



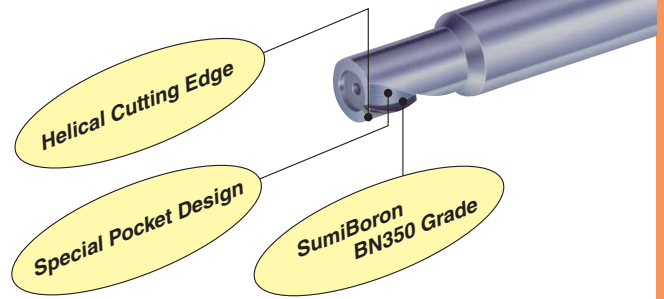
SUMIBORON

# Helical Master BNES Type



Coated Carbide	Carbon Steel	Alloy Steel	Pre-Hardened Steel	Tempered Steel	Hardened Steel	Stainless Steel	TI Alloy	Cast Iron	Al Alloy	Copper Alloy	Graphite	CFRP
○	○	○	○	○	○	○	○	○	○	○	○	○

● Special Endmill for Hardened Steel



## Cutter Body

Dimensions (mm)

Cat. No.	Stock		Diameter	Depth of cut	Length	Length	Shank
	BN350		DC	APMX	LU	LF	DMM
<b>BNES 1060</b>	●		6.0	7.0	11.0	60	10
<b>1080</b>	●		8.0	10.0	14.0	70	10
<b>1100</b>	●		10.0	12.0	17.0	75	12
<b>1120</b>	●		12.0	14.0	20.0	80	12
<b>1140</b>	●		14.0	16.0	21.5	80	16
<b>BNES 1160</b>	●		16.0	18.0	24.0	80	16



● For 3-dimensional profile milling, use SUMIBORON Ball Endmill BNBS Type, or MOLD FINISH MASTER BNBR Type or BNBP Type.

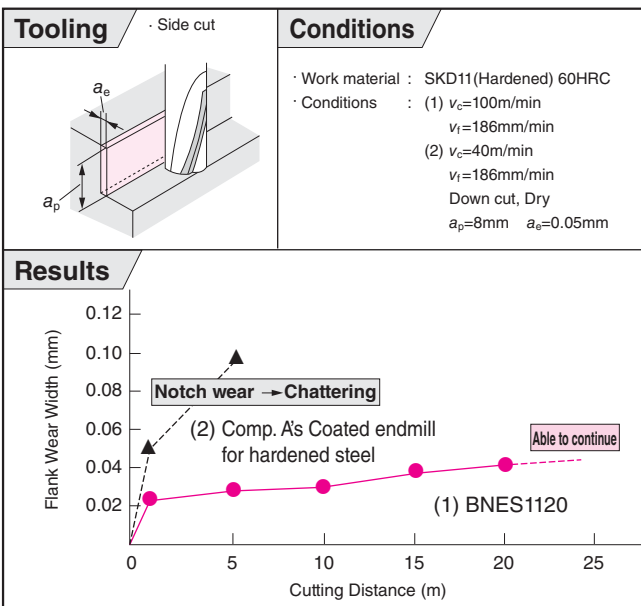
## Recommended Cutting Conditions

Conditions	H 50 to 57HRC			H 58 to 65HRC		
	Cutting Speed 100 to 170m/min			Cutting Speed 80 to 150m/min		
	Cutting Speed $n$ (min <sup>-1</sup> )	Feed Rate $v_f$ (mm/min)	Depth of Cut $a_e$ (mm)	Cutting Speed $n$ (min <sup>-1</sup> )	Feed Rate $v_f$ (mm/min)	Depth of Cut $a_e$ (mm)
External $\phi D_c$ (mm)						
$\phi 6$ to 8	4,000 to 9,000	240 to 540	Up to 0.1	3,200 to 8,000	150 to 370	Up to 0.08
$\phi 10$ to 12	2,700 to 5,400	180 to 360	Up to 0.15	2,100 to 4,800	120 to 370	Up to 0.12
$\phi 14$ to 16	2,000 to 3,800	140 to 260	Up to 0.2	1,600 to 3,400	110 to 230	Up to 0.15

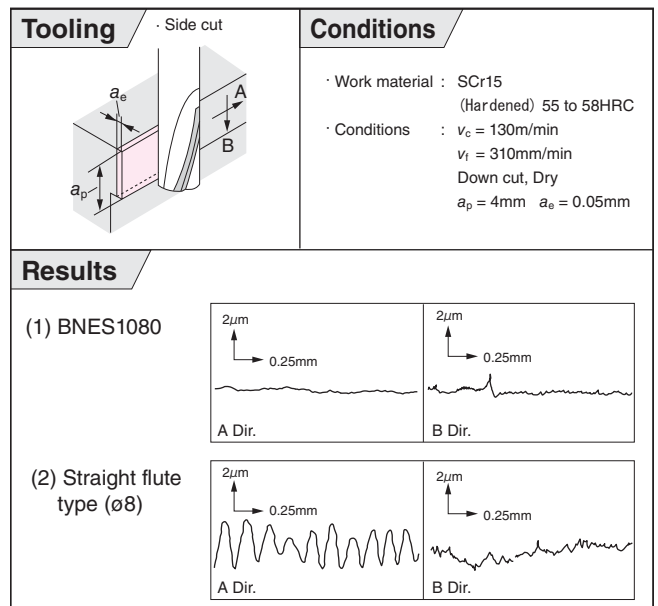
- Dry cut (Air Blow) and Down cut are recommended.
- Make the tool overhang as short as possible and use a rigid machine.

## Performance

● Long Tool Life and High Efficiency



● Excellent Surface Roughness



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