Bur Troubleshooting Chart																			
	Possible Solution																		
Problem	Excessive Force	Heat From Rubbing Shank	Dull Tool	Improper Location In Collet	Bad Grinder Bearings	Bent Shank	Unstable Control of Process	Use Coarser Bur	Working in Soft Material	Use Anti-Stick Agent	Faster RPM	Slower RPM	Lighter Cuts	Switch to Fine Cut	Don't Use Double Grind	Faster Feed	Slower Feed	Cutting Abrasive Materials	Lacking Rigid Setup
Broken Braze	x	x	x																
Chatter No Control				x	x	x	x												x
Plugged Flutes								x	x	x	x	x	x						
Excessive Vibration				x	x	x	x				x	x				x	x		x
Poor Finish				x	x	x	x				x	x		x	x	x			x
Poor Life		x		x	x	x	x				x	x			x	x	x	x	x

Bur Fluting Chart Number of Flutes-NOF (±10%)				
Tool Diameter		Single Cut	Fine Cut	Shear Cut
Inch	mm			
1/16	1.6	10	12	
5/64	2.0	10	12	
3/32	2.4	12	16	
1/8	3.0	12	20	
5/32	4.0	14	24	
3/16	4.8	15	24	
1/4	6.0	16	25	
5/16	8.0	18	30	
3/8	9.5	20	30	6
7/16	11.0	22	30	
1/2	12.7	24	35	8*
5/8	16.0	26	40	8**
3/4	19.0	30	40	
1	25.0	35	45	

Double (Alternate Diamond) Grind left hand fluting 40% of right hand fluting.

*except SL-4NF and SL-4NFM 6 flutes
**except SD-6NF, SD-6NFM, SE-6NF, SE-6NFM, SF-6NF and SF-6NFM 10 flutes

Operating Parameters			
Bur Tool Diameter		vc	
		1,500 SFM	3,000 SFM
		460 m/min.	920 m/min.
Inch	mm	RPM (n)	
1/8	3.0	45,000	90,000
1/4	6.0	23,000	45,000
3/8	9.5	15,000	30,000
1/2	12.7	11,000	22,000
3/4	19.0	7,500	15,000
1	25.0	5,500	10,000

Speeds and Feeds

Carbide burs should typically be operated between 1,500 and 3,000 SFM (460-920 m/min.). For burs ranging in size from 3/16" (4.8mm) to 3/8" (9.5mm) diameter, a 30,000 RPM (n) grinder is recommended. A 22,000 RPM (n) grinder will work effectively with burs ranging in size from 1/4" (6mm) to 1/2" (12.7mm) in diameter. Solid carbide burs that are 1/8" (3mm) diameter or less, can typically be run at speeds up to 75,000 RPM (n). However, these are general speed recommendations that may need to be adjusted. For application questions, call **800-553-8024**.

Safety Note

Always wear the appropriate personal protective equipment such as safety glasses and protective clothing when using solid carbide or HSS cutting tools. Machines should be fully guarded. Technical data provided should be considered advisory only as variations may be necesary depending on the particular application.

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