

FEEDS AND SPEEDS DATA

- Feeds and speeds are only starting points for cutting graphite. Reach and tight corners will change these recommendations.
- Too slow of a feed rate will cause excessive wear on the end mill.
- Use the maximum RPM of the machine if the SUGGESTED RPM is higher than the capacity of the machine.

Cutting thin wall stock: When machining tall thin (graphite) rib stock, use the largest cutting diameter possible — using fine (.005") z-level depths of cut — coal mining the graphite. DO NOT LEAVE SEMI-FINISH STOCK (.020 – .030") as you would when machining steel.

FEEDS AND SPEEDS FOR MACHINES WITHOUT HIGH SPEED CAPABILITY					
EFFECTIVE DIAMETER OF CUTTER	SURFACE FEET PER MINUTE	CHIP LOAD	NUMBER OF FLUTES	REVOLUTIONS PER MINUTE	INCHES PER MINUTE
.032	100	.002	4	8,300	66
.063	135	.003	4	8,300	100
.093	200	.003	4	8,300	100
.125	200	.004	4	6,100	100
.187	300	.004	4	6,200	100
.250	410	.004	4	6,300	100
.375	620	.004	4	6,300	100
.500	820	.004	4	6,250	100
FEEDS AND SPEEDS FOR MACHINES WITH HIGH SPEED CAPABILITY UP TO 36,000 RPM					
EFFECTIVE CUTTING DIAMETER	HIGH SPEED RPM'S	CHIP LOAD FINISH	STARTING FEED FINISH (IPM)	CHIP LOAD ROUGH	STARTING FEED ROUGH (IPM)
.015 (short)	40,000	.0002	32	.0003	48
.015 (long)	20,000	.0001	8-12	.0002	16
.032 (short)	35,812	.0004	70	.0006	85
.032	23,875	.0004	45	.0006	60
.047 (short)	33,064	.0006	85	.0008	105
.047	21,032	.0006	54	.0008	70
.062	30,317	.0008	100	.0010	125
.062	18,190	.0008	60	.0010	80
.093	24,645	.0010	100	.0015	150
.093	16,430	.0010	70	.0015	100
.125	22,920	.0015	140	.0025	225
.125	15,280	.0015	95	.0025	150
.187	15,320	.0023	145	.0038	235
.187	10,213	.0023	95	.0038	155
.250	15,280	.0030	185	.0050	300
.250	11,460	.0030	140	.0050	230
.312	12,243	.0038	190	.0063	315
.312	9,182	.0038	140	.0063	235
.375	10,186	.0045	185	.0075	310
.375	7,640	.0045	140	.0075	230
.500	7,640	.0050	150	.0085	265
.500	5,730	.0050	130	.0085	195



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INTRODUCING OUR AD-2000 COATING - HIGH PERFORMANCE MILLING OF GRAPHITE FOR EDM ELECTRODES

AD-2000 COATED MINI-MILLS AND CLEARANCE CUTTERS								
END MILL TYPE	CATALOG NUMBER	EFFECTIVE CUTTING DIAMETER	FLUTE LENGTH	REACH FROM TIP	OVERALL LENGTH	SHANK DIAMETER	LIST PRICE	
4 FLUTE BALL CLEARANCE CUTTERS	BCS-32-R50-AD20	.032	.250	.500 STRAIGHT	3.00	.125	49.00	
	BCS-32-R75-AD20	.032	.250	.750 STRAIGHT	3.00	.125	49.00	
	BCS-39-R50-AD20	.039	.250	.500 STRAIGHT	3.00	.125	49.00	
	BCS-39-R75-AD20	.039	.250	.750 STRAIGHT	3.00	.125	49.00	
	BCC-62-R50-AD20	.062	.250	.500 STRAIGHT	3.00	.125	49.00	
	BCC-62-R75-AD20	.062	.250	.750 STRAIGHT	3.00	.125	49.00	
	BCC-62-R10-AD20	.062	.250	1.000 STRAIGHT	3.00	.125	49.00	
	BCC-80-R50-AD20	.080	.250	.500 STRAIGHT	3.00	.125	49.00	
	BCC-80-R75-AD20	.080	.250	.750 STRAIGHT	3.00	.125	49.00	
	BCC-80-R10-AD20	.080	.250	1.000 STRAIGHT	3.00	.125	49.00	
	BCC-32-F25-AD20	.032	.250	.750 TAPERED	2.50	.125	49.00	
	BCC-39-F25-AD20	.039	.250	.750 TAPERED	2.50	.125	49.00	
	BCC-62-F50-AD20	.062	.500	1.000 STRAIGHT	2.50	.125	49.00	
	BCC-80-F50-AD20	.080	.500	1.000 STRAIGHT	2.50	.125	49.00	
	4 FLUTE BALL MINI MILLS	BMM-32-F25-AD20	.032	.250	NONE	2.50	.125	42.00
		BMM-39-F25-AD20	.039	.250	NONE	2.50	.125	42.00
BMM-47-F25-AD20		.047	.250	NONE	2.50	.125	42.00	
BMM-62-F50-AD20		.062	.500	NONE	2.50	.125	42.00	
BMM-80-F50-AD20		.080	.500	NONE	2.50	.125	42.00	
4 FLUTE FLAT MINI MILLS	FMM-32-F25-AD20	.032	.250	NONE	2.50	.125	39.00	
	FMM-39-F25-AD20	.039	.250	NONE	2.50	.125	39.00	
	FMM-47-F25-AD20	.047	.250	NONE	2.50	.125	39.00	
	FMM-62-F50-AD20	.062	.500	NONE	2.50	.125	39.00	
	FMM-80-F50-AD20	.080	.500	NONE	2.50	.125	39.00	

AD-2000 COATED END MILLS						
END MILL TYPE	CATALOG NUMBER	EFFECTIVE CUTTING DIAMETER	FLUTE LENGTH	OVERALL LENGTH	SHANK DIAMETER	LIST PRICE
4 FLUTE BALL STANDARD LENGTH	BH-4S-032-AD20	.032	.125	1.50	.125	39.00
	BH-4S-047-AD20	.047	.125	1.50	.125	39.00
	BH-4S-063-AD20	.063	.250	1.50	.125	39.00
	BH-4S-078-AD20	.078	.250	1.50	.125	39.00
	BH-4S-125-AD20	.125	.500	1.50	.125	39.00
	BH-4S-187-AD20	.187	.625	2.00	.187	39.00
	BH-4S-250-AD20	.250	.750	2.50	.250	46.00
	BH-4S-375-AD20	.375	1.000	2.50	.375	76.00
4 FLUTE BALL EXTRA LONG LENGTH	BH-4XL-125-AD20	.125	1.000	3.00	.125	42.00
	BH-4XL-187-AD20	.187	1.125	3.00	.187	46.00
	BH-4XL-250-AD20	.250	1.500	4.00	.250	59.00
	BH-4XL-375-AD20	.375	1.750	4.00	.375	79.00
4 FLUTE FLAT STANDARD LENGTH	FH-4S-032-AD20	.032	.125	1.50	.125	36.00
	FH-4S-047-AD20	.047	.125	1.50	.125	36.00
	FH-4S-063-AD20	.063	.250	1.50	.125	36.00
	FH-4S-078-AD20	.078	.250	1.50	.125	36.00
	FH-4S-125-AD20	.125	.500	1.50	.125	36.00
	FH-4S-250-AD20	.250	.750	2.50	.250	36.00
4 FLUTE RADIUS STANDARD LENGTH	FH-4S-125-AD20 R*	.125	.375	1.500	.125	38.00
	FH-4S-187-AD20 R*	.187	.625	2.000	.187	46.00
	FH-4S-250-AD20 R*	.250	.750	2.500	.250	55.00
	FH-4S-375-AD20 R*	.375	1.000	2.500	.375	79.00
4 FLUTE RADIUS EXTRA LONG LENGTH	FH-4XL-125-AD20 R*	.125	1.000	3.00	.125	45.00
	FH-4XL-187-AD20 R*	.187	1.125	3.00	.187	52.00
	FH-4XL-250-AD20 R*	.250	1.500	4.00	.250	62.00
	FH-4XL-375-AD20 R*	.375	1.750	4.00	.375	96.00

* TO COMPLETE ORDER INDICATE RADIUS SIZE:
R1= 1/64" RADIUS R010= .010" RADIUS
R2= 1/32" RADIUS R020= .020" RADIUS
R4= 1/16" RADIUS

AD2000 amorphous diamond coating has found performance success in machining non ferrous and carbon composite materials. AD2000's superior abrasion resistance, combined with the 2-3 micron thickness provides longer machining time with finer finishes.