ae mm		n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm
R0.2	0.5	32000	800	0.008	0.012		32000	560	0.006	0.012	32000	392	0.005	0.008
	0.75	32000	720	0.008	0.012		32000	504	0.006	0.012	32000	352	0.005	0.008
	1	32000	640	0.008	0.012		32000	448	0.006	0.012	32000	313	0.005	0.008
	1.2	32000	600	0.008	0.012		32000	420	0.006	0.012	32000	294	0.005	0.008
	1.5	32000	600	0.008	0.012		32000	420	0.006	0.012	32000	294	0.005	0.008
	2	32000	500	0.008	0.01		32000	350	0.006	0.01	32000	245	0.005	0.007
	2.5	30000	450	0.008	0.01		30000	315	0.006	0.01	30000	220	0.005	0.007
	3	30000	400	0.008	0.01		30000	280	0.006	0.01	30000	196	0.005	0.007
R0.25	1	30000	1000	0.01	0.012		30000	700	0.01	0.012	30000	500	0.01	0.008
	1.5	30000	800	0.01	0.012		30000	560	0.01	0.012	30000	400	0.01	0.008
	2.5	28000	600	0.01	0.011		28000	420	0.01	0.011	28000	300	0.01	0.008
	3.5	28000	500	0.008	0.011		28000	350	0.008	0.011	28000	250	0.008	0.007
R0.3	1.2	25000	1200	0.01	0.013		25000	1200	0.01	0.013	25000	600	0.01	0.01
	1.5	25000	1000	0.01	0.013		25000	1000	0.01	0.013	25000	500	0.01	0.01
	3	25000	800	0.01	0.013		25000	800	0.01	0.013	25000	400	0.01	0.01
	4	25000	550	0.008	0.013		25000	400	0.008	0.013	25000	280	0.005	0.006
	5	25000	360	0.008	0.012		25000	320	0.008	0.012	25000	180	0.005	0.006
	6	25000	240	0.006	0.012		25000	200	0.006	0.012	25000	120	0.005	0.005

Cutting Parameter

SCBN-B2 2-Flute CBN Deep Ball Nose End mill 3D Milling Finishing

Workpiece		Pre-Hardened Steels (48-52HRC)				Hardened Steels (58-62HRC)				Hardened Steels (63-68HRC)			
Radius mm	Underneck mm	n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm
R0.4	1.6	24000	1500	0.01	0.015	24000	1000	0.01	0.015	24000	750	0.01	0.015
	2	24000	1200	0.01	0.015	24000	720	0.01	0.015	24000	600	0.01	0.015
	4	24000	1000	0.01	0.015	24000	700	0.01	0.015	24000	500	0.005	0.01
	6	22000	800	0.01	0.012	22000	560	0.01	0.012	22000	400	0.005	0.005
R0.5	2	22000	1800	0.01	0.02	22000	1260	0.01	0.02	22000	900	0.01	0.02
	2.5	22000	1500	0.01	0.02	22000	1050	0.01	0.02	22000	750	0.01	0.02
	4	22000	1200	0.01	0.02	22000	840	0.01	0.02	22000	600	0.01	0.02
	6	20000	1000	0.01	0.02	20000	700	0.01	0.02	20000	500	0.01	0.015
	8	20000	800	0.007	0.015	20000	560	0.008	0.015	20000	400	0.007	0.008
	10	20000	600	0.006	0.015	20000	420	0.006	0.015	20000	300	0.005	0.005

