

JPO

Finishing for HRSA Materials | BIDEMICS

NTK
CUTTING TOOLS





Machine HRSA materials at speeds of 480 m/min with **BIDEMICS**

BIDEMICS is a revolutionary material, released in 2014, which has greatly improved productivity for manufacturers machining HRSA materials; predominantly in the Aerospace industry. Now, we are releasing the newest evolution of this material with improved wear resistance.

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Industry changing - Super high speed finishing of HRSA materials.

Up to 15 times faster speeds vs. carbide and CBN

Key Points

- Wear resistance provides performance and consistency of machined part straightness
- Offers finishing speeds of 500 m/min

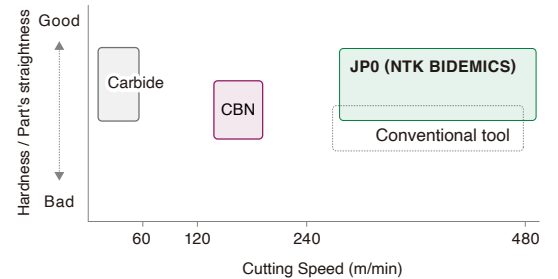
Application Area

Continuous cuts when finishing HRSA materials

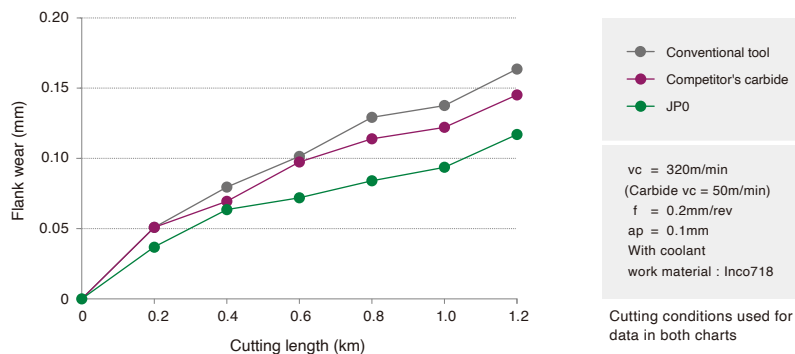
Recommended Cutting Conditions

Grade	Material	Application	Process	Cutting speed (m/min)	Feed (mm/rev)	DOC (mm)	With coolant
JPO	Heat Resistant Super Alloys	Turning	Finishing	180-500	0.05-0.20	0.1-0.7	●

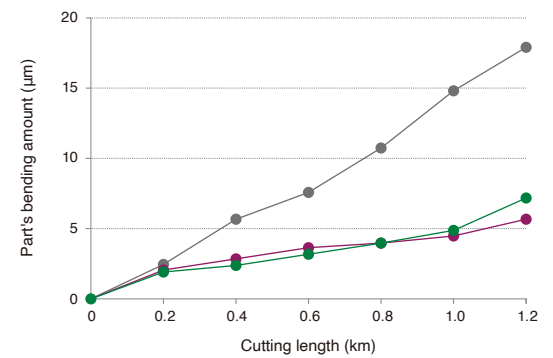
Cutting Speed and Wear Resistance Comparison



Wear Resistance



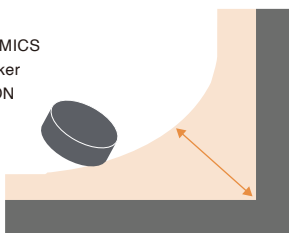
Part's Straightness Performance



Recommended Machining Passes at a Corner

1. Roughing pass

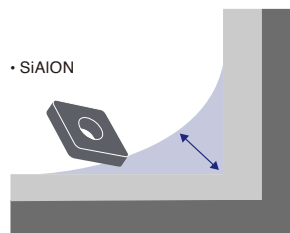
- BIDEMICS
- Whisker
- SIAION



Use a strong geometry insert like a round, RNGN120700, for heavy material removal

2. Semi-finishing pass

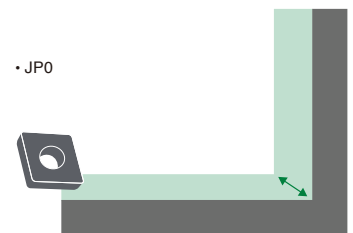
- SIAION



SIAION grades are best to remove extra material at the corner

3. Finishing pass

- JPO

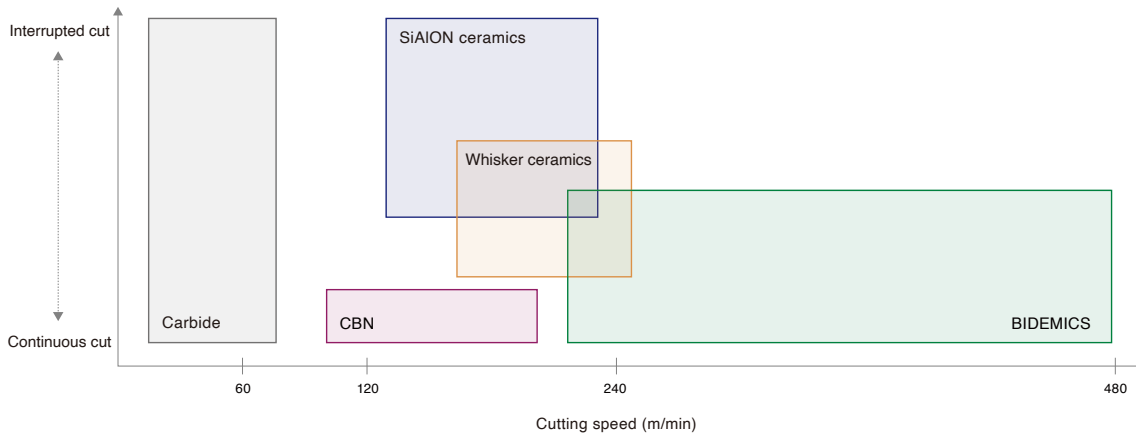


JPO - Machine with a consistent DOC to provide stable tool life

Insert Item List

Geometry	EDP	Item number	Corner R	Grade	Dimensions (mm)		
				JPO	IC	Thickness	Edge preparation
	5106604	CNGA 120404 BQENB	0.4	●	12.7	4.76	Honed edge 0.04
	5106620	120408 BQENB	0.8	●			
	5106612	120412 BQENB	1.2	●			
	5106646	DNGA 150404 BQENB	0.4	●	9.525	4.76	Honed edge 0.04
	5106653	150408 BQENB	0.8	●			
	5106661	150412 BQENB	1.2	●			
	5106679	VNGA 160404 BQENB	0.4	●	9.525	4.76	Honed edge 0.04
	5106687	160408 BQENB	0.8	●			

NTK turning solutions for HRSA materials



NTK Grade

- BIDEMICS
 - JX1 • JP0
 - JX3 • JP2
- Whisker ceramics
 - WA1
 - WA5
- SiAlON ceramics
 - SX3
 - SX5
 - SX7
 - SX9



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