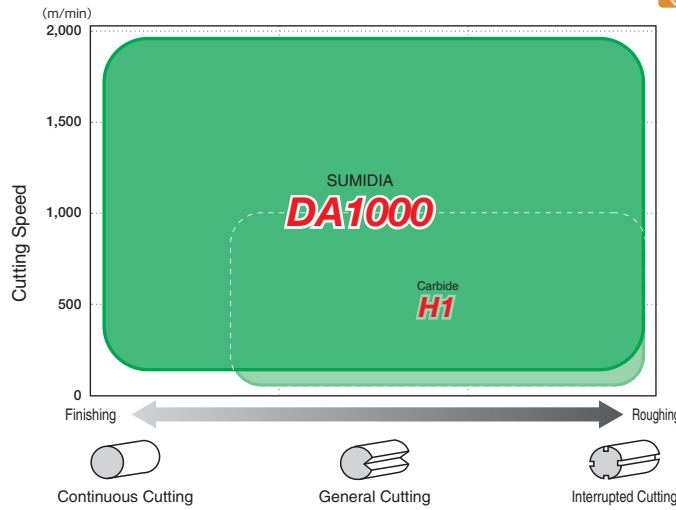


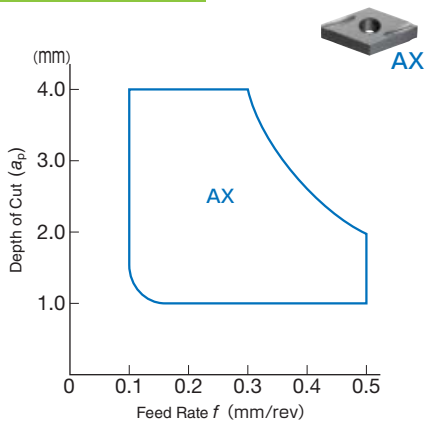
### Grades

PCD SUMIDIA DA1000 ... Page M6

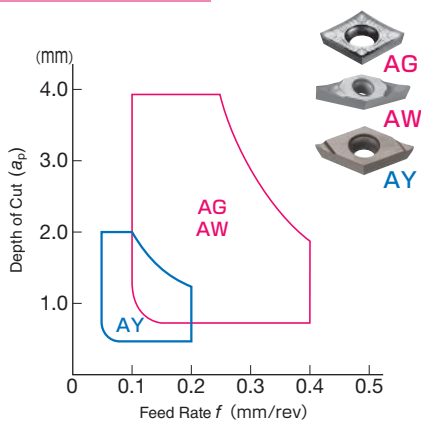


### Chipbreakers

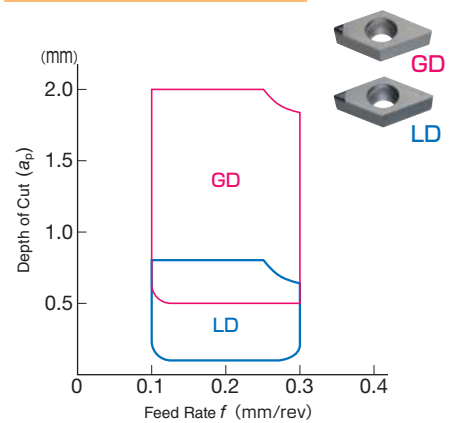
#### Negative Type



#### Positive Type



#### Negative Type (PCD)



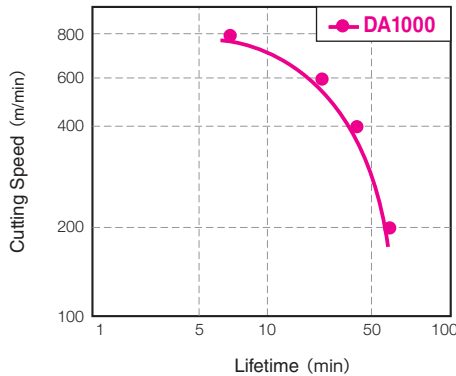
### Recommended Cutting Conditions

Cutting Process	Category	Grades	Cutting Conditions		
			Depth of Cut $a_p$ (mm)	Feed Rate $f$ (mm/rev)	Cutting Speed $V_c$ (m/min)
Continuous Cutting General Turning Interrupted Cutting	SUMIDIA	<b>DA1000</b>	0.1-0.5-3.0	0.05-0.10-0.20	Up to 2,000
	Carbide	<b>H1</b>	0.3-1.0-5.0	0.1-0.20-0.5	Up to 1,000

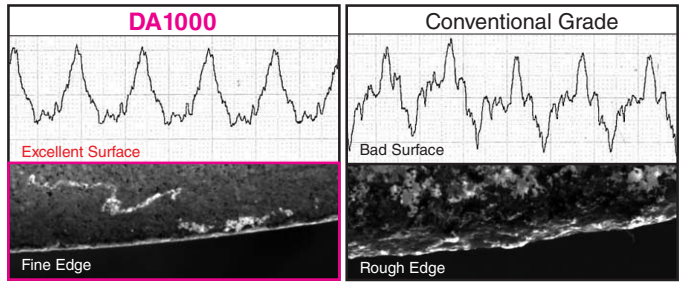
## Grades DA1000

- Ultra-high-density, sintered ultra-fine diamond particles
- Significantly improved surface roughness on machined surfaces
- World's best wear resistance and strength
- Suitable for use with all aluminum and non-ferrous alloys

### DA1000 Wear Resistance

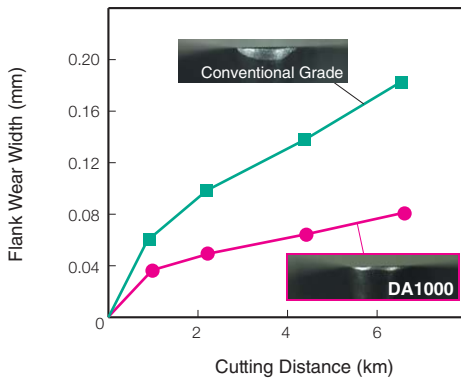


### Comparison of Surface Roughness



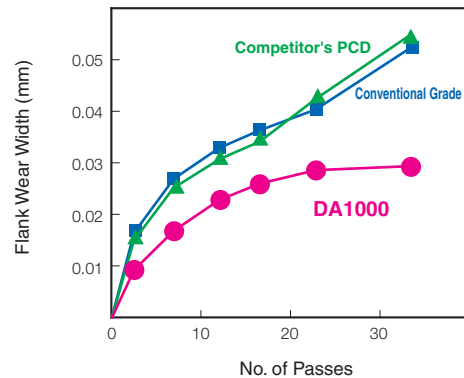
Insert: TPGW160308  
Cutting Conditions:  $v_c=1,000\text{m/min}$   $f=0.15\text{mm/rev}$   $a_p=0.2\text{mm}$  Wet

### Wear Resistance in Turning Applications



Insert: TPGN160304  
Cutting Conditions:  $v_c=800\text{m/min}$   $f=0.12\text{mm/rev}$   $a_p=0.5\text{mm}$  Wet

### Wear Resistance in Milling Applications



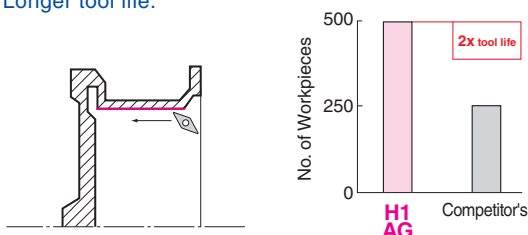
Insert: NF-SNEW1204ADFR  
Cutting Conditions:  $v_c=2,000\text{m/min}$   $f=0.15\text{mm/rev}$   $a_p=3.0\text{mm}$  Wet

## Application Examples

### H1 + AG Type Breakers

#### ADC12 Aluminum Wheel

Excellent adhesion resistance.  
Longer tool life.

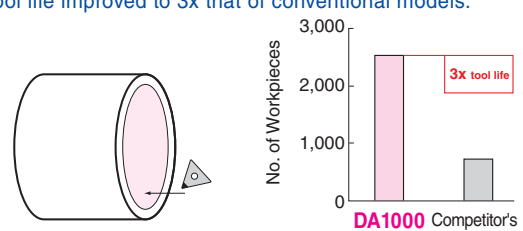


Insert: VCGT160408N-AG(H1)  
Cutting Conditions:  $v_c=2,200\text{m/min}$   $f=0.25\text{mm/rev}$   $a_p=2.0\text{mm}$  Wet

### DA1000

#### Copper Alloy Bush

Stable surface roughness with no edge breakage (3.2S).  
Tool life improved to 3x that of conventional models.



Insert: NF-TPGN160308(DA1000)  
Cutting Conditions:  $v_c=300\text{m/min}$   $f=0.07\text{mm/rev}$   $a_p=0.08\text{mm}$  Wet