

## Guideline for grooving HRSA materials

BIDEMICS / Ceramic grooving inserts provide high speed capability to your process. Whisker ceramic is the most versatile option in this category. NTK also offers BIDEMICS and SiALON grades for more productivity and stability.

	JX1	JX3	SX3	SX7	SX5	WA1
Speed		●		●	●	●
Feed			●	●	●	
Versatility	●		●	●		●
Toughness			●	●	●	
	Can run at up to 1500 SFM. Double the speed of whisker		Double the feed of whisker		Best for Scale and interruption	Versatile grade

● : 1st choice    ● : 2nd choice

Application	Grade	Work material	Cutting speed						Feed					Depth of cut					Coolant
			600	800	1000	1200	1400	1600	.004	.008	.012	.016	.020	.020	.040	.060	.080	.100	
Grooving 	JX1 JX3	Overall	1200 (600-1600) SFM						.003 (.002-.004) IPR										WET 
	SX5	Waspaloy	700 (600-800) SFM						.006 (.003-.007) IPR										
	SX3 SX7	Overall	750 (600-900) SFM						.0045 (.003-.006) IPR										
	WA1	Overall	800 (600-1100) SFM						.003 (.002-.004) IPR										

When using SX7/SX5, increase feed rates 100% vs. Whisker Ceramics

When applying JX1 / JX3, increase speed to over 1000 SFM  
When applying SX3 / SX7 / SX5, increase feed rates 100% vs. Whisker Ceramics

### Application Information

Work Hardening Layer  
≥45°

When machining a grooved area with multiple passes, the insert radius engages a potentially work hardened area during the last remaining plunge. This programming procedure sets up the potential of corner radius chipping or notching.

Change to

45°

The grooving insert is plunged down both outside walls thus maintaining a good finish. The remaining material can be removed by using a stronger insert shape such as a RCGX style.