

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

MATERIAL	OPERATION	CONDITION	EDGE PREP.	GRADE	Vc (m/min)	fn (mm/rev)	COOLANT
Hardened steel	finishing ap < 0.5 mm		SE	NBL050C	140 <b>190</b> 240	0.06 <b>0.14</b> 0.22	
			UE	NBL150C tool life	120 <b>170</b> 220	0.06 <b>0.15</b> 0.24	
				NBL250C reliability	100 <b>150</b> 200		
			RE	NBL350C	80 <b>120</b> 160	0.06 <b>0.16</b> 0.26	
Bearing steel	finishing ap < 0.5 mm		SE	NBL050C	120 <b>170</b> 220	0.05 <b>0.10</b> 0.15	
			UE	NBL150C tool life	100 <b>150</b> 200	0.06 <b>0.13</b> 0.20	
				NBL250C reliability	80 <b>130</b> 180		
	roughing ap > 0.5 mm <b>SOLID PCBN</b>		UE	NBH900U	100 <b>140</b> 180	0.15 <b>0.30</b> 0.45	
			UE	NBH950U	80 <b>120</b> 160	0.10 <b>0.25</b> 0.40	
Tool steel	finishing ap < 0.5 mm		SE	NBL150C	100 <b>140</b> 180	0.04 <b>0.09</b> 0.14	
			UE	NBL250C	80 <b>120</b> 160	0.05 <b>0.12</b> 0.19	
			RE	NBL350C	60 <b>100</b> 140	0.06 <b>0.13</b> 0.20	
	roughing ap > 0.5 mm <b>SOLID PCBN</b>		UE	NBH900U	60 <b>100</b> 140	0.10 <b>0.30</b> 0.50	
			UE	NBH950U	40 <b>80</b> 120	0.10 <b>0.25</b> 0.40	
			UE	NBH950U	40 <b>80</b> 120	0.10 <b>0.25</b> 0.40	
High speed steel	finishing ap < 0.5 mm		UE	NBL150C	100 <b>120</b> 140	0.05 <b>0.08</b> 0.11	
White cast iron	finishing ap < 0.5 mm		UE	NBH500C	60 <b>120</b> 180	0.10 <b>0.30</b> 0.50	
			UE	NBH900U	40 <b>80</b> 120	0.10 <b>0.25</b> 0.40	
	roughing ap > 0.5 mm <b>SOLID PCBN</b>		UE	NBH500C	60 <b>90</b> 120	0.20 <b>0.40</b> 0.60	
			UE	NBH950U	40 <b>60</b> 80	0.20 <b>0.35</b> 0.50	
Gray cast iron	finishing ap < 0.5 mm		UE	NBH450C	400 <b>800</b> 1200	0.10 <b>0.25</b> 0.40	
			UE	NBH500C	600 <b>1000</b> 1400	0.10 <b>0.20</b> 0.30	
	roughing ap > 0.5 mm <b>SOLID PCBN</b>		UE	NBH500C	600 <b>1000</b> 1400	0.20 <b>0.40</b> 0.60	
			UE	NBH900U tool life	400 <b>800</b> 1200	0.20 <b>0.35</b> 0.50	
	NBH950U reliability	400 <b>700</b> 1000					
ADI cast iron	finishing ap < 0.5 mm		UE	NBL150C	500 <b>600</b> 700	0.05 <b>0.15</b> 0.25	
			UE	NBL250C	400 <b>500</b> 600	0.05 <b>0.15</b> 0.25	
	roughing ap > 0.5 mm <b>SOLID PCBN</b>		UE	NBH500C	300 <b>400</b> 500	0.10 <b>0.25</b> 0.40	
			UE	NBH900U tool life	200 <b>250</b> 300	0.10 <b>0.25</b> 0.40	
	NBH950U reliability	180 <b>230</b> 280					
Sintered powder metal, high alloyed	finishing ap < 0.5 mm		UE	NBL150C	80 <b>160</b> 240	0.05 <b>0.10</b> 0.15	
Sintered powder metal, low alloyed	finishing ap < 0.5 mm		UE	NBH450C	140 <b>220</b> 300	0.10 <b>0.20</b> 0.30	

Stable machining, continuous cut  
 General machining, light interruption  
 Unstable machining, interrupted cut

WN	PCBN Negative				ISO513	BL				BH																				
	Size	IC	S	D1		P	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL															
<p>6 edges</p>	0804□□	12.70	4.76	5.16	M	80	240			140	300																			
					K					400	300	200	180																	
					N					1200	1400	1200	1000																	
					S																									
					H	120	240	100	220	80	200	60	160	60	160	60	180	40	180	40	160									
GRADE APPLICATION AREA	Stable machining, continuous cut																													
main application	General machining, light interruption																													
applicable	Unstable machining, interrupted cut																													

SHARP	SE	WNGA	080404S-SE-6V	RE 0.4	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.06 0.06	0.13 0.12	0.20 0.18										
	vertical		080408S-SE-6V	RE 0.8	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.06 0.06	0.13 0.13	0.20 0.20										
UNIVERSAL		WNGA	080404S-UE-6V	RE 0.4	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.07 0.08	0.16 0.14	0.25 0.20										
	vertical		080408S-UE-6V	RE 0.8	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.07 0.08	0.16 0.15	0.25 0.22										
	vertical		080412S-UE-6V	RE 1.2	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.07 0.08	0.16 0.16	0.25 0.24										
REINFORCED		WNGA	080404S-RE-6V	RE 0.4	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.08 0.08	0.17 0.14	0.26 0.20										
	vertical		080408S-RE-6V	RE 0.8	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.08 0.08	0.17 0.16	0.26 0.24										
	vertical		080412S-RE-6V	RE 1.2	a <sub>p</sub> ▶ f <sub>n</sub> ▶	0.08 0.08	0.17 0.17	0.26 0.26										

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES